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SCHOOL BASED DISEASE FREE WASTE MANAGEMENT ASSISTANCE

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ABSTRACT

The objective of this Community Service program is to improve the knowledge and skills of the school community, particularly the principal, teachers, and staff of SMP N 6 Koto XI Tarusan, particularly in waste management, thereby generating benefits, both in terms of health and environmental aesthetics, as well as the economic environment. To achieve this goal, the Community Service program is implemented through the following methods: 1) visiting target partner schools to conduct outreach on waste management; 2) providing simulations on how to process waste based on its type, both organic and inorganic; and 3) coordinating with target partners to strengthen and encourage waste management within the school environment. The final outcomes achieved are increased knowledge and support from school administrators (principals, teachers, and staff) in the school-based waste management program; and increased knowledge, positive attitudes, and skills of students in the school-based waste management process.
Keywords: Mentoring, waste management, school

ABSTRAK

Tujuan dari program Pengabdian kepada Masyarakat ini adalah untuk meningkatkan pengetahuan dan keterampilan warga sekolah khususnya kepala sekolah, para guru, dan staf SMP N 6 Koto XI Tarusan terutama dalam pengelolaan sampah sehingga mendatangkan keuntungan, baik keuntungan dalam bidang kesehatan dan keindahan lingkungan sekolah, maupun lingkungan ekonomi. Untuk mencapai tujuan tersebut maka dalam program PkM ini dilakukan dengan cara sebagai berikut:1) melakukan kunjungan ke sekolah yang menjadi mitra sasaran untuk melakukan sosialisasi tentang manajemen atau pengelolaan sampah, 2) memberikan simulasi cara mengolah sampah berdasarkan jenisnya, baik organik maupun anorganik. Melakukan koordinasi dengan pihak mitra sasaran dalam rangka memperkuat dan memberikan semangat dalam mengelola sampah di lingkungan sekolah. Luaran akhir yang dicapai yaitu meningkatnya pengetahuan dan dukungan pengelola sekolah (baik kepala sekolah, guru dan staf) dalam program pengelolaan sampah berbasis sekolah, meningkatnya pengetahuan, sikap positif, dan keterampilan siswa siswi dalam proses pengelolaan sampah berbasis sekolah atau sekolah.
Kata kunci: Pendampingan, pengelolaan sampah, sekolah

INTRODUCTION

The waste problem is a problem not only faced by one country but also by most countries around the world, including Indonesia. Waste is readily apparent all around us. From mountaintops to the ocean floor, it's ubiquitous. It litters mountains, rivers, roads, lakes, forests, and even our own homes. As long as human life exists on earth, this waste problem will persist. Therefore, serious action is needed to address it. This must be addressed promptly, given the rapid rate of waste generation, which is outpacing the speed of treatment. This is absolutely crucial, given that our country is already in a state of waste emergency. In fact, our country ranks second after China in the world's ocean pollution (Djambeck, et al., 2015).

The government has taken this waste problem seriously by launching the Zero Waste program. The strategy adopted to reduce the waste problem is to establish waste banks in every village. More specifically, "one village, one waste bank." However, the government's good intentions will not be realized without the support of all elements of society, including residents living in residential areas, institutions, markets, hospitals/community health centers, and schools.

Therefore, the most concrete steps needed in waste management include: 1) increasing awareness of the importance of waste management for environmental sustainability, and 2) community participation in waste management. This is based on current experience, where community participation in waste management is limited to waste disposal, not to the stage of managing waste to the point of reuse (Rhofita, 2016). Public awareness of waste management, starting at the smallest level, namely households, must be continuously increased.

Ultimately, all members of the community are aware of the importance of waste management, starting from its source. This begins with disposing of waste separately based on its type. For example, wet (organic) waste must be separated from dry (inorganic) waste and B3 (Toxic and Hazardous Materials) waste. After the waste sorting process has been carried out starting at the household or other unit as the source of waste, the next step is processing the waste into more valuable materials. This allows it to be reused and transformed into a commodity with economic value, which can certainly improve community welfare. However, all these stages will never be successful without starting with environmental awareness from every individual in society. Therefore, the key to realizing ideal environmental management, especially regarding waste, is how to create and increase public awareness (Neolaka, 2018).

The school environment is inextricably linked to the problem of waste. Students, teachers, and staff conduct activities almost daily in schools, which are naturally sources of waste. This problem necessitates proper waste management to create a cleaner, tidier, healthier, and more beautiful school environment. This creates a comfortable atmosphere for various teaching and learning activities. Currently, waste management in schools has been limited to simply destroying it, either by burning it or piling it on the roadside for removal by staff. Consequently, it provides little benefit to the school. In fact, burning waste is inappropriate because it produces smoke and carbon pollution. Thus, there needs to be waste management that contains many benefits, both ecological and economic.

Schools have begun implementing waste management practices within their schools. SMP N 6 Koto XI Tarusan implements 3R-based waste management (Reduce, Reuse, and Recycle). Through this activity, students are expected to be more aware of their school environment. One of the goals of this activity is to reduce and prevent environmental pollution caused by non-biodegradable waste, especially plastic waste.

Several studies and studies on waste management in schools, for example, Asih (2018) examined the environmental awareness of students at SD Negeri 3 Bancar Kembar, Banyumas Regency. The research focused on developing students' affective, cognitive, and psychomotor skills in the waste management process at school. Furthermore, to implement waste management at the school level, Yuwono (2011) provided Green School Development training for teachers at RSBI Vocational High Schools (SMK RSBI) throughout Yogyakarta Special Region (DIY). This was an effort to increase school awareness and empower them to manage their waste independently.

Given the importance of school-based waste management, the lecturer team from the Public Health Study Program at Surya Global Health College, Yogyakarta, intends to conduct community service activities in the form of mentoring schools in waste management. This is expected to facilitate schools and achieve improved and more profitable waste management independence within the school environment.

The outputs of this Community Service program include the following:

1. Publication in an ISSN journal
2. Increased knowledge and support of school administrators (principals, teachers, and staff) in the school-based waste management program
3. Increased knowledge, positive attitudes, and skills of students in the school-based waste management process.

4. Established collaboration between schools, the Public Health Study Program in particular, and Surya Global Health College, Yogyakarta in general

METHODS

This community service program is implemented using the following methods:

1. Socialization of the Waste Management Concept in Schools The socialization activity was carried out by visiting SMP N 6 Koto XI Tarusan. The activity was intended to help the principal, teachers, and staff understand the concept of waste management and provide direct guidance to students. This will foster good synergy between all members of the school community.
2. Simulation of Plastic and Organic Waste Processing in Schools Upon closer examination, the most dominant types of waste in the school environment are plastic and wet (organic) waste. A simulation was conducted to demonstrate how to process plastic waste into high-value items (handicrafts, ecobricks) and manage organic waste using a composter and biopore holes to create useful compost. This simulation aimed to provide a direct understanding for all school residents.
3. Collaboration with Partner Communities This program involved coordinating with an environmental community and waste bank practitioners to provide teachers, staff, and students with a deeper understanding of the economic value of waste. This collaboration also served to create a network for the school to sell processed waste products.

RESULTS AND DISCUSSION

The results and discussion of this Community Service Program (PKM) activity are as follows:

A. Activity Theme

This activity is a Community Service (PKM) program with the theme "school-based disease-free waste management assistance."

B. Activity Time and Location

This PKM activity was held at SMP N 6 Koto XI Tarusan on April 9, 2025. The activity took place on the SMP N 6 Koto XI Tarusan field and was attended by most of the students, teachers, staff, and the principal. The activity was also supported by the waste awareness community.

C. Waste Management Socialization and Assistance Activities

The PKM team initiated the PKM activity within the school environment. It is important to note that waste management assistance within schools is one of the programs of the Environmental Agency in support of the government's efforts to achieve Zero Waste in schools. Management within schools is carried out by transforming waste to create higher economic and ecological value. The stages of this outreach activity began with a letter sent and verbal discussion with the principal, aimed at convincing the principal of the program. Through direct dialogue and communication, in addition to the written letter, it was hoped that the principal would provide an overview of the activities to be implemented.

During the meeting, the principal expressed his full support for the school-based waste management assistance program. He also stated that waste management within the school environment had not been addressed at all by either the central or regional government programs. This was due to the relatively simple method of waste management within the school environment, namely incineration. It could be said that waste management within the school environment was far from having high economic and ecological value.

The second issue raised by the principal was the watercourse in front of SMP N 6 Koto XI Tarusan, which was filled with trash. This demonstrated a lack of environmental awareness and awareness of the economic value of waste among students, teachers, and the surrounding community, who contributed to the waste. After conveying several issues related to the problems

and the principal's support for the program promoted by the community service team, the principal stated that space would be provided for the community service team to assist the school in waste management. The space the principal was referring to consisted of a classroom and a plot of land. The community service team also greatly appreciated the principal's warm welcome.

Based on the results of the waste management empowerment program conducted at SMP N 6 Koto XI Tarusan, the following conclusions can be drawn: 1) Waste management at SMP N 6 Koto XI Tarusan has successfully improved the knowledge and skills of the school community, particularly the Waste Corner cadres, through the empowerment of young cadres in waste management. 2) The establishment of the Waste Corner and the formation of Waste Corner cadres have ensured the continuity of the program as a dedicated platform for waste management at SMP N 6 Koto XI Tarusan. 3) The cadre reinforcement method has proven effective in mobilizing the school community in the waste management process.

In addition, the Community Service Program committee also communicated with the head of an environmental community that has successfully transformed waste into something with greater economic value. This community has sold several products, including pillows made from plastic waste. The goal of this collaboration with the environmental community is to provide teachers and staff, as well as students, with the understanding that everyday waste can be transformed into items with greater economic value. Furthermore, the community can share knowledge about waste management with schools and become partners in providing raw materials for the products they create.

In discussions with the community, they expressed their full support for the community service team's activities. They also expressed their readiness to participate in mentoring and school-based waste management. They also expressed their willingness to share knowledge about waste management within the school and within the team's program.

The second stage is the outreach phase. During this stage, the principal expressed his deepest gratitude for the community service team's commitment to creating a waste-free environment at SMP N 6 Koto XI Tarusan. The principal also conveyed a message to teachers, students, and staff to implement what had been taught by the community service team, the visiting engineering study program team, and the head of the environmental care community. The final message was that this activity should continue, not just for now, but also at other times and in other schools.

Figure 1. Photo of community service activities at SMP N 6 Koto XI Tarusan

After the principal delivered a few words, the community service team then presented on the school's waste problem, based on data showing that it remains poorly addressed. They also explained how to manage organic waste by turning it into organic fertilizer through very simple methods using materials derived from waste. One example was how to create a "mol" (decomposing

bacteria) that accelerates the decomposition of organic waste for quick use as fertilizer. The materials used were only leftover rice or rice washing water. They also demonstrated how to stack organic waste so that it decomposes quickly in the soil and can be used as fertilizer.

Waste bank practitioners also presented material on how to create waste with economic value and tips for establishing waste banks in the surrounding area to increase community income. This approach can be implemented at school, thereby increasing the income of both students and the school. Instead of becoming a nuisance, waste becomes a blessing.

The speaker then explained strategies and techniques for improving health in the school environment. One of the key points conveyed was the importance of instilling awareness of the importance of improving health and environmental sustainability through internalization in the curriculum, both in learning materials and in school regulations. Furthermore, he presented techniques for reducing sanitary napkin and diaper waste, explaining that sanitary napkins and diapers can be used to reduce evaporation and maintain water availability for plants.

The final speaker, in his presentation, provided a simulation of how to create valuable plastic waste. One example was making pillows from plastic waste. He also expressed his willingness to assist SMP N 6 Koto XI Tarusan in creating high-value items from plastic waste until the school is self-sufficient. The second promise, made by the waste care community, was that they would purchase raw materials, in the form of plastic waste, from the school to provide raw materials for the community's business if the school is unable to maximize its capacity to produce high-value creations.

The desired outcomes are as follows: increased knowledge and support of school administrators (principals, teachers, staff) and students in the school-based waste management program. And increased knowledge, positive attitudes, and skills of students in the school-based waste management process.

CONCLUSIONS

Based on the Community Service activities conducted, it can be concluded that: First, the waste management outreach activities provided an understanding to the academic community at SMP N 6 Koto XI Tarusan in processing waste into something with higher economic value. The recommendation is that the government should provide facilities for waste collection at each school. In addition, the government should also provide space to market the products made by the schools.

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