ANALYSIS OF PRIMARY SCHOOL STUDENTS' KNOWLEDGE IN THE USE OF WASTE TO REALIZE A GREEN ECONOMY

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Abstrak

Penelitian ini bertujuan untuk menganalisis pengetahuan siswa tentang pemanfaatan limbah sebagai upaya penerapan konsep Green Economy di sekolah dasar. Pemanfaatan limbah merupakan aspek penting dalam mewujudkan Green Economy, yaitu perekonomian yang berkelanjutan dan ramah lingkungan. Pengetahuan tentang pemanfaatan limbah dapat ditanamkan sejak dini agar tercipta generasi yang peduli terhadap lingkungan. Penelitian ini menggunakan metode kualitatif dengan pendekatan deskriptif. Subjek penelitiannya adalah siswa di sekolah dasar Negeri (SDN) 37 Sungai Bangek, Kelurahan Balai Gadang, Kecamatan Koto Tangah, Kota Padang. Kegiatan ini berupa observasi, wawancara dan analisis pengetahuan siswa tentang pemanfaatan limbah. Hasil penelitian menunjukkan bahwa siswa SDN 37 Sungai Bangek memiliki pengetahuan tentang pemanfaatan limbah dengan rata-rata 82,5% . Kesimpulan dari penelitian ini adalah siswa SDN 37 Sungai Bangek memiliki pengetahuan yang baik tentang pemanfaatan limbah untuk mewujudkan green economy.

Kata kunci: *pengetahuan, sekolah dasar, limbah, green economy, lingkungan*

Abstract

This research aims to analyze students' knowledge about waste utilization as an effort to implement the Green Economy concept in elementary schools. Waste utilization is an important aspect in realizing a Green Economy, namely a sustainable and environmentally friendly economy. At the basic education level, knowledge about waste utilization can be instilled from an early age to create a generation that cares about the environment. This research uses a qualitative method with a descriptive approach. The research subjects were students at State Elementary School (SDN) 37 Sungai Bangek, Balai Gadang Village, Koto Tangah District, Padang City. This activity takes the form of observations, interviews and analysis of students' knowledge about waste utilization. The results of the research show that 37 Sungai Bangek state elementary school students have knowledge about waste utilization with an average of 82.5%. The conclusion of this research is that 37 Sungai Bangek state elementary school students have good knowledge about the use of waste to create a green economy.

Keywords: *cnowledge, elementary school, waste, green economy, environment*

A. Introduction

The increasing amount of waste produced by society is currently a serious problem in preserving the environment. Waste that is not managed properly will have negative impacts, such as environmental pollution and health threats to humans. Efforts to overcome this problem require active participation from all levels of society, including the younger generation who have a strategic role in protecting the environment in the future. One approach that is increasingly popular in waste management is the concept of a green economy or *green economy*, which prioritizes environmental sustainability in economic activities.

Education about waste utilization from an early age can equip elementary school students with a better understanding of the importance of protecting the environment. By teaching them how to recycle and reuse waste, students not only learn to adopt environmentally friendly habits, but also participate in the application of green economy principles. It is hoped that this basic knowledge can create a responsible and sustainable mindset, which will have a positive impact on the environment in the long term.

This research aims to analyze elementary school students' knowledge about the use of waste in realizing the concept of a green economy or *green economy*. This research focuses on the understanding and attitudes of elementary school students in utilizing waste as part of implementing green economy principles. The scope of this research is limited to elementary school students in several schools that have implemented waste management or environmental education programs as part of their curriculum. This research will use descriptive methods to analyze data collected through observation, interviews and questionnaires designed to measure students' understanding of waste utilization.

B. Literature Review and Hypothesis Development

The implementation of the educational curriculum in elementary schools, especially those related to P5 (Care for Education, Care for Education, Care for Learning, C(Kadorodasih 2017)are for the Educational Unit, and Care for the Implementation of Education) which focuses on environmental care activities, is still not implemented well. Activities such as the use of organic and inorganic waste, and the use of school areas with useful plants to make this happen *green economy* still not done optimally. To create

students who care about the environment (Kadorodasih 2017) The government launched an Adiwiyata school. The aim of the Adiwiyata program is to create school citizens who are responsible for protecting and managing the environment through good school governance to support sustainable development. This activity aims to form a young generation who cares about the environment and has a good understanding of its importance *green economy*.

Green economy is a model of economic development approach that no longer relies on economic development based on excessive exploitation of natural resources and the environment (Makmun 2020). An economic idea that aims to improve the welfare and social equality of society, while significantly reducing the risk of environmental damage. *As for the green economy* It also means an economy that produces low/no carbon dioxide emissions to the environment, saves natural resources, and is socially just. Economic activities are closely related to the environment (Anwar 2022) By starting environmental education that applies principles *green econmoy* From an early age it is hoped that students can become agents of change who contribute to building a sustainable future. It is very important to instill the value of cleanliness from an early age(Ayunis, Dicky Rustam n.d.)

Application of principles *green econmoy* This has not been implemented optimally in schools, even though there are already P5 activities in learning. This situation is still often found in elementary schools in Padang City. One of the schools that has not been optimal in instilling environmental awareness through the use of waste to make things happen *green economy* namely SDN 37 Sungai Bangek which is located in Balai Gadang Village, Koto Tangah District.

SDN 37 Sungai Bangek already has a waste site that separates organic and inorganic waste, but the waste is not processed properly because it is only thrown away or burned. This condition causes disruption to the environment around the school due to piles of waste and often causes air pollution. This had to be done because the organic and inorganic waste produced by the school did not go through a collection process by Padang city cleaning officers. Based on an interview with one of the teachers at the school, he stated that waste is dumped on land next to the school to be disposed of in waste disposal tanks and the rest is burned, and this is what causes air pollution around the school. Air pollution due to burning in the long term can have an impact on the health of local residents (Faridawati1 and Sudarti2 2021)(Faridawati1 and Sudarti2 2021) (Faridawati1 & Sudarti2, 2021). Burning waste produces

compounds such as CO2, CH4, N2O which are greenhouse gases (Wahyudi 2019). This phenomenon needs to be paid attention to by various parties so that it does not persist.

Through appropriate utilization activities, this waste can be valuable and provide economic benefits. Organic waste such as food scraps and leaves can be processed into fertilizer for plants, while inorganic waste such as plastic bottles can be processed into basic materials for hydroponic farming activities. To ensure efforts to utilize waste in a sustainable manner, it is necessary to provide guidance on the use of organic and inorganic waste to students.

Compost is an effective way to manage organic waste, such as food scraps, leaves or other green waste. The process of making compost involves the decomposition of organic material by certain microorganisms, such as bacteria and fungi, which produces compost that is rich in nutrients for plants. General steps in making compost include collecting organic waste, mixing with additional materials such as sawdust or straw to create an optimal carbon-nitrogen balance, regulating humidity and ventilation, and maintenance during the decomposition process (Aristoteles et al. 2021). The resulting compost can be used to improve soil structure, provide nutrients for plants, and reduce dependence on chemical fertilizers that have the potential to damage the environment. Liquid organic fertilizer is also an effective solution for processing organic waste into a source of nutrients that can be absorbed quickly by plants. The process of making liquid organic fertilizer involves fermenting or soaking organic materials in water, vegetables or manure can be used as raw materials for making liquid organic fertilizer (Cahyawati et al. 2022). After the fermentation or soaking process is complete, the solution can be filtered and re-dissolved with water to make liquid organic fertilizer that is ready for use. Liquid organic fertilizer has the advantage of being easy to use and absorbing nutrients by plants, and can be an environmentally friendly alternative compared to chemical fertilizers which can pollute soil and water.

Efforts to implement the habit of caring for waste must be carried out from school age. Apart from that, students must also understand the 5 elements of an attitude of caring for waste. The first is to reduce the use of goods that will cause waste, then the second is to recycle waste by processing the waste for further use and economic value (DITPSD, 2022b). This research aims to describe students' knowledge in utilizing waste to create a green economy.

C. Research Method

This research uses a qualitative method with a descriptive approach, to analyze students' knowledge in waste utilization. The subjects of this research were fourth grade students at SDN 37 Sungai Bangek, Balai Gadang Village, Koto Tangah District, Padang City. Data were collected by conducting interviews with students and teachers at SDN 37 Sungai Bangek. To see students' knowledge, they were asked questions about waste utilization. This illustrates how students know about waste utilization.

D. Discussion

This research examines students' understanding of waste utilization in schools, with results showing that 82.5% of students have a good understanding of the concept and importance of waste utilization by asking students questions. This high percentage shows that the majority of students already understand the benefits of waste management such as separating organic and inorganic waste and utilizing recycled waste. These results were obtained through surveys and interviews, in-depth tests conducted on a number of class IV students.

Most students who understand the use of waste show a proactive attitude in keeping the school environment clean and managing waste independently. These students understand the importance of reducing waste volumes through simple actions, such as reusing items and recycling. With this knowledge, students become more aware of the negative impact of waste on the environment if it is not managed properly.

However, there are still 17.5% of students who do not fully understand or have not been properly educated regarding waste utilization. This group is generally less familiar with correct waste management practices and does not fully understand the environmental impact of unmanaged waste. This shows that additional efforts are still needed to reach and increase awareness among students who do not yet fully understand.

This research also highlights the role of teachers and the school environment in shaping students' understanding of waste management. The teachers involved in the research stated that they played an active role in teaching students about the 3R concept (Reduce, Reuse, Recycle). In addition, the school has provided supporting facilities such as separate waste bins which help students apply their understanding in the school environment.

Current technological and industrial developments contribute to increasing waste volumes. The large amount of waste produced can have a negative impact on the environment if not managed properly. Education from an early age, especially for elementary school students, plays an important role in providing an understanding of waste utilization. Children at this age have the potential to absorb positive values related to environmental conservation. Therefore, it is important to introduce the concept of waste utilization in elementary schools as an effort to foster environmental awareness from an early age.

Knowledge of waste utilization for elementary school students not only encourages environmentally friendly habits, but also develops creative skills. By teaching students to recycle or reuse waste, they can learn to create useful products from items that are often considered worthless. Research shows that waste processing activities involving children can improve their cognitive skills and creativity in finding solutions to environmental problems (Mustafa & Setiawan, 2022).

Environmental education which includes the use of waste can strengthen children's character in maintaining a clean environment. Based on a study conducted by Rahayu et al. (2021), students who are introduced to waste management programs from an early age have a higher awareness of the environment than students who do not receive similar environmental education. This shows that understanding waste management can help students develop a responsible attitude towards the surrounding environment.

The long-term impact of waste utilization education in elementary schools is to create a generation that cares more about environmental sustainability. Integrating learning about waste utilization in the elementary school curriculum can be the first step in reducing the amount of waste and creating a young generation who is ready to face environmental challenges in the future. That way, students not only gain theoretical knowledge, but also practical skills that can be applied in everyday life (Rahmawati, 2020).

E. Overall, this research show **Conclusion**

That students' understanding of waste utilization in schools has reached a good level with a figure of 82.5%. However, there needs to be continuity in environmental education programs and waste management practices, so that students not only have an understanding, but also apply this knowledge in their environment consistently so as to help realize a green economy.

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