Raising Collective Awareness of Climate Change Through Participatory Discussions with the Community on 3R-based Waste Management in SWK Ketintang

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Abstract. In line with the Sustainable Development Goals (SDGs) Climate Action, the aim of this research is to foster collective community awareness of climate change through participatory discussions on 3R-based waste management (Reduce, Reuse, Recycle) in SWK Ketintang, Surabaya. This approach was chosen to encourage active involvement of citizens in understanding and addressing increasingly urgent environmental problems. The methods used include organizing discussions, in-depth interviews, and participatory observations. The hope is that community participation can increase their understanding and awareness of the importance of good waste management and its impact on climate change. The results of the research show that with the implementation of participatory discussions, the community's understanding of the 3R concept and the importance of its application in everyday life has improved. In addition, collective awareness of the negative impacts of poor waste management on the environment and global climate increased. Active participation in discussions helped residents feel more responsible and instrumental in environmental conservation efforts. The conclusion of this study is that the participatory approach in environmental education is effective in fostering collective awareness and changing community behavior patterns in waste management. Recommendations are given to continue and develop similar programs in other areas as a sustainable climate change mitigation effort. It is also hoped that this research can be a model for other environmental initiatives in increasing community participation and building collective awareness of environmental issues.

Keywords: Participatory Discussion, Collective Awareness, Waste Management, SDGs.

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1 Introduction

1.1 Background

Surabaya has a large population in East Java. Every year, the population continues to grow, one of the causes is the increasing number of migrants, including in the Ketintang area. The density of the area opens up business opportunities for sellers there, including in the Ketintang Culinary Tourism Center (SWK). SWK is a reflection of the City Governments commitment to public health and a clean environment through the arrangement of MSMEs. That way, SWK Ketintang plays a role in supporting the creation of a healthy and comfortable environment for the community and the entire community.

The Culinary Tourism Center (SWK) Ketintang is often crowded with visitors, mostly students because of its location near campuses. As a result, the number of visitors also increases the volume of waste generated. Lack of understanding about waste management and the negative impact of excessive plastic use can be dangerous. Waste that is not optimally processed can cause various negative impacts, such as disease, environmental pollution, and many others. Therefore, concrete steps are needed to increase the role of the community in waste management, especially plastic waste. The 3Rs waste management concept is appropriate to apply because it is made to serve community groups consisting of at least 100 households but not more than one village [1].

Although there are many ways to manage waste, the active role of the community is still minimal. A more active role is needed from the community like in Randegan, Mojokerto. They work together and play an active role in contributing to the 3R waste management program. There needs to be more intensive and programmatic campaigns and counseling so that this program can run well and effectively. Adequate economic incentives and supporting infrastructure and facilities are needed [2]. Based on the results of the field study, we identified several problems in waste management, the lack of understanding of sellers regarding waste management, the impact of excessive plastic use and the benefits of waste processing itself. Therefore, it is necessary to educate the community, especially sellers, in waste management efforts. It is generally recognized that (3R) policies and waste management form the basis of material cycle community development. However, 3R and waste management policies differ from country to country due to each country's political conditions or strategies [3].

2 Method

This research uses a qualitative approach with a focus on participatory approaches. To increase the collective awareness of the community about climate change through joint discussions about 3R-based waste management (Reduce, Reuse, Recycle) in SWK Ketintang. Currently, we often encounter the traditional way of managing waste, by burning, flushing, and throwing away which is an outdated habit and produces an unsustainable society [4]. We chose a qualitative approach because it makes it easier for researchers to explore the views, attitudes, and experiences of participants and to understand the social and cultural context in which the research was conducted.

The research was conducted in SWK Ketintang, Surabaya. This location was chosen not only because of its strategic location between campus neighborhoods, but also because it is a representation of an urban community that has significant challenges in waste management and the potential to implement 3R practices effectively and sustainably. The research design used was a case study. Case studies allow researchers to go in-depth into specific and complex phenomena, such as the implementation of participatory approaches in the context of waste management in SWK Ketintang.

In this study, the data collection technique used was observation. Observation was carried out by giving a form of question to measure the extent of the participants level of understanding, as well as observing the daily interactions and practices of the community related to waste management in SWK Ketintang. Then interviews, conducted in-depth interviews with community members, SWK Ketintang administrators, and local leaders to get an in-depth view of their experiences and perceptions of participatory approaches in waste management. Finally, Focus Group Discussions were held with selected communities to explore their collective perspectives on the 3Rs and how participatory approaches can influence their behavior regarding waste management.

Recognizing the importance of participatory approaches in building collective awareness and changing community behavior, this research focused on an in-depth analysis of the qualitative data that had been collected. In a systematic series of steps, the analysis seeks to interpret the results to explore the extent to which the approach has had a positive impact on waste management at the community level. By adhering to the ethical principles of research, such as obtaining consent from participants, maintaining confidentiality of information, as well as ensuring long-term benefits to the community, this research aims to make a significant contribution to creating a cleaner environment that is aware of the importance of effective waste management.

This research methodology is designed to enable an in-depth understanding of the implementation of a participatory approach in raising the community collective awareness of climate change through 3R-based waste management practices in SWK Ketintang. With this approach, it is hoped that this research can make a significant contribution to the development of sustainable policies and practices in climate change mitigation efforts at the local level.

3 Finding and discussion

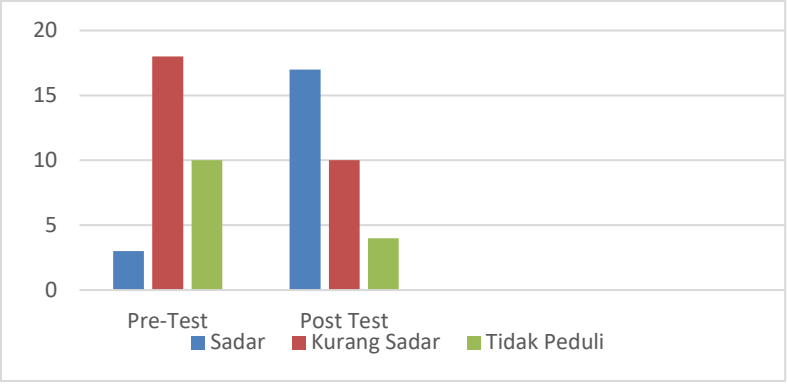
3.1 Collective Public Awareness on Climate Change

The findings of this study show that the participatory approach in community discussions on 3R-based waste management in SWK Ketintang shows an increase in collective awareness of climate change. Through direct interaction and group discussions, the community can understand more deeply the negative impact of waste on the environment and its contribution to global climate change. Active participation in the discussions also helped in sensitizing the community on the importance of collective action to reduce their carbon footprint and implement sustainable practices in their daily lives. This indicates that participatory approaches not only build knowledge, but also motivate changes in attitudes and behaviors that are more environmentally friendly.

This is shown by the improvement in 3 things, namely awareness, understanding, and application of waste management among the partner sellers in SWK Ketintang.

1. Increased Awareness: The sellers became more aware of the importance of waste management to keep the environment clean.

Fig. 1. Results of Pre-Test dan Post Test About Awareness

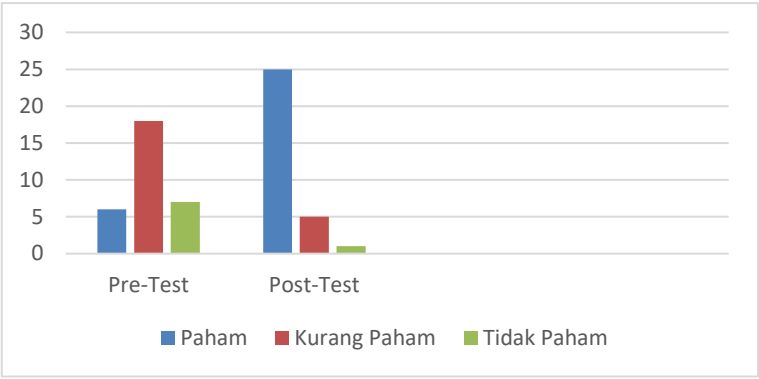


(Sources: Researcher, 2024)

The diagram above shows that before the socialization was conducted to thirty-one sellers, eighteen sellers were still not aware of the importance of waste management. Another ten people admitted that they did not care about waste management because they felt that waste was already handled by certain parties, and only three people from all sellers consciously handled waste independently. After the research was conducted, seventeen sellers began to have an awareness of the importance of waste management. While sellers who are less aware and do not care have decreased significantly from eighteen down to ten sellers who are less aware. This shows a good significant improvement from socialization compared to the pre-test.

2. Increased Understanding: Participants can understand and apply waste segregation, composting, and recycling techniques well.

Fig. 2. Results of Pre-Test dan Post Test About Comprehension

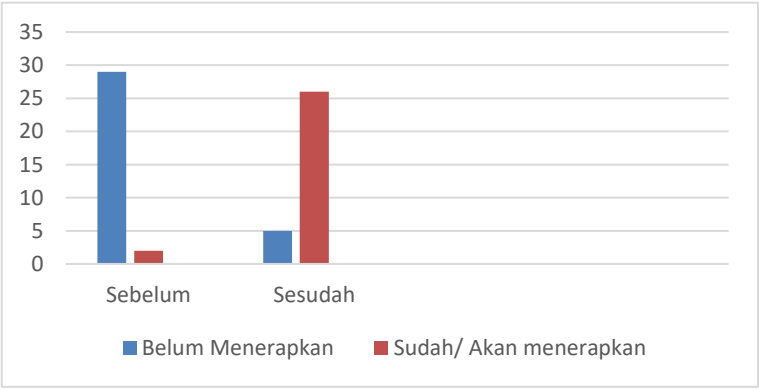


(Sources: Researcher, 2024)

Continuing with the sellers understanding of waste handling, it was found that before the pre-test, only a few sellers were aware of the negative impact of poorly managed waste on the environment and health. After the socialization, this number increased. Merchants now better understand that poorly managed waste can cause environmental pollution, unpleasant odors and health problems such as infectious diseases. From the socialization to the sellers, there is an increased understanding of the importance of maintaining a clean environment around the selling place.

3. Implementation: There has been a positive change in the way waste is managed by the sellers, in the form of efforts to separate waste and make compost independently.

Fig. 3. Implementation Follow-up



(Sources: Researcher, 2024)

In terms of the application of waste management, the diagram above shows the results of follow-up observations from the activity showed a significant increase. Before the socialization, only a few sellers applied the correct waste management techniques. On the next occasion, a week after the socialization, the researcher observed, and the sellers reported that the majority had practiced the implementation of waste management by separating waste by type and starting to collect waste belonging to their respective stalls. They also committed to be more diligent in collecting waste generated to be recycled into recycled goods such as shopping bags, flowerpots, decorations etc. Some collaborate with third parties, such as waste banks, to sell plastic waste and other waste that can be recycled.

The results of this activity showed that the socialization of waste management conducted in SWK Ketintang succeeded in significantly increasing the understanding and awareness of sellers. This improvement is not only seen in theoretical knowledge but also in the application of daily waste management practices. With these positive results, it is hoped that SWK Ketintang can become an example for culinary tourism centers in other areas in an effort to increase awareness and good waste management practices for sellers.

This research also highlights the implementation of the 3Rs (Reduce, Reuse, Recycle) practices as part of the participatory approach. Through discussions and practical training, the SWK Ketintang community was able to adopt the 3R practices in their daily lives. For example, the practice of sorting waste into different categories and reusing items that are still usable has become a habit in some households. Focus group discussions showed that participants identified the economic and environmental benefits of 3R practices, such as reduced costs of purchasing new goods and reduced volumes of waste disposed to the environment. This reinforced their awareness of the benefits of 3R practices not only individually, but also in the context of broader collective benefits to the environment.

3.2 Challenges and Opportunities for Further Implementation

While there have been significant achievements in raising collective awareness and implementing 3R practices, the study also identified several challenges that need to be addressed in further implementation. One of them is ensuring the sustainability of the new practices adopted by the community, especially in the long term. Continued support from the local government and relevant agencies is needed to facilitate infrastructure and policies that support 3R practices at the community level.

In addition, this participatory approach also shows potential to be developed and expanded to other areas as a model in building collective awareness and mobilizing concrete action on climate change. Collaboration between the community, government, and private sector does not mean that the operation must always be carried out by all three but may be carried out by professional institutions or bodies that are capable and mandated by the community [5]. Waste management involves several parties with different interests that play a role in building the city's waste management system. An explanation of the roles of stakeholders, such as the government, the community, and

technical parties in waste management is important to develop an effective, efficient, and sustainable waste management system model [6] [7].

The hope is to strengthen climate change mitigation efforts and maintain environmental sustainability in the future. As such, the findings and discussions in this study make an important contribution to the development of strategies and policies oriented towards 3R-based waste management and building collective awareness of climate change at the SWK Ketintang community level and beyond.

4 Conclusion

In raising collective awareness of climate change, this research has explored a participatory approach through discussions held with the community on 3R-based waste management (Reduce, Reuse, Recycle) in SWK Ketintang. The mission of the implementation of this activity is similar to [8], aims to raise awareness about recycling and its societal benefits through targeted campaigns and advertising. ements. Based on the analysis and findings, the following important conclusions can be drawn. First, this research shows that the participatory approach is effective in environmental education because it can increase the community's collective awareness of environmental issues, especially related to waste management. Through active dialogue and collaboration with local communities, this activity succeeded in building a deeper understanding of the importance of waste management with the 3R concept to reduce environmental impacts.

Second, the implementation of the participatory approach has also been proven to stimulate sustainable behavior change, especially among the SWK Ketintang community. Active participation in discussions and practical activities has changed the mindset and daily actions of the community regarding waste reduction, reuse, and recycling. Third, based on the results of this study, it is highly recommended to continue the participatory discussion program and expand its implementation to other areas. This is not only a concrete step to raise collective awareness about climate change, but also a concrete action to protect the environment in a sustainable manner.

Finally, this research provides an example or model that can be adopted by other environmental initiatives in mobilizing community participation and building collective awareness. To avoid something similar to the findings [9] regarding the non-implementation of the Reduce, Reuse, and Recycle (3R) Waste Technical Guidance activities in Pekanbaru City, which causes aspects of community empowerment related to Reduce, Reuse, and Recycle (3R) not to be optimally implemented. By strengthening community involvement in decision-making and collective action, it is hoped that this model can make a significant contribution to efforts to mitigate global climate change and protect the environment. Thus, it can be concluded from this research that a participatory approach in community discussions on 3R-based waste management in SWK Ketintang is not only effective in stimulating positive behavior change, but also has the potential to be a key driver in strengthening collective awareness of pressing environmental challenges.

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