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Education and Assistance in Sustainable Environmental Management Through Community-Based Waste Recycling Programs in Banyumulek Village

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Abstract

Environmental problems caused by improper waste management remain a major challenge in rural areas in Indonesia. Banyumulek Village, located in West Lombok Regency, has experienced increasing household waste production alongside the growth of economic activities and tourism-related handicraft industries. This community service program aims to improve community awareness and skills in sustainable waste management through education and assistance in recycling household waste into economic value products. The program applied participatory methods including socialization, training, mentoring, and evaluation involving local residents and community groups. The results show that community knowledge regarding waste segregation and recycling significantly increased, and residents successfully produced recycled craft products with economic potential. The program also contributed to reducing environmental pollution and strengthening community participation in sustainable environmental management. The implementation demonstrates that community-based waste recycling programs can serve as an effective strategy to support environmental sustainability and improve local economic resilience.

1. Introduction

Waste management has become a serious environmental issue in many developing countries, including Indonesia. Increasing population growth, changes in consumption patterns, and economic development have significantly contributed to the increase in household waste production. In rural areas, waste management systems are often limited due to inadequate infrastructure and lack of public awareness regarding sustainable environmental practices.

Banyumulek Village, located in West Lombok Regency, is widely recognized as a center for pottery and handicraft industries. The economic development of this sector has indirectly increased the volume of both organic and inorganic waste generated from household activities and production processes. Most waste is disposed of through open dumping or burning practices, which can lead to environmental pollution and public health risks.

Environmental sustainability requires community involvement as the primary actor in managing local waste. Educational and mentoring programs are needed to encourage behavioral changes and improve community capacity in waste processing activities. Community service programs conducted by university students through PKM/KKN activities provide strategic opportunities to introduce environmentally friendly waste management practices.

1.1. Problem Formulation

Several environmental problems were identified in Banyumulek Village, including:

- Low public awareness of waste segregation.
- Lack of knowledge regarding waste recycling techniques.
- Limited community participation in environmental conservation programs.
- Increasing volume of non-organic waste, especially plastic and packaging materials.

1.2. Objectives of the Community Service Program

This program aims to:

- Improve community knowledge regarding sustainable waste management.
- Provide education and practical training on recycling household waste into handicraft products.
- Encourage community participation in environmental conservation.
- Create economic opportunities through recycled product development.

1.3. Expected Outcomes and Benefits

The expected outcomes include increased environmental awareness, improved community skills in waste recycling, reduced environmental pollution, and strengthened local economic resilience through creative recycling industries.

2. Literature Review

2.1. Concept of Sustainable Environmental Management

Sustainable environmental management refers to the responsible use and protection of natural resources through conservation and sustainable practices to ensure long-term environmental quality. According to Purvis et al. (2019), sustainable development integrates environmental protection, economic growth, and social welfare to achieve balanced development outcomes.

Environmental sustainability requires active community participation and behavioral transformation, especially in waste management practices. Community-based approaches are considered effective in addressing environmental challenges due to their participatory and locally adaptive characteristics.

2.2. Community-Based Waste Management

Community-based waste management emphasizes the involvement of local communities in planning, implementing, and monitoring waste management programs. Such approaches encourage local ownership and sustainability of environmental programs. According to Kaza et al. (2018), community participation significantly contributes to the success of waste management initiatives in developing countries.

Waste recycling programs can reduce landfill waste volume and generate economic benefits through creative industry development. Recycling activities also promote circular economy principles by reusing materials to minimize environmental impact.

2.3. The Role of Community Education in Environmental Awareness

Environmental education plays a crucial role in shaping public attitudes and behaviors toward sustainable environmental practices. Education programs increase knowledge, awareness, and community motivation to adopt environmentally friendly lifestyles. According to UNESCO (2020), environmental education strengthens community capacity to address local environmental problems through knowledge-based solutions.

2.4. Previous Community Service Programs Related to Waste Processing

Several studies have demonstrated the effectiveness of community service programs in improving waste management practices. Research conducted by Rahmawati et al. (2022) showed that recycling training significantly increased community participation in waste reduction programs. Similarly, Sari and Nugroho (2021) found that community mentoring programs successfully developed local creative industries based on recycled materials.

3. Methods

3.1. Location and Target Community

The community service program was conducted in Banyumulek Village, West Lombok Regency, West Nusa Tenggara Province. The target participants included household residents, women's community groups, and youth organizations.

3.2. Program Implementation Design

The program applied a participatory approach that involved community members throughout all stages of program implementation. This method aims to ensure program sustainability and community ownership.

3.3. Program Implementation Methods

The implementation involved several methods, including:

- Environmental education seminars
- Waste recycling training workshops
- Practical mentoring sessions
- Program evaluation and monitoring

3.4. Program Implementation Stages

3.4.1. Preliminary Observation

The preliminary observation stage involved field surveys and interviews with community leaders to identify environmental conditions and waste management practices.

3.4.2. Socialization and Education

Educational sessions were conducted to introduce sustainable waste management concepts, waste segregation techniques, and environmental health impacts.

3.4.3. Training and Practical Assistance

Participants were trained to transform plastic waste into handicraft products such as decorative items, shopping bags, and souvenir products. Practical mentoring ensured participants could independently perform recycling activities.

3.4.4. Monitoring and Evaluation

Program evaluation was conducted through observation, participant feedback, and assessment of recycled product outputs.

3.5. Data Collection Techniques

Data were collected using observation, interviews, documentation, and participant questionnaires.

3.6. Indicators of Program Success

Success indicators included increased community knowledge, active participation, and successful production of recycled handicraft products.

4. Results and Discussion

4.1. Initial Condition of Community Waste Management

Initial observations indicated that most residents did not separate waste based on type. Plastic waste was commonly burned or disposed of in open areas. The absence of recycling practices contributed to environmental pollution.

4.2. Implementation of Environmental Education Programs

Educational sessions improved community understanding of waste classification and environmental impacts. Participants demonstrated increased awareness and willingness to adopt waste segregation practices.

4.3. Community Participation in Waste Processing Activities

Community participation increased significantly during training sessions. Women's groups showed strong involvement in producing recycled handicrafts. Youth organizations also participated in waste collection and sorting activities.

4.4. Impact of Waste Recycling Programs on Environmental Sustainability

The recycling program successfully reduced plastic waste accumulation and promoted environmentally friendly practices. The production of recycled handicrafts created new economic opportunities for residents. Community awareness of environmental sustainability improved through active participation in program activities.

4.5. Challenges and Solutions in Program Implementation

Several challenges were identified, including limited recycling equipment and initial community resistance. These challenges were addressed through continuous mentoring and collaboration with local government support programs.

5. Conclusion and Recommendations

5.1. Conclusion

The community-based waste recycling program in Banyumulek Village successfully improved environmental awareness and community skills in sustainable waste management. Educational and mentoring approaches effectively encouraged community participation and reduced environmental

pollution. The development of recycled handicraft products also contributed to strengthening local economic opportunities.

5.2. Recommendations

Future programs should involve collaboration with local government agencies and private sectors to support equipment availability and product marketing. Continuous education is needed to maintain community participation and program sustainability.

5.3. Sustainability Strategy of the Program

The establishment of community recycling groups and integration with local handicraft industries can ensure long-term sustainability of the waste recycling program.

REFERENCES

Hoornweg, D., & Bhada-Tata, P. (2019). *Solid Waste Management and Sustainable Development*. World Bank Publications.

Kaza, S., Yao, L., Bhada-Tata, P., & Van Woerden, F. (2018). *What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050*. World Bank.

Purvis, B., Mao, Y., & Robinson, D. (2019). Three pillars of sustainability. *Sustainability Science*, 14(3), 681–695.

Rahmawati, D., Hidayat, R., & Putri, N. (2022). Community empowerment through plastic waste recycling training. *Journal of Environmental Management*, 18(2), 115–123.

Sari, M., & Nugroho, A. (2021). Community mentoring in creative recycling industries. *Journal of Community Development Research*, 9(1), 45–53.

UNESCO. (2020). *Education for Sustainable Development: A Roadmap*. UNESCO Publishing.

Wilson, D. C., Velis, C., & Cheeseman, C. (2020). Role of informal sector recycling in waste management. *Waste Management Journal*, 102, 3–14.