

## Village Waste Management Strategy as an Economic Asset: Accounting Evaluation an Implementation of Sustainable Practices in Bongkasa Village, Abiansemal District, Badung Regency

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### Abstract

Bongkasa Village faces significant challenges in waste management, which has become increasingly complex due to population growth, cultural activities, and rising consumption. The Community Service Program (KKN-PMM) aims to evaluate the economic potential of waste management using an accounting approach, enabling efficient and sustainable management of waste. Additionally, this program seeks to empower the local community with knowledge and skills in environmentally friendly and economical waste management practices, contributing to the creation of a clean, healthy, and attractive village environment for eco-tourism development. This service indicates that although the community's knowledge of waste management is fairly good, there are differing views on the burden of waste management. To address this, it is recommended to implement activity-based budgeting that includes budget allocation for facilities, sorting technology, and incentive programs. By making appropriate budget allocations and ensuring good oversight, it is hoped that the efficiency and effectiveness of the waste management program can improve. Furthermore, continuous socialization and education through routine outreach programs are essential to enhance community knowledge, starting from elementary school students about the importance of waste sorting and its benefits for the environment. The support provided must be integrated with budget management to ensure that all aspects of the ongoing program can be optimized, fostering active community participation and improving waste management quality in Bongkasa Village.

### Keywords:

Bongkasa Village, Waste Management, Economic Asset, Accounting Evaluation, Sustainable Practices

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## INTRODUCTION

Bongkasa Village, located in Abiansemal District, Badung Regency, consists of 10 community sub-villages (banjar) and 2 traditional villages (desa adat). The village faces significant challenges in waste management, which has become increasingly complex due to population growth, cultural activities, and rising consumption. Waste is often seen as a burden that must be managed, but if handled properly, it can be transformed into a resource with economic value, contributing to sustainable development in Bongkasa Village.

Ineffective waste management negatively impacts the environment, poses public health threats, and diminishes the village's attractiveness as a tourist destination. Bongkasa Village, registered as one of the Top 300 Tourist Villages for ADWI 2024, offers the beauty of nature and authentic Balinese culture. With an area of 462.9 hectares and a population of around 6,257, Bongkasa Village has developed various tourism activities such as rafting, swings, trekking, and traditional Balinese art performances. Additionally, the village provides comfortable accommodations, such as homestays and villas, to meet tourists' needs. However, the main challenge facing the tourism industry is maintaining environmental sustainability and developing sustainable tourism. Eco-tourism, a tourism development concept focused on environmental and cultural preservation, has become an appropriate solution to address waste issues in Bongkasa Village.

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According to the Republic of Indonesia Law No. 18 of 2008, everyone has the right and obligation to manage the waste they produce. Article 12 of Law No. 18 of 2008 emphasizes that everyone must reduce and handle waste environmentally consciously. Waste is divided into four categories: organic, inorganic, hazardous waste, and residual waste. *Waste* is leftover items considered to have no utility, originating from human activities, including materials, food scraps, paper, plastic, metal, glass, and other waste. Ineffective waste management negatively impacts the environment and can threaten public health and reduce the village's appeal as a tourist destination.

The student community service program (KKN-PMM) aims to implement a village waste management strategy as an economic asset: accounting evaluation and sustainable practices in Bongkasa Village, to change the community's perception of waste from being viewed as a burden to a valuable economic asset. This program aims to evaluate the economic potential of waste management using an accounting approach, enabling efficient and sustainable waste management. Furthermore, this program seeks to empower the local community with knowledge and skills in environmentally friendly and economical waste management practices, supporting creating a clean, healthy, and attractive village environment for eco-tourism development. The community's knowledge about waste management needs to be improved, with 47% of residents still collecting and burning household waste. The development of industry and changes in lifestyle towards consumerism have led to plastic becoming a part of today's lifestyle (Putra & Yuriandala, 2010).

This program is expected to enhance the welfare of Bongkasa Village residents by optimizing existing resources and implementing sustainable practices in waste management. The high volume of waste, not matched by good management, will also affect national development, hindering national progress (Marliani, 2019). Waste can become a source of income if managed properly. Processing waste such as styrofoam, rice husks, paper, plastic, and wood dust can become alternative building materials (Rifany & Rizal, 2011).

Maulina (2012) states that waste management is an effort to reduce waste produced by households, starting with understanding and awareness among households in managing waste, such as sorting organic and inorganic waste to facilitate easier collection by environmental services and reducing plastic usage in daily activities. Ariska et al. (2022) proved that household waste has utility value for reuse or sale to increase household income. To achieve the desired waste management goals effectively, the waste management philosophy is that the less waste generated and the closer it is managed from the source, the easier the management will be, resulting in less environmental impact (Marliani, 2019). The evaluation results from the Environmental Agency produced principles for waste management through reduce, reuse, and recycle.

In connection with the implementation of KKN PMM from Warmadewa University in Bongkasa Village, the students involved in the KKN group conducted task distribution regarding mutual cooperation in the village. The mutual cooperation activities by Warmadewa University students included surveys on waste management among the community in 10 banjars and the implementation of community clean-up events. Based on the survey results, data on waste management facilities in the village showed that 47% of respondents rated the waste management facilities as very good, 33% felt the facilities needed improvement, and 20% rated them as poor.

Suggestions for Increasing Community Awareness in Waste Management: 47% of respondents suggested the need for socialization regarding waste management, 23% proposed providing facilities to enhance community awareness, and 30% recommended giving appreciation to community members who have improved their awareness in waste management.

Based on the survey results, the solutions that can be provided to address the partner's issues are:

1. Providing training and additional knowledge using a management accounting approach through activity-based budgeting to increase community awareness in waste management activities.
2. Ongoing socialization and education through routine outreach programs to enhance community knowledge, starting from elementary school students about the importance of waste sorting and

its benefits for the environment. This can be done using various methods, including workshops, brochures, social media, and educational videos

## METHODS

This community service is technically carried out by 29 students, accompanied by a Field Supervisor (DPL) under the KKN-PMM program.

**During the observation Stage:** the KKN students from Bongkasa Village at Warmadewa University engaged in direct interactions with the village community. They conducted observations, interviews, and surveys across 10 (ten) banjars, visiting residents' homes, their business locations, and the waste disposal sites in the village.



**Figure 1.** Observation, interviews, and surveys with the community of Bongkasa Village

**Problem Mapping Stage:** The next step is to map the problems faced by the village community. Based on the results of the observations, interviews, and surveys, a major issue identified by the partners is the lack of understanding and awareness among the community regarding waste

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management activities. This is a significant barrier as the partners do not fully understand that waste has high economic value if managed properly.

**Activity Implementation Stage:** This activity is carried out directly with the village community and schools for elementary students. This activity aims to raise awareness among the village community about waste management as early as possible for elementary students, using one of the strategies, which is interactive educational videos ([https://drive.google.com/drive/folders/1K5sEq8yAZc0LLiVrnQ5-1TFrIPpOMosH?usp=drive\\_link](https://drive.google.com/drive/folders/1K5sEq8yAZc0LLiVrnQ5-1TFrIPpOMosH?usp=drive_link) ) and how to allocate resources appropriately based on activities related to waste management for cost efficiency and budget control for the village community.



**Figure 2.** Implementation of activities to raise community awareness in waste management

## RESULT AND DISCUSSION

**Table 1.** Achievement of the Community Service Program

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| Thema  | Activity Specifications  | Activity Realization |
|--|--|----------------------|
| Village Waste Management Strategy as an Economic Asset | Visiting the target partner locations directly by conducting observations, interviews, and field surveys related to the issues faced | 100 %                |
|  | Mapping the problems faced by the partners   | 100 %                |
|  | Introducing activity-based budgeting in village waste management for the village community and village officials                     | 100 %                |
|  | Creating interactive educational media for elementary school students regarding waste management                                     | 100 %                |

**Partner Participation.** The parties involved in raising community awareness about waste management include the Village Head, Village Secretary, Village Officials, Village Community, and Elementary School Students. Based on the results of the community service program, there is a good synergy between village officials and the village community. The majority of respondents (70%) have participated in socialization about waste management, and most of them are aware of how to sort household waste, with 50% agreeing and 30% strongly agreeing. This indicates that knowledge about waste sorting is quite high. However, there is a fairly divided view regarding the burden of waste sorting, with 47% of respondents agreeing or strongly agreeing that waste sorting is burdensome, while 46% feel it is not burdensome. Therefore, there is a need for improved education and awareness regarding better waste management in the future, continuing with ongoing socialization campaigns and education about efficient waste management

## CONCLUSION

The community service activities of KKN-PMM aim to evaluate the economic potential of waste management using an accounting approach, so that waste can be managed efficiently and sustainably. Additionally, this program aims to empower the local community with knowledge and skills in environmentally friendly and economical waste management practices, as well as to support the creation of a clean, healthy, and attractive village environment for ecotourism development. The majority of the community has participated in socialization activities about waste management and has a good understanding of how to sort household waste. This indicates that the educational efforts made have had a positive impact on community understanding.

Although knowledge about waste sorting is quite high, there are differing views regarding the burden felt in waste sorting. Most respondents feel that waste sorting is burdensome, while others do not feel this way. To improve the effectiveness of waste sorting and reduce the burden felt by the community, additional support is needed, such as enhancements to facilities, technologies that facilitate sorting, and incentives that motivate active participation. Any support provided must ensure that aspects of activity-based budgeting management can enhance the overall efficiency and effectiveness of the program.

Increasing education and further socialization campaigns regarding waste management, providing supporting infrastructure, and offering incentives are important steps in alleviating the burden of waste management felt by the community. Optimizing the waste sorting process through aids and technology, as well as having policies and regulations, will help improve the efficiency and success of the waste management program. Furthermore, community-based approaches, such as forming waste care groups and mutual assistance activities, will strengthen the support provided by the village community. Thus, with the implementation of appropriate recommendations, it is hoped that waste management at the household level can be carried out more efficiently and can enhance environmental quality and sustainability in waste management in Bongkasa Village

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