

Collaborative Communication Preserving Sawarna Beach Ecosystem Towards Sustainable Tourism Development

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Abstract

Tourism is a vital sector for the national economy, but the increase in tourism at Sawarna Beach threatens the sustainability of the local ecosystem and the economy of the community. This research analyzes sustainable tourism communication to support the conservation of the Sawarna Beach ecosystem. This research uses a case study method with a qualitative approach, involving literature review, focus group discussions, interviews, observations, and qualitative data analysis. The research findings emphasize the importance of multi-stakeholder collaboration involving local governments, local communities, tourism entrepreneurs, and NGOs in conservation efforts. The success of conservation heavily relies on effective coordination and structured communication. Although multiplatform media such as websites and social media are important for raising environmental awareness, their use is still not optimal. Participatory approaches, such as beach clean-up activities, have proven effective in increasing participation and environmental awareness. This research acknowledges limitations in geographical scope as well as a lack of exploration into the potential conflicts among stakeholders. Recommendations include further research on conflict dynamics, more effective communication strategies, and more intensive management of digital media and outdoor media to enhance community engagement in environmental conservation.

Keywords: Sustainable Tourism; Ecosystem Conservation; Stakeholder Collaboration; Communication Strategies; Participatory Approaches

Abstrak

Pariwisata merupakan sektor vital bagi perekonomian nasional, namun peningkatan pariwisata di Pantai Sawarna mengancam keberlanjutan ekosistem lokal dan ekonomi masyarakat. Penelitian ini menganalisis komunikasi pariwisata berkelanjutan untuk mendukung konservasi ekosistem Pantai Sawarna. Penelitian ini menggunakan metode studi kasus dengan pendekatan kualitatif, penelitian ini melibatkan tinjauan pustaka, FGD, wawancara, observasi, dan analisis data kualitatif. Hasil penelitian menekankan pentingnya kolaborasi multi-stakeholder yang melibatkan pemerintah daerah, komunitas lokal, pengusaha pariwisata, dan NGO dalam upaya konservasi. Keberhasilan konservasi sangat bergantung pada koordinasi efektif dan komunikasi terstruktur. Meskipun media multiplatform seperti website dan media sosial penting untuk meningkatkan kesadaran lingkungan, penggunaannya masih belum optimal. Pendekatan partisipatif, seperti kegiatan bersih pantai, terbukti efektif dalam meningkatkan partisipasi dan kesadaran lingkungan. Penelitian ini mengakui keterbatasan dalam cakupan geografis serta kurangnya eksplorasi terhadap potensi konflik antar-stakeholder. Rekomendasi meliputi penelitian lanjutan mengenai dinamika konflik, strategi komunikasi yang lebih efektif, dan pengelolaan media digital serta media luar ruang yang lebih intensif untuk meningkatkan keterlibatan masyarakat dalam pelestarian lingkungan.

Kata Kunci: Pariwisata Berkelanjutan; Konservasi Ekosistem; Kolaborasi Pemangku Kepentingan; Strategi Komunikasi; Pendekatan Partisipatif

INTRODUCTION

Tourism is recognized as an important sector for the national economy, as it also contributes to GDP and foreign exchange earnings. In order to overcome these obstacles, it is advised that additional study be done to examine the dynamics of conflict in more detail and to develop better communication techniques. Furthermore, increased outdoor media use and more rigorous digital media management can improve community involvement in environmental preservation. Assessing the success of conservation projects and modifying future plans will be made much easier with the establishment of an open monitoring and reporting system and frequent community-based evaluations (Adedoyin et al., 2022).

However, the increase in the number of tourists also brings serious challenges, especially in areas with vulnerable ecosystems. One example is Sawarna Beach in Lebak Regency, Banten Province. The increase in tourist visits to the area has caused significant environmental issues, with waste pollution potentially damaging the coastal ecosystem as well as the local economy. Khan et al. (2020) emphasize that although tourism has the potential to spur growth, the negative impacts it generates should not be overlooked (Khan et al., 2020).

To face this challenge, an effective long-term communication strategy is needed to address this issue over time. Understanding the economic implications of tourism growth is crucial for formulating communication approaches that support sustainable tourism practices (Beg & Basarac Sertić, 2020). This approach must also involve various parties, including local communities, tourism managers, tour guides, hotel management, and other stakeholders to raise awareness and become increasingly involved in conservation activities.

Based on previous research findings, one solution to address environmental damage caused by waste is through an educational communication approach. The issue of plastic waste for the marine ecosystem in Ujong Pulau Rayeuk Village, South Aceh, is being addressed through educational communication that involves the community, including tourists (Najmi et al., 2022). Educational campaigns that emphasize awareness of consequences, such as reducing plastic waste, among local tourists can play a crucial role in changing behavior towards responsible waste disposal (Badawi, 2024).

In addition, initiatives such as the edutourism program at Santen Island Beach, as outlined by Yudhana (2023), can raise awareness among tourists and the local community about the importance of preserving wildlife and ecosystems, fostering a harmonious relationship between visitors and the environment (Yudhana, 2023). By disseminating knowledge about waste reduction, recycling, and the principles of the circular economy, as suggested by Reddy (2023), individuals and communities can be empowered to adopt sustainable practices, which contribute to beach cleanliness and ecosystem health (Reddy, 2023). The process of educational communication can also utilize social media. The use of social media and digital platforms is a significant step in making tourists aware of how detrimental their behavior is towards the environment. Wulandari & Afriyanni (2021) emphasize that appropriate tourism development policies can optimize the contribution of this sector to economic growth while considering sustainability (Telaumbanua et al., 2023). Collaboration is necessary between the village government and business actors in the tourism environment to minimize negative impacts as much as possible.

The theory of collaboration in sustainable tourism highlights the significance of collaboration among different stakeholders, including local communities, non-governmental organizations, the private sector, and government agencies, in order to accomplish mutually beneficial goals (Amiruddin et al., 2022; Kusumawati, 2023). Prior research has demonstrated that the sustainability of conservation initiatives is improved when the community is involved in the development of tourism. According to research, community involvement in the creation of tourist villages can enhance the local economy and preserve cultural heritage (Mulyan & Isnaini, 2022; Zakiah, 2023). By incorporating the community in the management of local resources, this approach not only strengthens the ability of all stakeholders but also promotes a sense of environmental ownership and responsibility (Musthofa, 2020).

The research problem focuses on designing educational communication strategies that can support the conservation of the Sawarna Beach ecosystem. The proposed solution includes the development of an environmental awareness campaign that involves all stakeholders and the utilization of information technology to support conservation efforts. In previous literature, Panthhe & Kokate (2021) conveyed the importance of the resilience of the tourism sector to crises (Panthhe & Kokate, 2021). Although many studies have been conducted on communication strategies for sustainable tourism, there is still a gap in the application of specific strategies for the context of Sawarna Beach. Junaedi's research (2022) also highlights the importance of understanding the economic dynamics that can influence tourism development (Nuha et al., 2018). Further research is needed to formulate adaptive communication approaches that are relevant to the local context.

The purpose of this study is to examine how the management of Sawarna Beach tourism have used an educational communication strategy to increase visitors' awareness of and involvement in protecting the Sawarna Beach ecosystem. It is anticipated that this research will increase stakeholder collaboration and offer fresh perspectives on developing successful communication strategies. As a result, this study adds to the body of knowledge on sustainable tourism while also offering useful suggestions that Sawarna Beach stakeholders can implement.

METHOD

This study uses a case study methodology with a qualitative approach. Because it enables a thorough comprehension of the dynamics and elements influencing tourism communication in a complex context, the case study method was selected. This is consistent with earlier studies that demonstrate the effectiveness of qualitative approaches, such as case studies, in examining tourism and environmental issues (Efendi et al., 2022).

The research process begins with a literature review and the preparation of a proposal, which provides a strong theoretical framework for this study. Next, data was collected through focus group discussions, interviews, observations, and document studies. In this case, the selection of informants was carried out purposively based on specific criteria, such as cultural understanding and involvement in related activities. This approach ensures that the information obtained is not only valid but also rich in context, supporting the findings of previous studies (Maudiarti & Adriani, 2021; Sufiawan et al., 2021).

Data analysis was conducted using the Miles and Huberman approach (Rostini & Rudiyanto, 2021), which includes data reduction, data presentation, and conclusion drawing. Using many data sources to confirm conclusions is known as source triangulation, and it ensures the authenticity of data. After categorizing and analyzing the data from focus groups and interviews, conclusions were reached in consultation with the informants through a member check procedure. The Department of Culture and Tourism (Disbudpar) of Lebak, business players, NGOs, the village head, BUMDes managers, media representatives, academics, local communities, and tourists make up the 15 participants in the study. This study helps Sawarna Beach create more efficient sustainable tourism strategies by examining viewpoints from multiple sources.

RESULTS AND DISCUSSION

Research Results

Sawarna Beach, located in Lebak Regency, Banten Province, has emerged as one of the leading tourist destinations with its stunning natural beauty. Every year, more and more visitors are interested in visiting this beach, especially during long holidays like Christmas and New Year. Data shows that during the Christmas holiday of 2024, the number of visitors reached 40 to 50 thousand people, reflecting a significant increase in popularity year after year (Nurabidin, 2024). Its main attraction lies in the stunningly exotic beauty of its coastline, as well as the incredibly captivating natural atmosphere, making it the perfect place for travelers seeking tranquility that is hard to find in urban areas.

But despite its allure, Sawarna Beach has significant environmental difficulties, especially with regard to garbage. According to research findings, beach cleanliness has decreased as a result of an

increase in tourists in recent years. Interviewees from the area also voiced their worries about the detrimental effects of waste buildup, which not only detracts from the natural beauty of the area but also poses a risk to the coastal ecosystem. Sawarna Beach's garbage issue has come to represent the misalignment between the expansion of tourism and environmental conservation.

Trash on the beach affects the lives of marine life that depends on the coastal ecology in addition to making the area ugly. For instance, plastic garbage can seriously harm marine life and obliterate their ecosystems. Therefore, it is crucial to successfully handle this issue by involving all stakeholders in the process. In order to overcome this obstacle, cooperation and communication between different stakeholders are crucial. The focus group discussion's findings with the village chief, BUMDes managers, commercial actors, non-governmental organizations, and the community showed that the speakers understood how important it was to manage tourism in a sustainable and ecologically friendly way. The cross-sector collaborative communication strategies, the massive optimization of digital platform utilization, educational communication processes regarding waste disposal, and the enhancement of stakeholder participation in maintaining the beach ecosystem to support sustainable tourism are some of the aspects of efforts to maintain the Sawarna beach ecosystem that were revealed from the FGD process and interviews.

Based on the research findings, it was discovered that collaborative communication for sustainable tourism at Sawarna Beach occurs through the following stages:

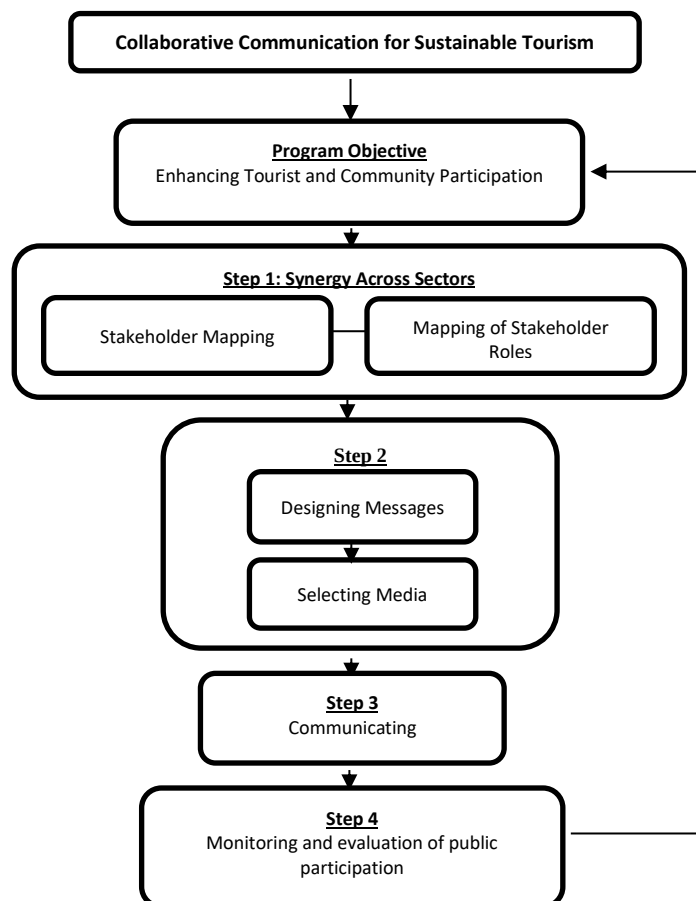


Figure 1. The Process of Collaborative Communication for Sustainable Tourism

Source: Research Results, 2024

Based on Figure 1 above, it is known that the Sawarna Village Government and BUMDes managers are working to implement collaborative communication for sustainable tourism at Sawarna Beach. To understand how each stage is carried out, this has been presented in the discussion section.

Discussion

Mapping the Roles of Stakeholders in the Conservation of Sawarna Beach

This research highlights the significance of identifying and mapping the roles of various stakeholders in the conservation of the Sawarna Beach ecosystem. Previous research emphasizes that collaborative projects involving various stakeholders can empower communities economically and socially, as well as contribute to environmental sustainability (Lesmana, 2023). This aligns with the need to identify and map the roles of stakeholders in the conservation of the Sawarna Beach ecosystem. Based on the results of the Focus Group Discussion (FGD), it shows that the Sawarna Village government is identifying stakeholders to support the conservation of Sawarna Beach. The identified parties are local governments, local communities, tourism entrepreneurs, and non-governmental organizations (NGOs) that play a significant role in environmental preservation. By understanding the roles of each party, communication strategies can be designed to more effectively leverage existing expertise and resources.

This study emphasizes how crucial stakeholder cooperation and participation are to the management of natural resources, especially in coastal ecosystems. The results support the notion that cross-sector cooperation and a multi-stakeholder strategy are necessary for conservation to be successful. The research's practical implications demonstrate that communication tactics that take into account the roles of all stakeholders can improve the efficacy of conservation initiatives (Lesmana, 2023). Additionally, it is important for tourism industry players to adopt environmentally friendly practices and for local governments to ensure the consistent implementation of environmental preservation regulations (Sukomardojo, 2023).

A significant aspect of this study is its all-encompassing approach to mapping stakeholder activities and offering a thorough understanding of Sawarna Beach's conservation dynamics. Its narrow geographic and cultural focus, however, might not accurately represent circumstances in other areas. Furthermore, a crucial component of conservation efforts possible conflicts among stakeholders is not fully examined. Future studies ought to delve deeper into stakeholder disputes and cover more ground. Research could also concentrate on creating customized communication plans for various conservation settings.

Synergy Across Sectors for Sustainable Tourism

To support the conservation of the Sawarna Beach ecosystem in Lebak Regency, a holistic approach involving various elements is necessary. The research results indicate that the Village Government and tourism managers, namely BUMDes, are eager to identify which parties need to enhance their coordination to support the conservation of this ecosystem. From this process, it has been identified that the parties that must be involved include traders, homestay owners, NGOs, the Culture and Tourism Office (Disbudpar) of Lebak, media personnel, academics, communities, local residents, and tourists. Mapping and identifying stakeholders is important to support the effectiveness of collaboration. According to Mahadiansar et al. (2021), a deep understanding of the interests and influences of each party will enhance the effectiveness of collaboration (Mahadiansar et al., 2021). By identifying who is involved, communication efforts and conflict management can be carried out more effectively.

Stakeholder mapping revealed each person's contribution to environmental conservation initiatives. Developing laws and policies that promote environmental preservation is the responsibility of the village government. The village head continues to coordinate with the Department of Culture and Tourism (Disbudpar) of Lebak regarding the provision of supporting infrastructure and the organization of educational programs for the community and tourism managers. However, one of the obstacles is the limited number of trash bins and the process of transferring waste to the disposal site. Meanwhile, the tourism managers (BUMDes) play a role in organizing environmentally friendly tourism

practices and providing educational information to tourists about the importance of preserving coastal ecosystems. In addition, they also continue to communicate with the media to promote environmentally friendly tourism practices at the tourist beaches.

Through sustainable company practices and waste collection in their local communities, business actors along the beach assist conservation efforts, according to the findings of observations and interviews. Environmental NGOs work with local governments and tourism managers to facilitate education and oversight. Participation in conservation initiatives and eco-friendly habits are two ways that local populations support conservation. It is expected of visitors to follow environmental laws, such as not leaving trash behind. Tourist complaints about the absence of garbage cans along the beach and the significance of cleanliness reminders were brought to light during interviews.

To enhance tourists' understanding and participation in preserving coastal ecosystems through educational communication, various stakeholders play a crucial role. The village government acts as a regulatory body, implementing policies and regulations to ensure sustainable tourism practices. (Tanur, 2024). Tour operators contribute by managing tourism activities sustainably, promoting environmentally friendly practices, and providing educational materials for visitors (Hengky, 2014). Local businesses are involved in ecotourism initiatives, offering services that respect the environment and local communities (Ali & Shaleh, 2021). Environmental NGOs monitor and advocate for the protection of coastal ecosystems, engaging in conservation efforts and educational campaigns. (Rumondang, 2024). The local community participates in ecosystem management by sharing knowledge, engaging in conservation activities, and promoting sustainable practices (Salampessy et al., 2021). Finally, tourists themselves can contribute by respecting local customs, following the guidelines set by the authorities, and supporting environmentally friendly businesses (Ali et al., 2023).

By fostering collaboration among stakeholders, utilizing effective communication, and promoting environmental education, tourists can develop a deeper appreciation for coastal ecosystems. This approach supports findings that well-designed marine protected areas benefit both ecosystems and local communities (Fox et al., 2011). Involving various stakeholders in coastal management enhances acceptance and success in conservation efforts, particularly in areas with limited enforcement resources (McClanahan et al., 2006). A multi-stakeholder approach, including the government, tourism operators, local businesses, NGOs, communities, and tourists, is essential for raising awareness and engagement in coastal ecosystem preservation.

Research has revealed that cross-sector synergy is a key element in supporting sustainable tourism in Sawarna Beach. This research emphasizes the need for regular communication forums and feedback mechanisms that allow for the continuous adjustment of strategies. With this approach, tourism at Sawarna Beach can develop sustainably while preserving the ecosystem's continuity.

Designing Effective Messages for Environmental Awareness

A fundamental element of sustainable tourism is engaging both tourists and local communities in efforts to preserve the environment. Focus group discussions and observations revealed that, although educational messages are conveyed through various channels such as brochures and digital campaigns, there is still a lack of communication media in outdoor settings, such as banners and informational boards at beach areas. Additionally, the presence of messages on social media platforms like Instagram and Facebook remains limited, even though tourism managers are trying to collaborate with influencers to increase educational content. Informants also acknowledged these shortcomings and gaps. Furthermore, the findings of this study highlight the lack of message testing and feedback collection from tourists, which is essential to assess the effectiveness of educational messages and make necessary adjustments to support sustainable tourism. Therefore, tourism managers need to design effective messages, as Cvitanovic et al. assert that clear and relevant messages are crucial to motivate visitor participation in coastal areas (Lesmana, 2023). Moreover, Mendoza-González et al. advocate for the use of simple language and appealing visuals as effective ways to enhance understanding and engagement with ecosystem services (Sukomardojo, 2023). This study supports this

perspective by finding that messages using visuals and easy-to-understand language can have a positive impact on tourists' awareness of the importance of coastal ecosystem conservation.

From a theoretical perspective, this research expands the understanding of the important role of communication in supporting environmental conservation through sustainable tourism. This finding supports the theory that active audience engagement can be maximized through effective communication strategies. In particular, this study found that data-based messages and include practical measures not only raise awareness but also motivate real action amongst tourists. This reinforces the importance of effective engagement theory, which incorporates elements such as message clarity, relevance, and the use of supporting visuals (Nurrani et al., 2015).

Practically, this finding has important implications for destination managers in Sawarna Beach and other similar areas. First, the managers need to enhance the use of diverse communication media to spread conservation messages, such as brochures, posters, and digital campaigns. This aligns with the recommendations from Gornish and Roche regarding the importance of diversifying communication channels to reach a broader audience (Pranata, 2021). Secondly, the significance of testing messages through surveys and feedback from travelers is also a key highlight, considering that research results indicate that direct feedback from the audience can assist in adjusting communication strategies to enhance message effectiveness (Adhiyatma, 2024). The strength of this research lies in its comprehensive approach to exploring various communication strategies and their impact on participation in environmental conservation. However, this research also has limitations, particularly regarding the lack of message testing and the collection of feedback from a broader audience. These limitations highlight the need for further studies that focus on directly testing communication strategies through more extensive survey and observation methods.

Conceptually, there are at least three types of message strategies in effective communication with tourists: informational, transformational, and interactive strategies. The informational message strategy, as discussed by Mediana (2023), focuses on delivering clear and accurate information that helps raise awareness among tourists about products or services (Mediana & Pamungkas, 2023). In the context of Sawarna Beach, this strategy could be applied to provide clear information about the importance of ecosystem conservation, thereby increasing tourist participation in environmentally friendly activities. Lesmana's (2023) research also supports the idea that clear and relevant messages are vital in motivating visitor participation in coastal areas (Lesmana, 2023).

The strategy of transformational messaging aims to connect the emotions and positive experiences of tourists, where storytelling plays a crucial role in creating emotional connections (Syafriana & Sukmawati, 2022). In this study, it was found that the use of transformational messaging can enhance awareness of conservation by leveraging emotional elements, which in turn encourages tangible actions to protect the Sawarna Beach ecosystem. Interactive messaging strategies, which focus on creating dialogue between brands and travelers, are highly relevant in today's digital era, especially through social media (Taryana & Retnowardhani, 2023). The research results indicate that this interaction, through comments, questions, or feedback, is crucial for understanding and responding to tourists' needs regarding conservation. This is in line with the recommendations from Gornish and Roche, who suggest diversifying communication channels to reach a broader audience (Pranata, 2021).

This research not only expands the understanding of the importance of communication strategies in conservation but also provides practical implications for destination managers, particularly in optimizing communication media and enhancing message effectiveness through testing and feedback from tourists. Although this research has limitations, particularly in terms of testing broader messages, the findings still provide a strong foundation for further, more in-depth and systematic research to support coastal ecosystem conservation through sustainable tourism.

Utilization of Multiplatform Media for Conservation Education

The use of digital platforms in supporting the conservation of the Sawarna Beach ecosystem is crucial for raising awareness and community engagement. Based on the observation results, it was found that the management of Sawarna Beach tourism has a website, Instagram, and Facebook. However, according to the researcher's observations, the website and social media platforms have not been utilized to their full potential. This is evident from the amount of content that has not been published regularly.

Based on the observation results, it shows that the content on the website, Instagram, and Facebook has not been managed intensively. This has also been confirmed by the manager of Sawarna tourism. Certainly, this finding can serve as a reminder of the importance of content optimization in digital media for the managers of Sawarna tourism. Ideally, if the website presents information comprehensively, it can serve as an educational tool for conservation purposes to support sustainable tourism. Research by Font et al. (2019) emphasizes that informative information platforms can promote the concepts and programs of sustainable tourism (Font et al., 2019). This website can be a primary source of information for visitors and the local community regarding ongoing conservation initiatives.

In addition, social media platforms like Facebook, Instagram, and X play a significant role in awareness campaigns. Gulati (2021) highlights how social media can promote sustainable behavior and strengthen conservation movements in tourist destinations (Gulati, 2022). In various regions, the district government also widely uses social media to promote tourist attractions, such as in Brebes Regency (Manogari & Zia, 2018). In addition, the promotion and publicity of tourist attractions on social media can create a country's position in the eyes of the world (Arianti, 2019). By utilizing social media, messages about the importance of environmental preservation can be disseminated more widely and quickly. Through a wide range of digital platforms, tour managers can disseminate a variety of visual content, such as videos and infographics, which is essential to attract audience attention. Research by Martínez-Navalón et al. (2020) reveals that visual content can enhance user satisfaction and trust in tourism businesses, thereby aiding in conveying conservation messages in a more engaging and easily understandable manner (Larrán Jorge et al., 2016).

Observations show that in Sawarna Beach, there are no educational media to remind visitors to maintain cleanliness. Tourism managers should utilize multiplatform media, not only digital but also outdoor media such as banners and posters. Research at Jayanti Beach (Manu, 2023) and East Sumba (Huki et al., 2022) shows that effective educational campaigns can raise awareness and engage the community in preserving coastal ecosystems. Using a combination of digital and conventional media can expand audience reach. In the future, digital platforms should include messages emphasizing environmental values and sustainable tourism (Emrizal & Primadona, 2020).

This study shows that multiplatform media technology, such as social media, mobile applications, and websites, is effective for conservation education. Digital media enables the widespread and interactive dissemination of information in real-time. Mobile applications with features like guides and damage reporting can enhance tourist engagement, while social media supports environmental awareness campaigns. Its effectiveness depends on content quality and technology accessibility, which are crucial to ensure that the information is accurate and easy to understand, and accessible to all users, making conservation education more inclusive.

Increasing Tourist and Community Participation in Conservation

Enhancing visitors' and local communities' involvement in conservation activities is the technique used to boost participation, according to the research findings. Information from focus group discussions indicates that all stakeholders are involved in keeping the Sawarna Beach region and the homestay environment clean. Vendors always remind patrons to pick up rubbish and maintain a clean environment in the places where they sell. Furthermore, environmental NGOs and local groups usually advise tourists to keep the surroundings clean.

The findings from observations and interviews demonstrate that homestay owners at Sawarna Beach diligently maintain the cleanliness of their enterprises because they understand that a clean homestay attracts travelers. Trash cans should be dispersed equally throughout the region, visitors hope. A participatory strategy that includes two-way communication between the community and visitors can increase the efficacy of conservation initiatives. The community's sense of ecological responsibility is reinforced by initiatives that promote active participation, like beach clean-ups and conservation education. Long-term involvement in environmental conservation efforts can be promoted through engagement, incentives, and educational tactics.

The evaluation and assessment of the messages conveyed to the local people and tourists in order to appraise Sawarna as a tourist destination is another facet of this study. In the tourism sector, monitoring and evaluation (M&E) are essential, especially to make sure that employees and other stakeholders comprehend and use communication concepts (Fall & Massey, 2006). As a result, assessments are usually only carried out in reaction to pre-existing frameworks or particular communication efforts. However, content monitoring and evaluation (M&E) on social media and other platforms is still not at its best. In this regard, the study highlights how crucial it is for tourism stakeholders to carry out in-depth analyses and assessments of the efficacy of communication. This method enables a thorough examination of tourism communication from a number of angles, such as visitor behavior, the success of marketing campaigns, and general perceptions of destination management.

Increasing community understanding and participation in the conservation of the Sawarna Beach ecosystem is essential for supporting sustainable tourism. Educational campaigns through workshops and seminars are effective in raising environmental awareness (Mahiddin et al., 2023). Community involvement, including local leaders, is crucial in designing and implementing conservation activities, creating effective synergy (JUMIATI et al., 2024). Participatory programs such as beach clean-ups strengthen the community's sense of ownership over the environment and encourage direct involvement in ecosystem preservation, enhancing commitment to sustainability (Görpe & Öksüz, 2022).

The development of engaging educational materials, such as brochures and guides, can also enhance public understanding. Farsari's research (2021) indicates that informative educational materials can help disseminate knowledge about sustainable practices, making them an effective tool for raising awareness (Farsari, 2022). Finally, it is important to implement a transparent monitoring and reporting system. According to research by Bhutio et al. (2022), open reporting of activity results not only enhances accountability but also allows for better strategy adjustments in the future (Bhutio et al., 2022). By integrating these various approaches, sustainable tourism communication efforts in Sawarna Beach can be more effective, supporting ecosystem conservation and enhancing community participation in environmental protection.

At Sawarna Beach, waste management education and communication initiatives are essential to promoting the preservation of the local ecology. Starting an awareness campaign that highlights the detrimental effects of tourism on the environment is one of the first steps in this process. Effective marketing can raise tourists' awareness of the value of responsible waste management, which in turn can promote improved disposal practices, according to research by Aziz and Jefri (2020). Furthermore, it is essential that hotel employees and tourism managers receive training (Aziz & Muharani Jefri, 2020). According to Xu et al. (2022), teaching environmentally friendly practices can significantly improve the efficacy of waste management in the tourism sector (Xu et al., 2023). With this type of training, tourist sector professionals may integrate more sustainable practices into their daily operations.

Educational materials such as brochures, videos, and posters are effective tools for disseminating information. Research by Dewi & Roziqin (2022) highlights the importance of this material in raising environmental awareness among tourists and the community (Dewi & Roziqin, 2022). In addition, collaboration with the media can expand the reach of conservation messages

(Kerber & Kramm, 2021). Community involvement in educational campaigns is also key. Research by Nuryadin et al. (2021) notes that community participation can foster a sense of ownership over waste management initiatives, thereby enhancing the success of the program (Nuryadin et al., 2021). In addition, workshops and seminars discussing effective waste management techniques, as stated by Tarigan (2023), can serve as an important means to educate the community (Tarigan et al., 2023).

The distribution of trash bins in strategic locations will facilitate proper waste disposal. Research by Lumeno et al. (2022) notes that the accessibility of trash bins can encourage more responsible waste disposal behavior (Lumeno et al., 2022). Promoting the 3R principles (Reduce, Reuse, Recycle) to tourists and the local community is also important (Obersteiner et al., 2021). Lastly, education in schools that includes material on waste management and conservation can foster environmental awareness from an early age. With all these efforts, Sawarna Beach can achieve better waste management, support the conservation of its ecosystem, and contribute to the sustainability of tourism.

CONCLUSION

The study's conclusion highlights the significance of multi-stakeholder cooperation, comprising local government, communities, tourism entrepreneurs, and non-governmental organizations, in the preservation of the Sawarna Beach environment. When the duties of each stakeholder are mapped out, it becomes clear that efficient collaboration and organized communication are critical to conservation success. Furthermore, although observational studies show that its use is currently suboptimal, the use of multiplatform media, including websites, social media, and mobile applications, is seen to be crucial for increasing environmental awareness. Participation and environmental awareness have been shown to increase when local people and visitors are involved in conservation initiatives, such beach clean-ups.

Additionally, this study recognizes its geographic coverage limits and does not go deeper into the possible conflicts among stakeholders. In order to overcome these obstacles, it is advised that additional study be done to examine the dynamics of conflict in more detail and to develop better communication techniques. Furthermore, increased outdoor media use and more rigorous digital media management can improve community involvement in environmental preservation. Assessing the success of conservation projects and modifying future plans will be made much easier with the establishment of an open monitoring and reporting system and frequent community-based evaluations.

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