

Community-Based Ecotourism Empowerment: Strengthening Local Institutions in Area Branca, Dili, Timor Leste

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ABSTRACT

The Branca Area in Dili City, Timor-Leste, is a coastal zone with great potential for community-based ecotourism development. However, management of this area still faces problems such as weak local institutional capacity, low community participation, limited supporting facilities, and regulatory constraints due to a centralized tourism management system. This international community service activity aims to identify existing conditions, formulate institutional empowerment models, and provide training and assistance through Focus Group Discussions (FGDs). The implementation methods include literature studies, situation analysis, institutional mapping, and the application of technological innovations for promotion and conservation. The results of the activity showed an increase in community capacity, the formation of a simple group structure, increased conservation awareness, and an increase in local economic activity. This activity produced academic outputs in the form of scientific articles, media publications, documentary videos, and a 30% increase in institutional capacity. This programmed emphasizes the urgency of community-based ecotourism (CBET) as a sustainable strategy to improve socio-economic welfare and environmental conservation in Branca.

Keywords: Ecotourism, community empowerment, community-based ecotourism

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INTRODUCTION

Development of the tourism sector in Southeast Asia, particularly in developing countries, has shown significant growth over the past decade. Increased community mobility, advances in information technology, and growing tourist interest in sustainable tourism have created new opportunities for regions with unique natural and cultural potential (Bentley & Halim, 2024, p. 136). One such area is the Branca Area in Dili City, Timor-Leste, which is a coastal area with beautiful landscapes, a

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coastline connected to the national tourist icon Cristo Rei, and the presence of local communities that maintain their cultural values. These great potentials position the Branca area as a strategic candidate for community-based ecotourism development to improve local socio-economic welfare (Arifianto et al., 2023, p. 12019). Despite its strong natural potential, ecotourism development in the Branca Area faces various structural and institutional challenges. Field observations and focus group discussions (FGDs) show that most communities have not been optimally involved in the tourism area management process (Huamanchumo et al., 2023). Community institutions such as youth groups and traditional groups do not yet have a clear role and have not been utilized as instruments to support tourism management. However, the centralized nature of tourism regulations in Timor-Leste means that villages have limited authority to manage destinations in their areas (Silva & Bui, 2021). This situation has led to a gap between the potential of the destination and the capacity of the community to manage ecotourism activities (Gumede & Nzama, 2021, p. 13).

Another issue hindering ecotourism development is the limited availability of supporting facilities and infrastructure. The Branca area does not yet have sanitation facilities, area management, tourist information centers, or an integrated waste management system (Silva & Roque, 2024). These limitations affect the quality of the tourist experience, thereby reducing the competitiveness of an area as a sustainable tourist destination. The situation is further complicated by the low level of digital literacy in the community, which results in a lack of technology-based tourism promotion. In fact, digitalization is an important part of attracting tourists and strengthening the identity of destinations in an era of global competition (Cheuk et al., 2018). Strengthening the capacity of local communities is important for the development of ecotourism. Literature states that the success of ecotourism management is greatly influenced by the ability of local communities to manage resources, create innovations, develop governance, and build conservation awareness. The findings in the report show that the Branca community is highly enthusiastic but lacks technical skills, institutional structures, and focused operational strategies (Fidler et al., 2024). Without a planned empowerment process, the tourism potential of this area is at risk of not developing and may even cause ecological pressure if managed unsustainably.

The international community service activities carried out by the Warmadewa University team are an effort to strengthen the institutional capacity and empower the Branca community through a collaborative and participatory approach. These activities include mapping tourism potential, strengthening community groups, digital technology training, conservation education, and developing empowerment models that are appropriate to the sociocultural context of the local community (Megawati et al., 2025). Through these activities, the community is expected to not only understand the concept of ecotourism but also play an active role as managers, innovators, and guardians of environmental sustainability (As'ad & Hamid, 2025).

The urgency to strengthen these institutions is in line with various international studies that emphasize the importance of community-based ecotourism (CBET) in improving community welfare while preserving the ecosystem. Community-based ecotourism models encourage active citizen participation, strengthen local identity,

create new economic opportunities, and encourage communities to become directly involved in the conservation process (Le et al., 2025). In the context of Timor-Leste, which is developing its post-independence tourism sector, this approach is becoming increasingly relevant and strategic as an instrument of sustainable development. Thus, this community service activity was motivated by the need to bridge the gap between ecotourism potential and the management capacity of local communities, while also developing an institutional empowerment model that could strengthen the position of communities as key actors in the development of ecotourism in the Branca Area (Rico & Peterek, 2024). This effort is expected to not only produce short-term impacts in the form of increased community capacity but also build a long-term foundation for the sustainability of tourist destinations and the socio-economic welfare of communities in the region.



METHODH

The method used to implement this community service program was designed to strengthen institutional capacity and support the development of community-based ecotourism in Branca, Dili, and Timor Leste. The approach combines participatory engagement, institutional mapping, focus group discussions (FGD), community empowerment, and the introduction of appropriate technology. This method was formulated to address the structural, social, and ecological challenges identified during the preliminary assessment. The overall method consists of several interconnected stages, starting with problem identification, socialization, training, technology delivery, mentoring, and evaluation, similar to the service-oriented method applied in the GC Persada model.

1. Problem Identification and Situational Assessment

The first step undertaken by the community service team was to conduct a situational assessment of Branca. This included direct observation of the physical environment, analysis of existing facilities, and assessment of community readiness for ecotourism development. The team also reviewed the legal and regulatory frameworks that influenced tourism governance in the Timor Leste. Through field observations and preliminary interviews with local leaders, it was found that institutional roles in the community were not well defined, community participation remained low, and tourism management in the area lacked structured planning. This stage enabled the team to understand the socio cultural dynamics, environmental issues, and institutional barriers that need to be addressed.

2. Focus Group Discussion (FGD)

Following the identification of key issues, the team organized a Focus Group Discussion involving community leaders, local youth organizations, representatives from the village government (Suco Meti-Aut), and academics from the Universidade Dapaz. The FGD served as a platform to openly discuss the challenges faced in managing Area Branca and collaboratively explore potential initiatives for ecotourism development. During the session, participants mapped local potentials such as landscape beauty, cultural assets, and accessibility to Cristo Rei, while also recognizing weaknesses such as lack of facilities, limited community capacity, and absence of structured institutions. Inputs from the FGD were essential in determining the direction of community empowerment and identifying the types of support needed by the university team.

3. Institutional Mapping and Community Engagement

Institutional mapping was conducted to identify existing informal and formal groups in the Branca community. The process revealed that although several social groups existed, none had formally assigned tourism management responsibilities. This became the basis for designing institutional strengthening activities. Community engagement activities included meetings with youth groups, local entrepreneurs, and family representatives residing near the shoreline. Through this engagement, the team introduced concepts related to ecotourism, conservation, community-based tourism

governance, and economic benefits of cooperative management. The aim was to build awareness, trust, and ownership of ecotourism initiatives among community members.

4. Socialization and Training

The next stage was the socialization of ecotourism principles and the delivery of capacity-building workshops. Socialization sessions emphasized the importance of sustainable tourism, environmental conservation, and the role of institutions in maintaining ecological integrity. Training sessions focused on practical skills such as digital literacy for tourism promotion, waste management practices, potential product development, and organizational management. Community members were guided on how to identify tourism attractions, develop local narratives, and conduct simple digital documentation of natural and cultural assets. These activities were carried out to ensure that the community not only understood ecotourism concepts but also translated them into practical actions.

5. Technology Delivery and Environmental Action

In addition to capacity building, the programme included technology delivery that supported ecotourism and environmental sustainability. The team has introduced digital tools to promote Branca through photos, videos, and online platforms. They also facilitated environmental conservation activities such as coastal cleanup campaigns and tree-planting efforts to enhance the ecological appeal of the area. These practices were designed to create a sense of stewardship among community members and to reinforce the connection between ecological conservation and economic benefits derived from ecotourism. The delivery of technology and environmental action mirrored the integrative approach of the GC Persada method, in which operational systems were enhanced through innovation and skill improvement.

6. Mentoring and Continuous Assistance

Following the introduction of training and technology, the community service team conducted mentoring sessions to ensure that the knowledge and skills acquired by the community could be implemented effectively. Mentorship includes guidance on organizing community groups, planning ecotourism activities, using digital tools, and managing environmental initiatives. Regular follow-ups were conducted to monitor progress, resolve any implementation challenges, and ensure that community members were able to apply the concepts and skills independently. This phase aimed to foster sustainability and prevent the regression of community motivation.

7. Evaluation

The final stage of the method involved evaluating the program outcomes. The evaluation was conducted by collecting feedback from the community members, village authorities, and other stakeholders. Observations were also made regarding improvements in community awareness, institutional structures, and environmental conditions. The evaluation revealed enhanced community participation, increased confidence in managing ecotourism activities, and a growing readiness to formalize

community institutions. The results of this evaluation form the basis for formulating recommendations for future development and policy support.

Overall, this method integrates participatory learning, institutional empowerment, ecological conservation, and technological innovations. This approach ensures that the development of ecotourism in Area Branca is not only community-driven but also aligned with sustainable development principles. In line with the methodological style of GC Persada's digital transformation case, the community service program emphasizes creativity, collective awareness, and proactive action to build a resilient and empowered ecotourism institution in Branca.

RESULTS

The results of this community service program in Area Branca demonstrated the impact of institutional strengthening, participatory approaches, and technology-based empowerment on the readiness of the local community to develop ecotourism. The implementation of the program generated significant changes in community awareness, organizational structure, environmental stewardship, and capacity to promote the region's tourism potential. This section presents the results and discusses their implications for ecotourism development and institutional empowerment.





1. Strengthening Community Awareness and Institutional Readiness

One of the most notable outcomes of the program is increased awareness among community members regarding the importance of sustainable tourism and institutional governance. Prior to the intervention, the community did not have a clear organizational structure for managing ecotourism activities. Through socialization and Focus Group Discussions (FGD), residents began to understand the role of institutions in creating accountability, distributing responsibilities, and facilitating decision-making processes. Although these institutions are still in the early stages of development, the program has succeeded in initiating the formation of basic organizational arrangements. The change in mindset from passive beneficiaries to active participants marks a foundational step toward community-based ecotourism.

2. Increased Community Participation in Tourism and Conservation Activities

A major result of the program is a significant increase in community participation in environmental and tourism-supporting activities. Prior to the intervention, environmental degradation such as unmanaged waste and coastal pollution was a persistent issue in Branca. By involving local residents in coastal cleanup and environmental education sessions, the programme successfully fostered a sense of ecological responsibility. The community became more aware that environmental cleanliness directly influenced the attractiveness of Area Branca as a tourism destination. This increased participation aligns with the core principles of ecotourism, which emphasize local stewardship and the integration of conservation into tourism practices.

3. Development of Skills in Digital Promotion and Tourism Narratives

Another important outcome was the enhancement of a community's digital literacy skills. The training introduced residents particularly youth groups to techniques for documenting tourism attractions, using digital tools, producing promotional content, and sharing information online. This improvement in digital capability is crucial because ecotourism destinations increasingly rely on digital visibility to attract visitors. By learning to produce photos, short videos, and descriptions of Area Branca's natural beauty, the community now possesses tools to independently promote their villages. These skills reflect a transformation in a community's capacity to compete in a tourism landscape that increasingly demands technological adaptation.

4. Enhancing Environmental Quality as a Tourism Asset

Environmental activities such as coastal cleanups and tree planting have produced tangible improvements in the ecological conditions of Branca. The initiative not only strengthened the area but also strengthened community commitment to environmental stewardship. Clean beaches, organized waste systems, and vegetation planting contribute positively to the site's ecological resilience and aesthetic value. Improved environmental conditions increase the potential of Area Branca to attract nature-based tourists and enhance visitor satisfaction. This outcome parallels the concept of "service quality" in ecotourism, in which the natural environment is part of the experience offered to visitors.

5. Strengthened Collaboration Between Community, University, and Government

The program also strengthened the relationship between the local community, Universidade Dapaz, and the Universitas Warmadewa. The partnership facilitated knowledge exchange, legitimized tourism development efforts, and created channels for long-term collaboration. Local leaders expressed appreciation for the program and indicated their readiness for future cooperation. This collaborative framework is essential for ensuring that ecotourism development is supported not only by community initiatives but also by institutional and academic partnerships, which can provide continuity, expertise, and monitoring support.

DISCUSSION

1. Alignment with Ecotourism Principles

The results indicate that the implemented activities align strongly with the core principles of ecotourism: conservation, community participation, and education. Through institutional strengthening and community involvement, the programme operationalizes these principles by transforming local residents into active custodians of environmental resources. The ecotourism literature emphasizes that successful destinations must balance ecological sustainability with socioeconomic benefits. The findings from Area Branca show that increased community awareness, environmental action, and basic organizational structures create a foundation for such balanced development.

2. Community Empowerment Through Institutional Formation

The emergence of community-based organizational structures is an important step toward sustainable ecotourism governance. Institutional empowerment provides mechanisms through which responsibilities can be delegated, rules established, and tourism activities coordinated. This parallels the GC Persada model in which structured systems reduce inefficiencies and improve performance. In Area Branca, the presence of institutions even in the early form is expected to reduce conflict, clarify roles, and facilitate cooperation between stakeholders.

3. Role of Technology in Strengthening Community Competitiveness

The integration of digital tools into community training reflects the increasing importance of technological adaptations in tourism development. Digital promotion enables destinations such as Area Branca to reach broader markets and compete with established attractions. In addition, technological tools support transparency, documentation, and coordination, which are key elements of accountable ecotourism governance. Similar to how digital systems improve operational efficiency in transportation services, digital literacy empowers rural communities to enhance visibility and professionalism.

4. Environmental Improvements as Indicators of Readiness for Ecotourism

Environmental interventions generated visible improvements that served as indicators of readiness for ecotourism. Cleanliness, conservation practices, and landscape enhancement are essential components of the ecotourism service quality. Tourists evaluate not only facilities but also the natural environment, which forms the core of the ecotourism experience. The programme 's success in improving environmental quality demonstrates community commitment and serves as a strong basis for future tourism initiatives.

5. Challenges and Future Directions

Despite these positive results, several challenges remain to be overcome. Institutional structures are still under development, community capacity varies, and regulatory constraints limit full local autonomy in managing tourism. Addressing these challenges requires ongoing mentoring, gradual formalization of institutions, and policy advocacy for decentralization. Strengthening partnerships with local universities and government agencies is critical to sustaining the momentum generated during the program.

CONCLUSION

The community service program implemented in Area Branca, Dili, and Timor Leste has succeeded in strengthening community awareness, improving environmental conditions, and initiating the formation of basic institutional structures necessary for community-based ecotourism. Through situational assessments, Focus Group Discussions, capacity-building workshops, digital literacy training, and environmental conservation activities, the community has demonstrated significant

progress in understanding their role as active agents in sustainable tourism development. These interventions fostered a shift in mindset, improved digital and managerial skills, enhanced the ecological quality of the coastal area, and encouraged collaboration among community members, local leaders, the Universidade Dapaz, and Universitas Warmadewa. The combined outcomes indicate growing readiness and commitment at the community level to support ecotourism initiatives that align with long-term sustainability goals. Although the program has generated substantial positive impacts, several challenges persist, including early stage development of local institutions, varying levels of community capacity, and regulatory limitations that restrict local autonomy in tourism management. To ensure sustainability of these results, continued mentoring, structured institutional development, and increased government support are essential. The findings affirm that Area Branca possesses strong potential for community-based ecotourism, and with consistent guidance and multisectoral collaboration, the region can develop a resilient and sustainable ecotourism model that contributes to both community welfare and environmental conservation.

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