



Institutional Landscape of the Ecotourism in Canucutan River, Pasonanca Natural Park, Zamboanga City, Philippines

ABSTRACT

Ecotourism is a widely recognized industry around the world which advocates the use of natural resources for recreational activities while adhering to sustainable practices. Like any industry, it consists of institutions that are fundamental in the power relation about natural resource management and livelihood creation. The Philippines faces a critical challenge in the realm of ecotourism governance. This study aims to understand the institutional arrangement of the Pasonanca Natural Park, particularly the Canucutan River, and analyze the existing management policies and practices of the ecotourism activities. The focus on Pasonanca Natural Park is significant, highlighting its potential as a model for ecotourism governance while emphasizing the ongoing challenge of balancing environmental protection with economic benefits. The analysis is approached through Ostrom's socio-ecological system framework, integrating institutional framework and social dynamics to achieve sustainable ecotourism. Qualitative data were gathered through key informant interviews and focus group discussions of different stakeholders. The Department of Environmental and Natural Resources- Protected Area Management Office, Environmental Management Bureau, Zamboanga City Water District, Office of the City Environment and Natural Resources, Local Government Unit of Pasonanca, and the local community (cottage and parking area owners). Secondary data were collected from concerned agencies. All data were analyzed through institutional analysis and stakeholder theory PAMO oversees area management, fee collection, and orientation. Prioritized problems include lack of funds, the need for monitoring personnel, lack of community opportunities, awareness, and cottage owner issues. Recommended solutions include the establishment of People's Organizations, collaboration with private organizations, and local community involvement in decision-making to provide a sustainable approach in managing the ecotourism site.

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INTRODUCTION

Ecotourism involves traveling to relatively undisturbed natural areas for the purpose of interacting with local biodiversity, geophysical environment and the nearby communities (Hussin 2022). As this industry gained traction, ecotourism is viewed as an alternative approach for conservation of natural resources and ecosystems. While ecotourism site offers recreational utility to the visitors, it also generates income for local communities by providing livelihood opportunities through tourism-related services like food, production and selling of local products, transportation service, among others (Delos Reyes et al. 2019; Fajardo et al. 2022). Thus, in many developing countries, ecotourism is deemed as a key driver of regional and national economic development (Santarem et al. 2020).

Globally, numerous parks have been designated as natural and national parks due to their ecological importance, making them potential ecotourism sites. In the Philippines, the government recognizes ecotourism as an effective instrument for strong and continuous economic progress (Delos Reyes et al. 2019). However, conservation efforts within parks and ecotourism sites remain a challenge to some regions (Fajardo et al. 2022). Very common issues include perennial funding shortages, insufficiently trained personnel, and a disconnect between ecotourism principles and actual practices (Bagadion and Juan 2015). The lack of skills of park managers in securing additional funds from private sectors and other stakeholders hinders an effective ecotourism management. While some protected areas

have initiated projects for local economic development, only a few have yielded substantial benefits for local communities. Consequently, employment in ecotourism sites remains low status, part-time, and seasonal, limiting its impact on poverty alleviation (Funnell and Bynoe 2007), thus, the disconnect of ecotourism principles and realities on the ground.

The Philippines continually face a critical challenge in the realm of ecotourism governance due to interconnected factors, such as the quality of existing policy and regulatory framework - lacking the specificity to address the identified challenges, and the limited participation of the stakeholders, especially the local communities, in the decision-making process, which leads to more conflict and unsustainable practices (Brillo 2023). This deficiency underscores the pivotal role of institutions in defining mandate dynamics in natural resource management (DFID 2003). Institutions provide the governance structure within which all processes in the socio-ecological system (SES) operate. Likewise, they can either facilitate or hinder sustainable livelihoods by influencing access to and control over natural resources (Funnell and Bynoe 2014). Thus, effective collaboration among stakeholders is essential for good governance, fostering balance within the SES, and ensuring sustainable development (Gan et al, 2018). However, governance in many areas remains fragmented, with unclear leadership and susceptibility to political influences. These issues often lead to imbalances between conservation goals and equitable distribution of benefits to local communities (Brillo 2023).

In the island of Mindanao, Philippines, Zamboanga City is one of the destinations that is frequently visited by tourists. One of the main attractions is the Pasonanca Natural Park (PaNP), an old-growth watershed (12,107 ha) with high biodiversity. It was declared as a protected area under Republic Act 11038 or the Expanded National Protected Areas System and was designated as ASEAN Heritage Park in October 2022 (Casimiro and Ramos 2016). Recently, several tourist activities are offered in the park including trekking, river swimming, bird watching, nature seeing, and camping (Mayuga 2021). Although identified with high potential as a tourist destination, the park currently lacks an organized mechanism for proper management of the recreational activities, such as the regulation of visitor influx, waste management, infrastructure development, and amenities management.

Hence, this study aimed to understand the institutional arrangement and analyze the existing management policies and practices related to the ecotourism activities

at the Canucutan River inside the PaNP. The Canucutan River, due to its accessibility and natural beauty, attracts a high influx of visitors, making it a critical site for understanding the environmental impacts of recreational activities and the effectiveness of current management practices. This study employed the Socio-Ecological Systems (SES) Framework, adopted from a study of the ecotourism industry in Luisiana, Laguna Philippines (Delos Reyes et al. 2019). The SES Framework provides a holistic approach in studying the interactions between ecological systems and human activities. and in assessing how the existing institutional arrangements and management strategies influence the sustainability of ecotourism at the Canucutan River.

MTAERIALS AND METHODS

Study Area

Pasonanca Natural Park (7°4'15.96"N 122°4'31.8"E) preserves a major watershed in the Zamboanga Peninsula, Southern Philippines. Legislated as a protected area and an ASEAN Heritage Natural Parks, it was also recognized as the third highest biologically diverse area in the Philippines (Casimiro and Ramos, 2016; Pasonanca Natural Park Management and Development Plan 2019-2028 (PaNPMDP 2019-2028). The PaNP recreation zone offers several ecotourism activities, such as trekking, river bathing, bird watching, nature sightseeing, filming/photo shooting, and camping (Mayuga 2021).

The Canucutan River is one of the most visited ecotourism sites in the PaNP, as it is accessible to most locals. It has also a very affordable entrance fee which is based on DAO 2004-28, i.e. PhP 15 for students, PhP 30 for adult, and PhP 100 for foreigners. From February 2023 to September 2023, the number of visitors based on the Protected Area Management Office (PAMO) visitor registration report was almost 2,371. Tourists visit the area for its pristine water and environment. The river is fed by natural springs and flows gently through the park's protected watershed, ensuring a consistent supply of clean water. Its geographical position provides visitors with stunning views of the surrounding landscapes, including Mt. Pulong Bato, a prominent volcanic rock formation that enhances the scenic allure of the area. This natural beauty, characterized by clear water, gentle flow, and scenic surroundings, captivates visitors.

Research Design and Data Collection

This study employed a case study approach and is qualitative in nature to generate an in-depth

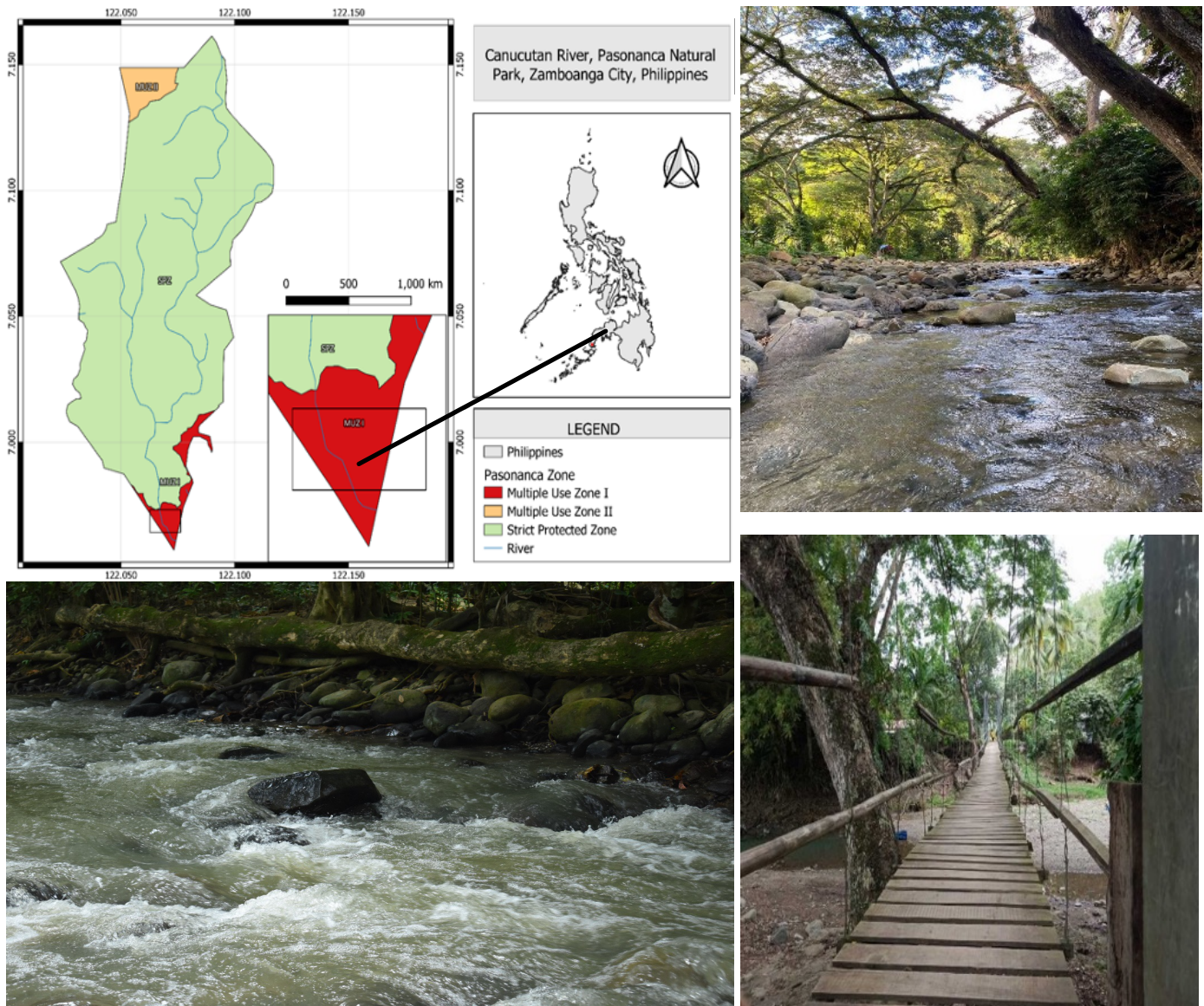


Figure 1. Map and photos of Canucutan River, Pasonanca Natural Park, Zamboanga City, Philippines.

understanding of the complex issues surrounding the ecotourism management of Canucutan River, which serves as the bathing and picnic area within the PaNP.

Primary and secondary data gathering was conducted and triangulation methods were used to capture various perspectives and dimensions while ensuring the validity and reliability of the study (Flick 2014). For primary data collection, key informant interviews (KII), through referral sampling, and focus group discussion (FGD) were conducted. Key informants were selected from various government agencies and local communities that play significant roles in managing and regulating the Pasonanca Natural Park and its ecotourism activities. Informants were selected based on their roles and contributions to the management of Canucutan River. The questionnaire was divided into sections pertaining to; Respondent's Profile, Knowledge

on Canucutan river, Management practices and policies. Nineteen key informants from the Community Environmental and Natural Resources (CENR), Zamboanga City Water District (ZCWD), Office of the City of Environment and Natural Resources (OCENR), Environmental Management Bureau of the Department of Environment and Natural Resources (DENR-EMB), and the local community that also manages the area.

The FGD was conducted at Barangay Pasonanca, Zamboanga City with representatives of the abovementioned offices and sectors involved in managing the area's ecotourism. The FGD participants were different from the KI respondents. Activities during FGD include problem tree approach, SWOT Analysis, Needs Assessment and Priority Ranking. The Problem Tree approach was used to identify and analyze the root causes and effects of the challenges related to

the Canucutan River management. SWOT Analysis was conducted to systematically assess the strengths, weaknesses, opportunities, and threats related to the Canucutan River. Needs assessment analysis was performed to identify critical needs based on their urgency and potential impacts.

For secondary data collection, documents such as the Pasonanca Natural Park Management Plan, Ecotourism Plan, Pasonanca Natural Park policies and resolutions, visitors and impacts report, and maps of the area were acquired from the City Environment and Natural Resources Office and Protected Area Management Office. Data on the water quality monitoring and evaluation of Pasonanca River were collected from the DENR-EMB and (Zamboanga City Water District) ZCWD offices. The data collected were used for validating the answers of the key informants.

Data Analysis

Primary data such as the results of the KI interviews and the three activities (i.e., Problem Tree Analysis, SWOT Analysis and Needs Assessment) during the FGD were used to establish the overview of the ecotourism situation of the area. These were analyzed in a generally descriptive nature. Both secondary and primary data were assessed through institutional analysis, stakeholder theory frameworks, and the Socio-Ecological System framework. Institutional analysis identified existing practices, policies, and strategies employed by relevant agencies and stakeholders in managing the ecotourism of the Canucutan River. This involved analyzing the effectiveness, coherence, and alignment of these practices with ecotourism goals. The stakeholder theory/analysis explored the relationship between different stakeholders and how their interests were considered in the decision-making process, hence identifying and assessing the influence of various stakeholders involved in the overall management of Canucutan River. Also, the Socio-Ecological System frameworks assessed the interconnection of people and the environment, highlighting that people should be viewed as integral to nature rather than separate from it.

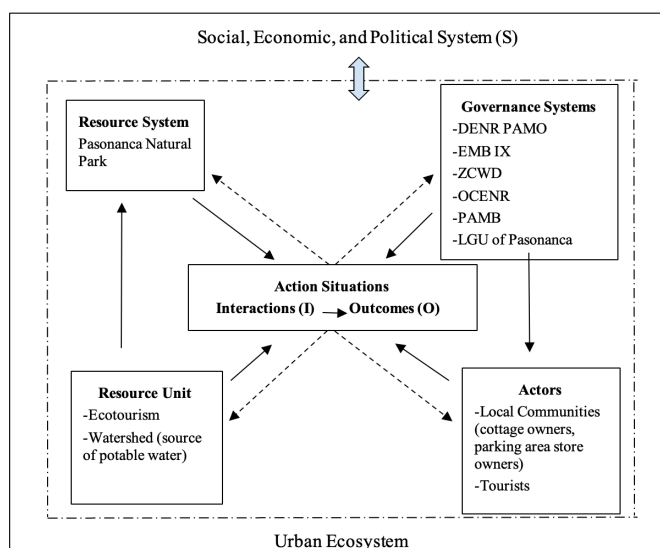
RESULTS AND DISCUSSION

Institutional Landscape

The management of the Canucutan River can be explained through Socio-Ecological System Framework, where institutional framework and social dynamics intersect to achieve sustainable ecotourism.

Pasonanca Natural Park, as the main resource system, provides a wide range of ecosystem services, labeled as resource units (**Figure 2**). As an established ASEAN Heritage Park, various ecotourism activities (cultural services) such as bird watching, camping, trekking/hiking, swimming/ bathing and picnic are developed and offered to its visitors. While these activities, along with the pristine environment of the park, increase the visitors' utility of the area, it has also provided income opportunities to the locals thru cottage rentals, parking spaces, and food services. Further, PaNP's watershed is also the main source of potable water (provisioning services) in the whole of Zamboanga City. This prompted authorities for regular monitoring of water quality and strict adherence to the standards. These ecosystem services provide sustenance and additional income to the community. The dependence of the local community to PaNP as a source of forest products, domestic water, and income from tourism-related activities underscores the socio-ecological nexus at PaNP which should be the foundation for the system-wide sustainable management of the area.

The institutional actors which has major role in the management of PaNP, Canucutan River, includes the Department of Environment Natural Resources-Protected Area Management Office (DENR-PAMO),



DENR-PAMO (Department of Environment Natural Resources-Protected Area Management Office); EMB IX (Environmental Management Bureau); ZCWD (Zamboanga City Water District) OCENR (Office of the City Environment and Natural Resources); PAMB (Protected Areas Management Bureau); and LGU (Local Government Unit of Pasonanca)

Figure 2. A Socio-Ecological Systems Framework for analyzing the Institutional landscape of the ecotourism of Canucutan River, Pasonanca Natural Park, Zamboanga City, Philippines (Adapted and modified from *Delos Reyes et al. 2019*).

Zamboanga City Water District (ZCWD), Office of the City Environment and Natural Resources (OCENR), Environmental Management Bureau (EMB), Local Government Unit of Pasonanca, Zamboanga City and the local community (owners of parking area, cottage and store).

The DENR-PAMO is the primary stakeholder and the main agency responsible for managing and monitoring the ecotourism area, per mandate in Republic Act (RA) 9593, or the Tourism Act of 2009. According to this law, the DENR shall identify areas covered by the National Integrated Protected Areas (NIPAS) with potential ecotourism activities while ensuring that the protected area and ecotourism sites are conserved and protected through the establishment and strict implementation of rules and regulations. With that, designated PAMO staff are assigned to collect park entrance fees, conduct policy briefing and orientation before entry, be responsible for safeguard for safeguarding the visitors in the swimming area. The PAMO implemented several rules and regulations, such as “garbage-in and garbage-out” single-use plastic deposit wherein every visitor must disclose at the park entrance all single-use plastic that they will bring inside the park, and river clean-up drive every Monday from 8 to 10 am together with some volunteers. The PAMO also encourages the private facilities rental owners (cottage and parking spaces) inside the park to actively participate in this weekly river clean-up. As one informant recognized the value of community involvement stating that; “This support system is vital not only for the unique flora and fauna found within but also for the community”, emphasizing each stakeholder’s role. However, resource constraints and inconsistent compliance among stakeholders challenge the full realization of these mandates.

In the impact study conducted by *PAMO (2023)* using the methods in the Biodiversity Management Bureau Technical Bulletin No. 2014-03 Prescribed Tools for Impact Monitoring of Ecotourism to determine the effects of ecotourism on the quality of life of the host communities, results show that more members of the community were able to have supplementary income and have improved living standards since the soft opening of the picnic/bathing area. This implies that ecotourism indeed has a significant and multifaceted impact on a community when managed responsibly. In developing countries where poverty remains a major challenge, initiatives like establishing ecotourism are still an attractive alternative to provide local and rural communities with opportunities to enhance their way of life while at the same time keeping the ecological

integrity of the natural sites (*Butcher 2011*).

Moreover, the office of EMB Region IX is the main agency that monitors the water quality of the river inside the park, following the mandated rules and regulations of the Water Quality Management Area (WQMA) under the RA 9275 (Philippine Clean Water Act of 2004). The monthly monitoring uses nine parameters (i.e., DO, BOD, TSS, Cl, pH, temperature, color, PO₄, fecal coliform) across the whole river system (**Table 1**). Data show that the water of Canucutan River (in terms of BOD, TSS, Cl, Temperature and pH) is still within the standard set by the DENR (per DAO 2016-08) for recreational uses (Class B). However, DO and fecal coliform was found to be beyond the advisable level for the same uses. The increase in this parameters was associated with the observed number of human settlements and livestock-raising activity along the river. Hence, there is a need to implement regulations and appropriate management practices for livestock to prevent fecal contamination of water sources. Addressing this issue requires enhanced institutional coordination and stricter implementation of water quality management practices. Additionally, strict monitoring, surveillance, and policy implementation of water bodies utilization by relevant agencies must be prioritized to ensure public health and safety (*Cabello et al. 2022*).

The ZCWD is the primary provider of the human resource requirements for the protection, conservation and management of the PaNP. It regulates permitting processes and primarily monitor the Strict Protected Zone (SPZ). A total of 44 personnel are monitoring the SPZ, which also coordinates with PAMO managers regarding disaster monitoring such as the possibility of flash floods. The office also organizes a clean-up drive with a social civic group, engaging the private sector in helping the management build connections necessary for future engagements or conservation projects.

Table 1. Water quality test result of the Canucutan River inside the Pasonanca Natural Park, Zamboanga City, Philippines (2023-2024).

Parameters	Average	DENR Standards
DO (mg L ⁻¹)	8.082	5
BOD (mg L ⁻¹)	1.000	5
TSS (mg L ⁻¹)	5.350	65
Cl (mg L ⁻¹)	7.780	250
pH	6.135	6.5-8.5
Color (TCU)	8.349	50
PO ₄ -P (mg L ⁻¹)	0.050	0.5
Fecal Coliform (MPN 100mL ⁻¹)	14664.665	100

The OCENR (by virtue of City Ordinance 2016-176) is responsible for the weekly collection of waste from the park and the households along the river, the LGU of Pasonanca also helps in maintaining peace and security within the tourism site. This is under the RA 9593 (Tourism Act of 2009) and RA 7160 (Local Government Code of 1991) mandating the local government units of the host site to be involved in tourism development.

A few members of the local community own and manage cottages and parking spaces rental. They are responsible for the construction, management and maintenance of their own facilities and parking areas. The PAMO authorized them to construct cottages, comfort rooms, and parking areas within the park for rent to provide them with additional sources of income. As estimated, the owners of these facilities generate roughly PhP 1,000-2,000 (US\$17.90-35.80) for cottage rentals and PhP 200 (US\$ 3.58) - PhP 500 (US\$ 8.95) for parking spaces rentals, weekly. This income varies depending on the days during the week and the number of tourist visits since the majority visits the area on weekends. The cottage rate ranges from PhP 100 (US\$ 1.79)- PhP 250 (US\$ 4.48) and each cottage has different owners, thus building competition within them. The parking fee costs PhP 5 (US\$ 0.090) for motorcycles and PhP 20 (US\$ 0.36) for cars. Local community members, including cottage and parking facility owners, significantly contribute to the local economy but often face conflicts due to the lack of a unified organization. The lack of organized and consistent community involvement poses significant challenges to the sustainability of ecotourism in the Pasonanca Natural Park, particularly in the management of the Canucutan River. While some community members are involved in managing rental cottages and parking spaces, the absence of a unified association results in fragmented efforts and heightened competition among individuals. This disjointed approach reduces opportunities for collaborative problem-solving, such as addressing shared infrastructure needs, resolving disputes, or establishing consistent standards for service quality. The formation of an association or People's Organization is recommended to improve coordination, resolve disputes, and promote equitable development. Local communities are also encouraged to actively participate in the environmental activities such as the weekly river clean-up.

The mentioned stakeholders are deemed significant in the organizational management of the area and are part of the decision-making process. While each sector operates within specific mandates and responsibilities, there has been an overlapping of roles in the resource management that often leads to jurisdictional complexity

and fragmented decision-making. Also, local community involvement in the decision-making process was rather minimal, thus limiting their influence in the system. As an ecotourism site, the local community's role is vital since they are the concerned stakeholders who share their local resource to the tourist. Their stake in the management outcome is higher, hence their voice must be given much weight in the decision process. This way the harmonious environment for this industry and the sustainable ecotourism could be realized. In the study conducted by *Sanofa et al. (2023)*, active community participation in ecotourism management in Perkebunan Bukit Lawang in Indonesia has led to positive economic impacts, new employment opportunities, and enhanced destination image, while fostering environmental sustainability and preserving local culture, ultimately creating a self-sustaining tourism model.

Issues and challenges for the effective management of the ecotourism site

Stakeholders were able to identify problems in terms of tourism activities, environmental aspects, and the management of the Canucutan River, Pasonanca Natural Park. These issues include; solid waste generation from visitors and community, competition for space and customers of cottage owners, illegal construction of cottages, animal waste from the livestock raised near the site, overcrowding especially during weekends and holidays, and illegal quarrying by few members of the community. These identified challenges could be a barrier in achieving a sustainable ecotourism based on the three fundamental features, i.e., economic viability, environmentally soundness and sociocultural acceptability. Environmental sustainability remains a concern in the area if the stakeholders fail to address their activities that could compromise the pristine condition of natural resources. In the park, visitors were observed to be frequently littering despite the implementation of "garbage in, garbage out" policy especially for single-use plastic. Also, some cottage owners do not participate in the weekly river clean-up organized and conducted by the PAMO. This is even with the encouragement of the management not just because they are short of personnel to carry out the task but to highlight community engagement. Informants agreed that despite efforts to address waste problems, the behavioral problem of tourists in terms of dealing with their waste during visits is still evident. Apparently, tourist destinations share this pressing problem of increased waste with increased tourists. (*Perkumienne et al. 2023*).

Overcrowding during weekends and holidays also

contributes to large volumes of waste. With few personnel/park managers, it was difficult for them to monitor the area especially when tourist arrivals peak to 300 to 700 visitors per week. The affordable entrance fees [e.g., PhP 15 (US\$ 0.27) for students, PhP 30 (US\$ 0.54) for regular adults, and PhP 100 (US\$ 1.79) for foreigners], which were based on DAO 2016-24, encourage visitors to visit the river. Overcrowding in ecotourism is one of the most unresolved issues that eventually lead visitors to feel and perceive that the quality of life in the area or the quality of recreational experience deteriorates unacceptably (Bautista *et al.* 2018). Thus, the PAMO recently created a Protected Area Management Bureau (PAMB) Resolution to increase the fees in hopes of avoiding overcrowding and to appropriate funds for the preservation of the rivers' natural resources.

The conflict within the community regarding the rising competition of the owners on cottage rentals could pose a significant threat to the overall harmony that may lead to an atmosphere of hostility and strained relationships within the community. The shared goal of promoting sustainable ecotourism may be overshadowed by individual interests, hindering collaborative efforts to find a balanced solution. Hence, a successful ecotourism must have a consistent strong leadership that supports innovation as well as maintains a strong partnership with the local community around the park (Wiratno *et al.* 2022). To avoid the mentioned conflict, the PAMO must have close coordination with cottage owners regarding the rules and regulations and therefore conduct Information, Education, and Communication (IEC) programs as an integral way to inform concerned parties regarding the impact of their actions. Likewise, it is recommended to have a Peoples' Organization to avoid the "Kanya kanya system" (individualism). As reiterated by the PAMO, it is necessary to "establish an agreement with the community through a Memorandum of Agreement (MOA) and PAMO to have a shared agreement and clear responsibility in managing the river". Similar to the case of Leuser National Park in Sumatra Indonesia, the managers were able to establish adaptive collaborative management between park authorities and local leaders hence, were able to set up a community organization to manage the ecotourism activities (Wiratno *et al.* 2022). In the study of Delos Reyes *et al.* (2019), the head of the people's organization collaborates with the tour guides in decision making fostering a more inclusive decision-making process. This concept coincides with the Community-Based Natural Resource Management (CBNRM) where community involvement in the decision-making process for both creation of viable livelihoods and biodiversity conservation is highlighted (Funnell and Bynoe 2007). It

is necessary, therefore, for the PAMO to involve all the stakeholders in crafting rules and regulations since they also have a stake and plural interest in the area. As evident in some research, the participatory decision-making process contributes to better decisions and strategies (Lawal *et al.* 2014). This forged collaboration of the community, concerned authorities, and other stakeholders could further avoid conflict and misunderstanding.

Lastly, river quarrying was identified as a concerning issue in the area. Key informants stated that most of the violators were within the community and they used quarried materials for the construction of their houses. Small-scale quarrying in a river can have various environmental, social, and economic effects. As mentioned by the stakeholders, continuous quarrying could affect the water quality, and aesthetic value of the area, and may eventually destroy biotic habitats. This problem is similar in Maltese Island where quarrying activities led to the alteration of the landscape and destruction of the ecosystem not only in the areas directly quarried (Agius 2021). Considering that it is an ecotourism site, there must be strict regulation and monitoring to avoid such illegal activities. Aside from the personnel monitoring within the SPZ, the stakeholders could consider putting forest guards to monitor the area. At the same time, an educational and environmental awareness campaign is deemed important for the community to understand the consequences of their actions and to have a shared solution on this problem.

Needs and Priorities

The various stakeholders identified their priority needs based on their relative importance on the Canucutan River, Pasonanca Natural Park (Table 2). The problems and issues that need to be addressed based on the ranking were: lack of funds to implement projects; lack of personnel for monitoring which causes waste generation and overcrowding; lack of income opportunities for the community which results to illegal activities outside the SPZ such as quarrying; lack of awareness on rules and regulation, importance of the environment; and each to their own or the "Kanya-kanya" system of the cottage owners.

The PaNP stakeholders also suggested collaborating with Non- Government Organizations (NGOs), Community Service Organization, and Barangay Local Government Unit (BLGU) for additional fundings. The funds solicited could help in improving the area in forms of infrastructure upgrading, signages, as well as for expenses in conducting seminars and educational

Table 2. Needs and priorities of the stakeholders for the management of Canucutan River, Pasonanca Natural Park, Zamboanga City, Philippines.

Rank	Problems?Issue	Suggested Solution	Point Person/ Office
1	Insufficient funds to implement	Appropriate budgets. Partnership with NGO, CSO, and BLGU	DENR-PAMO/ LGU
2	Limited of personnel for monitoring which cause waste generation and overcrowding	Hire personnel. Provide trash bins within the area.	DENR-PAMO/ LGU/ ZCWD
3	Limited access to opportunities for the community which results to illegal activities outside the Strict Protected Zone such as quarrying	Limit the number of visitors Conduct IEC, training/ seminars, strict implementation of policy	TESDA, DTI, DA, PAMO
4	Low awareness on rules and regulations, and importance of the environment	Establish information campaigns (production of signages, video ads, flyers)	NGO, CSO. BLGU. ZCWD
5	“Kanya-kanya” system of the cottage owners	Form a community organization to avoid conflicts	PAMO

awareness to the local community and park managers.

Currently, only a few ecotourism activities are offered in the area, limiting the income opportunity of some locals, thereby leaving them resorting to illegal activities such as quarrying. This is alarming and warrants attention of the local government. To shift the behavior of the locals from this destructive activity, strict adherence to laws and punishment policy the violators must be carried out. Also, to raise their awareness of the impact of this illegal action, capacity-building activities are encouraged. Generally, education through capacity building, IEC, signages in the area, and training of the community and managers can help reduce “avoidable” impacts such as littering, inappropriate waste disposal, and damage to the environment (Kiper 2013).

Management practices and policies

The management of Canucutan River faces significant challenges due to the limited involvement of the local community and inconsistent visitor compliance with established rules. Despite ongoing efforts to engage the community, including regular reminders of their responsibilities, participation and cooperation some activities and policies remains minimal.

Visitor’s orientation is conducted upon entry to the site to ensure that they are aware and that they understand the site’s policies (i.e., the ban on single-use plastics, the “Garbage In, Garbage Out” rule, and the prohibition on grilling). Despite these efforts, the lack of community cooperation continues to pose challenges. The local community, responsible for managing cottages, parking fees, and restroom facilities, often fails to enforce these rules among visitors. Waste management practices, including regular segregation and collection, are in place, but both visitors and community members frequently

disregard the policies. When asked about the effectiveness of the different rules and regulations implemented, 47.1% of the key informants indicated that they are only somewhat effective, as there are still violators. However, 23.5% consider them effective, though they believe the implementation is weak.

Consequently, while the park management (PAMO) has collaborated with various stakeholders in implementing site policies, a robust community engagement and the formation of a people’s organization are perceived to be vital to have shared responsibilities. Hiring personnel for monitoring, enhancing cooperation with local stakeholders, and conducting periodic evaluations of policies are essential steps toward ensuring sustainable site management and preserving the ecological integrity of the area.

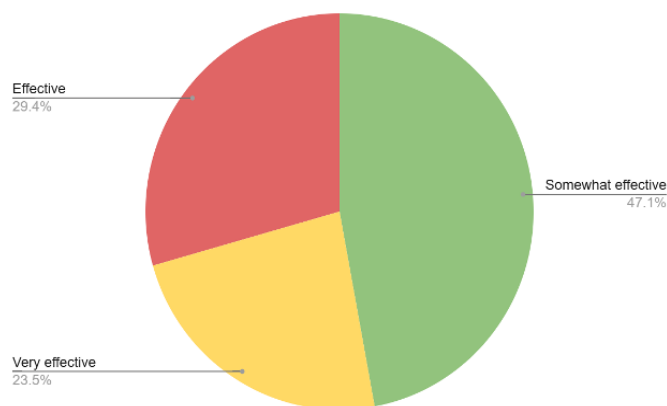


Figure 3. Effectiveness of the rules and regulations in the institutional landscape of the Ecotourism of Canucutan River, Pasonanca Natural Park, Zamboanga City, Philippines.

CONCLUSION AND RECOMMENDATION

The current study aimed to understand the institutional arrangements and analyze the existing management

policies and practices governing the Canucutan River within Pasonanca Natural Park (PaNP). By integrating an institutional framework, stakeholder engagement, and ecological considerations, the study highlights pathways for achieving sustainable ecotourism in the area. While government agencies primarily represent the stakeholders involved in managing PaNP, local community engagement remains limited, particularly in organizing and sustaining People's Organizations (POs). Establishing active POs and fostering collaboration with private organizations and NGOs can significantly enhance the sustainable management of ecotourism. Although park policies and management strategies are established, their implementation faces challenges due to insufficient personnel, inadequate awareness among tourists and the local community, and the limited involvement of local residents in policy formulation and area monitoring. Addressing these gaps requires greater incorporation of the local community's insights into decision-making processes, as they have firsthand experience with the issues that need to be resolved. Moreover, there is a need for educational awareness to the locals in terms of their livestock and household wastes management as it impacts the water system to where they depend on for domestic waters. Furthermore, the ASEAN Heritage Park recognition of PaNP elevates its conservation status and promotes collaborative efforts on a regional level. This distinction enhances the park's prestige and underscores the importance of partnerships, not only with local stakeholders but also with the broader beneficiaries of ecotourism across the region and the country.

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