



Supplement

The following supplementary materials are available for this article: Potingan, A.R.S., Cois, C.C., Basilio, R.M., Napaldet, J.T. 2025 Assessment of conservation benefits of ecotourism in secondary forest ecosystems using PD-ZTCM-WTP in Mt Yangbew, Benguet, Philippines. *Taiwania* 70(1): 156-170. doi: 10.6165/tai.2024.70.156

Table S1. Tourism Studies in the Philippines from 2004 – 2024.

Year Literature	Coverage/Method	Major Findings
2005 Alampay, 2005	Thematic Analysis/ Case Studies	This collection of papers is auspicious in that it represents the first attempt to look at tourism policy from a cross-disciplinary, research-oriented viewpoint. It provided a general overview of ecotourism in the Philippines, analysis of tourism policy framework, the proposed sustainable tourism indicators and case studies in Sagada and whale watching in Bais City
2008 Catibog-Sinha, 2008	Discussion paper	A case study of the captive breeding programmes that are implemented in the Philippines in collaboration with certain leading zoos overseas is also presented. It examines the potential contribution of tourism in sustaining these programmes. Zoos' ability to balance the need to remain economically viable and to play a major role in biodiversity conservation is a major challenge that requires sustained public support and collaboration with other zoos including relevant research and academic institutions.
2009 Buot, 2009	Quadrat and point-centered quarter method, ethnobotanical survey	A total of 71 species belonging to 49 genera and 33 families are recorded along the altitudinal range of 500-2200 masl on the northwestern side of Mt. Mayon, Bicol. Ethnobotanical uses are diverse ranging from medicinal, food, timber, firewood, ornamental, sources of fibers, industrial compounds to being poisonous.
2010 Turak & DeVantier, 2010	Taxonomic inventories, Replenishment Index, Status diving report	El Nido hosts a very rich coral fauna, with a total of 447 reef-building (hermatypic) coral species from 79 genera in 16 families confirmed during this survey. An additional ca 44 species require further taxonomic study for confirmation of identity. These results are very high on a global scale, on par with other highly diverse areas of the Coral Triangle (CT, eg. Bird's Head Peninsula, Eastern Indonesia). Local (point) richness around El Nido was also exceptionally high, with average station richness of ca 187 reef-building coral species, with local diversity in excess of 200 species ha ⁻¹ in the richest stations.
2011 Mago, 2011	Literature Review	Local government units were responsive to capacity building human resource development programs; human resource development interventions had its effect on the sustainable tourism management of each local government unit; studies conducted were sufficient enough to develop proposed guidelines for developing and strengthening a knowledgeable and skilled local tourism council; and the tourism industry had a positive effect into its economy through employment generation.
2011 Lunar, & Christie, 2011	Quadrat Method	The study recorded a total of 104 species under 60 families; of which 46 species are indigenous or native to the Philippines; 27 species are introduced; 23 species endemic to Mt. Malarayat; and 9 species were unclassified. Its potential threats and anthropogenic disturbances include presence of invasive species, impacts of unregulated tourism activities, small scale timber poaching, hunting and land conversion.
2012 Nolan & Rotherham, 2012	Perceptual construct of volunteer ecotourism/ Case study	Volunteer tourism are underpinned by a degree of consumer self-interest aroused through promotional images that stimulate a destination –activity – self-image. However, disparities in this perception between volunteer and producer and actual experience produced can threaten the ecocentricity of tourist –host– environment interaction that undermines conservation and developmental efforts by resulting in egocentric spatial over-consumption as consumers and producers pursue destination exclusivity elsewhere.
2012 Jalani, 2012	Qualitative assessment of perceptions/ Survey questionnaire	Tourism industry in Subterranean River is a source of income for most householders causing high influx of people because of work opportunity. The residents have high level of awareness and involvement in the environmental protection but is only seen as least of the positive impacts against work opportunity and city development.
2012 Calanog <i>et al.</i> , 2012	Document Analysis, Expert analysis and Recommendation	A manual on establishing Community-based Ecotourism Enterprise (CBEE) in the Philippines covering Planning and Development of Community-Based Ecotourism Enterprise, Conservation Strategies, Socio-Economic Strategies, Setting-up ecotourism strategies, operation and marketing strategies
2012 Gallato <i>et al.</i> , 2012	Individual Travel Cost Method (ITCM)	Study outcomes provide insight into how the locals or indigenous people living nearby can take advantage of the benefits/opportunities derived from the site.



2014 Aguila & Ragot, 2014	Qualitative assessment of perceptions/ Survey questionnaire	The respondents in Ilijan, Batangas City believed that the environmental effect of ecotourism industry help to enhance the conservation of the marine biodiversity in the area. The local residents are more aware of its economic effects helping the local residents or the owner of the establishments to generate more income.
2015 Bansil <i>et al.</i> , 2015	Qualitative assessment of perceptions/ Survey questionnaire	Ecotourism in Lobo is economically, viable, environmentally sound and socially acceptable
2015 Reyes <i>et al.</i> , 2015	Plant inventory using nested plot method	Based on the plant diversity of the area, the proposed 10-ha site in Villa Aurora, Bilar is suited to be utilized as Tarsier Tourism Center.
2016 Brillo, 2016	Qualitative Analysis/ Case Study and Literature Review	Pandin Lake ecotourism development is mainly an endogenous initiative and the intervention of the relevant administrative agencies is critical in addressing the contemporary issues. This study discusses the reasons for studying small lakes in the Philippines, Pandin Lake and its administration and the ecotourism enterprise evolution and issues regarding the lake. It also addresses the extant gap in Philippine lake literature specifically the scarcity of scholarly works on development-oriented studies.
2017 Replan & Malaki, 2017	Rapid plant diversity survey using 2-km transect method with 10 x 10 m sampling plots	132 morpho-species belonging to the seed plants (Angiosperms and Gymnosperms), ferns and their allies were recorded in Mt. Canbantug with about 68% native species, including 5 Philippine endemics. Noteworthy among the list are the 3 critically endangered (CR) species namely; Kamagong (<i>Diospyros blancoi</i>), Narra (<i>Pterocarpus indicus</i>) and Kaningag (<i>Cinnamomum cebuense</i>). Results of the rapid plant survey revealed that has considerable plant diversity value.
2018 Ocampo <i>et al.</i> , 2018	Literature Review/ fuzzy Delphi method	The study established sustainable ecotourism indicators and presented the fuzzy Delphi method that addresses various stakeholders' interests while capturing uncertainty and is inherent in decision-making process
2019 Ignacio, 2019	Document Analysis	Presented the tourism policy and legal framework in the Philippines, the environmental impacts of ecotourism, policy options and ways forward
2019 Buslon-Sia <i>et al.</i> , 2019	Qualitative assessment of perceptions/ Survey questionnaire	The ecotourism sites in Cebu, Philippines had a significant contribution towards alleviating poverty in terms of uplifting the standard of living, providing a means of subsistence, development of social well-being, and improvement of social overhead capital. There is a significant relationship between the respondents' educational attainment and source of livelihood and their perceptions on the contribution of ecotourism in terms of uplifting the standards of living and improvement of social overhead capital. Lastly, there is a significant difference in the respondents' viewpoint on the three well-known ecotourism sites in the aspect of the development of social well-being.
2020 Aujero-Blanza, 2020	Descriptive-correlational research using Survey questionnaires	Implementation of NES varies from one province to another caused by different perceptions and interpretations among tourism stakeholders in the local communities that can be influenced by several factors such as those related to political will and priorities of the leaders, culture among the people in the locality, awareness and dissemination, ecotourism practices. The results of the study pre-empted the formulation of a five-year roadmap for ecotourism development in Region VI, Western Visayas, Philippines.
2020 Brillo, 2020	Case study	The ecotourism development of Pandin Lake is a locally driven and nongovernmental organization-inspired initiative while Tayak Hill is a top-down driven endeavor where the efforts are mainly personal actions of the local executives. In Pandin Lake, the instigating conditions include the awareness brought about by the save Sampaloc Lake movement, the constraint to aquaculture expansion, the scenic natural beauty of the small lake and the lack of development-oriented actions by its administrative agencies. In Tayak Hill, the precipitating conditions are the urgent need for instituting a promotional identity for the town and a catalyst for the local socioeconomic development; the advent of a new local government administration that is open to novel development strategies and the discovery of Tayak Hill as a historical landmark.
2020 Tolentino <i>et al.</i> , 2020	Review literatures on karst forest	A floral assessment in Samar Island Natural Park (SINP) includes species (212 spp.) that can possibly be found but are not limited to karsts. New Philippine endemic species are also recorded in Cebu, Palawan, and Panay Island. There are animal records in SEA including Vietnam (Bats-36, Bird-1, and Langurs-5 spp.); Malaysia (Sciuridae-1, Bats-28, Birds-129, Reptiles-17, and Invertebrates-74 spp.); Thailand (Murids-12, Reptiles-11, and Amphibian-1 sp.); and Myanmar (Reptiles-15 spp.). Records in the Philippines include: Mammals (Bicol-9, Mt. Irid-24, Mt. Aruyan-1, and Cebu-1 species), and; Birds (Cebu-1 sp.). Forests over limestone are still largely understudied and the potential of discovering species is high. Further research is critical to establish science-based initiatives and policies that will protect and conserve limestone ecosystem biodiversity while allowing the utilization of its biological resources at a sustainable level.



2021 Amata, 2021	Qualitative assessment of perceptions/ Survey questionnaire	The nature of participation of the household heads can be described as mere followers of the leaders and supervisors of the project. They believed that they could be of help to the project and they could benefit from it. The extent of community participation of Barangay Paniman falls under the third level of participation which is participated by consultation.
2021 Brillo & Simondac-Peria, 2021	Case study	The leadership is the top-down driven in the initiative, but in maintaining, the bottom-up manner is more significant. The financial issue is complicated, so ideal is continuing the government agencies and integrating the commercial businesses. The Holy Week events are a single-month focal point, thus regularly extending the supplementary activities can increase revenue. TANAW Park is strategic if connected to the critical neighboring towns and nearby resources. TANAW Park's strengths lie in the presence of the unusual intermixing of assets, and the weaknesses are the risks of becoming a "white elephant project."
2022 Guron <i>et al.</i> , 2022	Nested Plot Method	A total of 127 species of vascular plants under 112 genus and 60 families have been documented in Mt. Ulap Eco-Trail, Itogon. The area registered moderate to high diversity, which could be attributed to the variability of floral species between the sampling stations. Our result provides empirical evidences that the protective and economic functions of ecotourism claimed by previous studies are also true in successional secondary forest like Mt. Ulap.
2022 Rivera <i>et al.</i> , 2022	Descriptive/ Qualitative Research	Ecotourism is of increasing importance in the Philippines since ecotourism can lead to economic growth, environmental conservation, and development of local communities. To address threatened biodiversity in the Philippines, effective conservation needs to precede tourism development since if the natural environment is neglected, there cannot be any ecotourism; therefore, an effective conservation strategy must be part of tourism development. Thus, it is vital for the government and stakeholders in the travel and tourism industry to engage in and objectively define ecotourism when implementing the National Ecotourism Strategy. The call for regional planning and the application of national standards to avoid on-going damage and the unsustainable nature of some of the current ecotourism ventures currently operating in the Philippines is emphasized.
2023 Aguilar & Domasian, 2023	Qualitative assessment of perceptions/ Survey questionnaire	People learn about the culture of a place just by spectating, by watching cultural acts, observing locals performing traditions, and looking at artifacts displayed in museums. Most tourist think that it is fine to prefer standardized services, and consuming food and drinks that have foreign influence when travelling to ecotourism destinations. Banning humans from access to natural areas/resources is perceived to be the only way to ensure conservation and sustainability as they tend to distance themselves from places or things that could be fragile instead of learning how to handle them properly.
2023 Tomatao <i>et al.</i> , 2023	Researcher-administered questionnaire on Knowledge, Attitude, and Practices	Respondents have basic knowledge about Mt. Malindang Range Natural Park, sustainable tourism and environmental conservation, and have positive attitudes and practices toward it. Significant relationships between knowledge and attitude, knowledge and practices, and attitude and practices were noted showing that the respondents' knowledge influences a positive attitude that translates into good practices.
2023 Savanchiyeva <i>et al.</i> , 2023	Multivariate analysis of tourism on Mindoro Island by discussing the tourism advantages and disadvantages	The geographical location, natural and human geographical features of the island of Mindoro, as well as the tourist attractions and tourism advantages are briefly discussed. Mindoro Island is not as big as Luzon, it is not as crowded as Mindanao, it does not have as many luxurious tourist spots as Boracay, and it cannot be said that it is a famous tourist destination like Palawan Island.