

Tourism Sites Contingent on Mt. Malindang Range Natural Park, Philippines: Profile and the Environmental, Socio-Cultural, and Economic Perception on Sustainable Tourism

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Abstract— As a diverse sector, tourism can significantly alter the economies, societies, and environments of the areas it affects. This study examined the environmental, sociocultural, and economic aspects of the tourism sites contingent on Mt. Malindang Range Natural Park (MMRNP) in the Philippines. Surveys and interviews with managers and owners of tourist sites were used to gather data. The data show that a variety of amenities and activities are provided at these locations, with a focus on nature-based travel. In general, respondents' perceptions of sustainable tourism and the effects of tourism sites were favorable, especially when it came to the socio-cultural and economic advantages of travel. However, in and around MMRNP, there was a perceived lack of tourism-related investment and little demand for sustainable tourism. The study offers suggestions for advancing ecotourism methods, improving facilities and services, bolstering community support, luring investment, and raising demand for ecotourism.

Keywords— Sustainable tourism, Mt. Malindang Range Natural Park, tourism sites, environmental impacts, socio-cultural impacts, economic impacts, nature-based tourism.

I. INTRODUCTION

As a diverse sector, tourism has the ability to significantly alter the economies, societies, and environments of the areas it affects. This is especially true in places with a high level of biodiversity and natural beauty such as protected areas like the Mt. Malindang Range Natural Park in the Philippines. The sustainability of tourism in these areas depends on striking a careful balance between exploitation and preservation, which is frequently challenging to do. In addition to exploring the environmental, sociocultural, and economic perspectives on sustainable tourism, this research seeks to profile the tourism destinations associated with Mt. Malindang Range Natural Park.

Recent research has shown that community-based tourism (CBT) has the potential to assist communities, particularly those in rural regions, in terms of sociocultural, ecological, and economic benefits (Andalecio et al., 2022). For as long as it is governed by strong rules, CBT has the ability to improve the sociocultural, ecological, and economic facets of local communities in the Philippines. Empirical proof that

CBT activities have a good impact on political and administrative issues, citizen engagement, and sustainable tourist development is provided by the study conducted in the Romblon province by Andalecio et al. (2022). Additionally, Liu, Chiang, and Ko (2023) present a model for the contribution of rural tourism that policy-makers may utilize to promote the development of rural communities based on tourism, highlighting the importance of the economic advantages as the primary contribution. In their discussion of the effects of protected areas on the development of sustainable tourism, Trii et al. (2023) place a focus on the value of natural values, the mitigation of unfavorable tourism effects, the strengthening of local participation in tourism planning, and the growth of nature-based tourism. Matejevi et al.'s estimation of the direct economic effects of hunting tourism on the neighborhood in 2023 again emphasizes the substantial economic advantages that such activities can offer to nearby towns. Furthermore, Saputro et al. (2023) examine the sustainability strategy of rural tourism development in Panjalu, Indonesia, and suggest a strategic priority ranking for rural tourism based on culture and community development. The potential of

CBT to support local development in many circumstances is highlighted by this research taken together.

Additionally, it has been demonstrated that the application of sustainable tourism policy provides clarity about the future of the industry, maximizing benefits for stakeholders while reducing adverse consequences (Bachtiar, 2022). According to recent studies (Buckley, Zhong, Ma, & Chen, 2019), sustainable tourism is crucial for protecting local cultural and ecological assets while fostering economic growth. However, how local communities view and feel about sustainable tourism can have a big impact on how well it does (Koens, Postma, & Papp, 2018). Therefore, in the context of MMRNP, comprehending these perceptions is essential.

The growth of the tourism sector may also have unfavorable effects, especially on the environment. Traditional promotional tools including print ads, billboards, and pamphlets can harm the environment in a number of ways. These medium generally demand large quantities of paper and other materials, which contributes to deforestation and the production of garbage. Additionally, the creation and destruction of these materials may result in pollution and the emission of greenhouse gases (Wibawa et al., 2022). For instance, the expansion of tourism-related facilities in Bali has resulted in violations of the usage of cliff borders by owners of tourism businesses, calling for law reform in line with the concept of sustainable tourism development (Suryani et al., 2022). This emphasizes the need for more environmentally friendly substitutes as well as the possible harm that conventional promotional media may result in.

By making it simpler for travelers to identify tourist locations and minimizing the environmental impact of promotional efforts, digital marketing, on the other hand, may assist sustainable tourism. For instance, Guo and Gu's study from 2022 discovered that the development of smart tourism cities and the use of digital marketing can improve the promotion of tourism resources and explore efficient promotion forms and tactics. In a similar vein, Adona, Yusnani, and Nita (2022) discovered that websites and social media can aid in building brand awareness and promoting tourism resources in government digital marketing. The study also emphasized the function of social media in communicating city branding, indicating that digital

marketing might be a useful strategy for advancing environmentally friendly travel.

Mt. Malindang Range Natural Park (MMRNP) is a protected area which is one of the region's biodiversity hotspots in the provinces of Misamis Occidental, Zamboanga del Norte, and Zamboanga del Sur (Nuneza, et.al., 2010). According to the ASEAN Centre for Biodiversity (2018), the MMRNP, which has been designated an ASEAN Heritage Park, is a biodiversity hotspot and is home to several endemic and endangered species. Its 53,262 hectares are home to a diverse diversity of creatures and vegetation, including rare and endangered species of lycophytes, ferns (Coritico, and Amoroso, 2020), and herpetofauna (Nuneza, et.al., 2010). Significant watersheds inside the park provide water to several communities in the region (Ureta, et.al., 2016). The potential of this natural park as a destination for sustainable tourism has not yet been fully realized.

Since there is no established record of the profile of tourism sites that are contingent on MMRNP, this study aims to establish data on various types of tourism sites contingent to MMRNP. Since on the previous experience of the provinces' DOT, they don't or have very limited data on tourist arrivals, and tourism sites profile. Further, it is not identified how the tourism site owners perceive the environmental and socio cultural and economic impacts of sustainable tourism and environmental conservation. Thus, to address these gaps, profiling of the tourism sites and identification of the perception of the tourism owners/operators on socio-cultural and economic impacts of sustainable tourism and environmental conservation is needed. By identifying these variables, this study can establish data on the existing tourism sites contingent on MMRNP necessary for the improvement of tourism management and policies in the provinces of Misamis Occidental, Zamboanga del Norte, and Zamboanga del Sur. Specifically, it aims to answer these questions: (1) what are the profile of the tourism sites according to the ecological features, and seasonality; (2) What are the characteristics of tourism sites according to: accessibility; (ancillary (ATM, hospital etc.), and transportation), attraction (type of attraction, thematic development, etc.), activities (site seeing, camping, etc.), and amenities (restaurant, parking lots, etc.); and determine the environmental, socio-cultural and economic impacts of tourist sites to the tourism industry of the provinces of Misamis Occidental, Zamboanga del Norte, and Zamboanga del Sur. Likewise, the Provincial

Government Officials and local communities of the said provinces may identify their roles and responsibilities to make the provinces more progressive and known in the country by helping the tourism site owners improve their businesses through the study's insights on the quality service and tourism's role in the economy, cultural, and environment of the provinces, especially those areas contingent on MMRNP.

REVIEW OF RELATED LITERATURE

In recent years, the idea of sustainable tourism has been increasingly popular, and a growing body of studies has been done to examine its socio-cultural, economic, and environmental effects. These three aspects of sustainable tourism are the topic of this review of related research, with a focus on establishing profiles and characterizing tourism sites contingent on MMRNP, and understanding stakeholders' perspectives.

In a study by Nazirullah et al. (2023), community value was used as a mediating factor to assess the impact of socio-cultural and economic consequences on tourism support. To test the model's predictability, the researchers used cost-benefit analysis in conjunction with the social exchange theory. The research found that community value and socio-cultural and economic effects were statistically significant and helpful indicators of local support for tourism.

Similar to this, Sapkota (2023) reviewed critically how eco-tourism has affected Nepal's socioeconomic and environmental conditions. The study came to the conclusion that eco-tourism is essential for managing natural resources, preserving biodiversity, and boosting greenery. Additionally, it makes a substantial contribution to the economic growth and poverty reduction of Nepal. The study did draw attention to some of the possible drawbacks of ecotourism, including resource use, trash production, and potential harm to regional traditional cultures.

In Gilgit Baltistan, a Pakistani administrative entity, Zulfaqar et al. (2023) investigated the effects of the development of the infrastructure along the China-Pakistan Economic Corridor on the tourism industry. The study discovered that, through a combination of economic, sociocultural, and environmental effects, infrastructure development had a favorable impact on the region's regenerative tourist growth and development.

In the Province of Biliran, Philippines, Inocencio (2023) evaluated the socio-economic and environmental effects of community-based tourist growth. According to the study, while community-based tourism development typically helped local communities in terms of economic growth, job opportunities, and improved infrastructure, it also had some negative environmental effects, such as increased pollution and resource depletion.

The neighborhood's socio-cultural, environmental, and economic impacts of cultural tourism were studied by Haboub (2022). The Gharb Suhail Nubian community provided as a helpful model for the investigation. In order to create job opportunities and increase the state's foreign exchange profits, the study stressed the importance of cultural heritage tourism. It also stressed how important tourism is for promoting local cultures and gathering data from travelers who go to these locations.

Matečić, Kesar, and Ferjanić Hodak (2022) looked into the difficulties involved in determining the economic effects of cultural heritage on the viability of a tourist destination. As a case study, the project employed Croatia's Historical Complex of Split and the Palace of Diocletian. The researchers came to the conclusion that each cultural heritage property has distinctive qualities and needs a different approach to evaluating its worth and significance.

At BeeJay Bakau Resort Probolinggo, Maulana, Suhartini, and Fahriyah (2022) conducted an analysis, evaluated the economic value, and noted the ecological, social, and economic implications. Due to the manager's efforts in development that involve stakeholders and the local community, the study demonstrated that the economic value provided was large and that the impacts on the environment, economy, and society were important.

In order to build a framework for sustainable ecotourism, Baloch et al. (2022) looked into the connection between tourism development and environmental compatibility. With the moderating assistance of government funding and policy initiatives, the study recommended striking a balance between corporate and environmental interests in preserving an ecological system. The study's findings showed that while tourism expansion and development had positive socioeconomic effects, they also contributed to social vulnerability and environmental deterioration.

II. MATERIALS AND METHODS

This study utilized descriptive research design to identify the profile and recognize the impact of the tourism sites contingent to Mt. Malindang Range Natural Park (MMRNP) as perceived by the operators/managers or owners. The respondents were consisted of 34 tourism operators/managers or owners of the private and government-operated tourism sites contingent on MMRNP from the provinces of Misamis Occidental, Zamboanga del Norte and Zamboanga del Sur. The tourism offices of the respective local government units identified the tourism sites with operating permits to be included in the survey.

The researchers utilized an adapted and modified questionnaire from the Tourism Rapid Assessment Manual of the Department of Tourism (2019) for the questions about the tourism site profile; and for the environmental, sociocultural, and economic impacts questions, it was adapted and modified from the study of (Dimaano et al., 2017).

To test the reliability of the researcher-administered questionnaire, it was externally validated by 3 experts, and was pretested to 15 tourism owners/providers/managers of tourism sites with the same characteristics. The results of the pretest were run through the Cronbach's Alpha Test for internal validation with an acceptable score of 0.7130.

Prior to the conduct of the actual interview, coordination with the provincial, city, and municipal local government units of the sampling areas were conducted to inform them of the study and involvement of tourism operators/managers or owners, and a written consent was obtained from the respondents.

After the data were gathered, statistical tools used were frequency distribution and percentage. Weighted mean was used to determine the profile and the impact of tourism sites to the tourism industry.

III. RESULTS AND DISCUSSION

Percentage Distribution of the Demographic Profile of the Respondents

Table 1 shows the percentage distribution of the demographic profile of the respondents. The data reveals that majority of the respondents were composed of 38-47 years old (26.47%), male (55.88%), that is already married (76.47%), a college graduate (58.82%),

having the position as tourism site owner (38.23%), having more than ten years in service (79.41%).

A comprehensive picture of the people working in the tourist business, especially those who own tourism sites, is given by the demographic profile of the respondents, as shown in Table 1. Most of these respondents are male, married, middle-aged (38-47), and college graduates. Additionally, 79.41 % have been employed for over ten years, which shows a high level of experience and consistency in their positions.

The majority of respondents (26.47%) are between the ages of 38 and 47. Typically, people in this age range are those who are at the height of their professions. They have a great deal of expertise and experience in the tourist sector, which is their area of specialization. This age group is also frequently characterized by steadiness, both personally and professionally, which can be helpful when managing and running tourist destinations. According to study (Kautonen, Kibler, & Minniti, 2017), middle-aged entrepreneurs typically have higher rates of success as a result of their built-up networks and human capital.

According to the data, men make up the majority of responders (55.88%). This reflects the more general trend around the world where men are disproportionately more likely to own businesses. It's crucial to realize that this pattern is rapidly shifting as more women venture into business ownership and entrepreneurship. Various factors, such as societal norms, resource accessibility, and the legislative environment, might have an impact on the gender dynamics in business ownership (Daz-Garca, Jiménez-Moreno & Sáez-Martnez, 2019).

Seventy-six percent of respondents (76.47%) are married. This would imply that marriage's stability and support make it easier to handle the obligations and hazards of owning a tourist destination. According to research, family support can be extremely important to a company's success because it can offer emotional support, financial resources, and occasionally even a direct hand in running the company (Aldrich & Cliff, 2003).

The majority of respondents (58.82%) have a college degree, highlighting the value of advanced education in managing and operating tourist destinations. Higher education frequently provides people with the abilities

and information needed to manage a business successfully. This result is in line with research that demonstrate that a person's level of education affects their ability to succeed in business (Van Praag, 2003). The majority of respondents (79.41%) have worked in the industry for more than 10 years, indicating a high

degree of knowledge and comprehension of the tourism sector. This is consistent with research showing that business performance greatly depends on experience in a particular industry (Ucbasaran, Westhead, & Wright, 2009).

Table 1: Percentage Distribution of the Demographic Profile of the Respondents

Demographics	Frequency (n=34)	Percent	Rank
Age			
18-27 years old	4	11.76	5
28-37 years old	7	20.59	3
38-47 years old	9	26.47	1
48-59 years old	6	17.65	4
60 years old and above	8	23.53	2
Sex			
Male	19	55.88	1
Female	15	44.11	2
Civil Status			
Single	5	14.70	2
Married	26	76.47	1
Separated/Annulled	1	2.94	3
Widow/Widower	1	2.94	3
Others	1	2.94	3
Educational Attainment			
Elementary Graduate	1	2.94	4
High School Level	1	2.94	4
High School Graduate	2	5.88	3
College Level	5	14.70	2
College Graduate	20	58.82	1
Master's Degree	5	14.70	2
Position			
Tourism Site Owner	13	38.23	1
Tourism Site Manager	10	29.41	3
Others	11	32.25	2
Years In Service			
< 10 years	7	20.59	2
> 10 years	27	79.41	1

Frequency Distribution of the Profile of the Tourism Sites According to Ecological Features

Table 2 shows the frequency distribution of the profile of the tourism sites according to ecological features. The data shows that majority of the tourism sites were in the type of landscape of mountains/highlands (f=27), geological feature of hills and mountain top (f=20), having water body form of a cold spring (f=19), with a terrestrial ecosystem forest (f=25), and an agriculture ecosystem of orchard (f=17).

The profile of the tourist destinations, as displayed in Table 2, offers a thorough grasp of the ecological characteristics of these locations. Most of these locations have highland or hilly terrain, hills and mountain tops as geological characteristics, cold springs, terrestrial ecosystems of forest, and agricultural ecosystems of orchards.

The majority of the tourism sites are situated in highland or hilly regions. The potential of these settings in promoting local tourism is highlighted in the study of

Hasanaj & Kuqi (2022). The distinctive terrain, climate, and biodiversity of these regions are frequently used to describe them. A wide range of tourists are drawn to the mountains and highlands because they offer a variety of recreational options, including hiking, mountaineering, and sightseeing. These areas' distinctive flora and wildlife add to their allure as tourist attractions.

Ranked 1st in the geological features are hills and mountain tops which increased the sites' allure. The potential of these geological features to improve the allure of tourist places is discussed by Setiawan et al. (2022). These elements not only add to the aesthetic attractiveness of the locations, but they also present chances for outdoor pursuits like rock climbing and hiking. Adventure-seeking tourists may be drawn to these activities, which adds to the variety of visitors to these locations.

Ranked 2nd is the cold springs which are distinctive additions to the overall ecological profile of these tourist destinations. The study by Malinovi-Milievi et al. (2023) sheds light on how cold springs might improve the allure of tourist destinations. Cold springs draw tourists looking for rest and renewal because they are frequently connected to wellness and leisure activities.

Additionally, by acting as habitats for different aquatic species, these water bodies help enhance the region's biodiversity.

The fact that forests are the dominant terrestrial ecosystem shows how rich in biodiversity these tourist destinations are. The Talib et al. (2022) study emphasizes the potential of woods in fostering environmentally responsible tourism. Large mammals, birds, insects, and a variety of other species can all find a home in forests. Additionally, they provide chances for ecotourism pursuits including birdwatching, outdoor hikes, and wildlife observation.

Last but not least, the fact that orchards are the dominant agricultural environment raises the possibility that these tourist destinations also provide agritourism potential. In a study from 2022, Setiawan et al. explore the potential of orchards to advance agritourism.

Fruit picking, farm tours, and education about sustainable farming techniques are some of the activities that visitors can partake in. These activities encourage sustainable agricultural practices while also giving tourists unique experiences.

Table 2: Frequency Distribution of the Profile of the Tourism Sites According to Ecological Features

Tourism Site Profile	Frequency	Rank
Type of Landscape		
Mountains/Highlands	27	1
Valley/Plains	5	6
Build Landscape	21	2
Rivers & Landscapes	9	4
Lakes & Inland Water	8	5
Tropical Rainforest	13	3
Karst Landscape	1	7
Geological Features		
Ravine	4	4
Cliff	13	2
Valley	9	3
Hills	20	1
Mountain Top	20	1
Others	3	5
Water Body Forms		
River	11	2
Falls	7	3
Cold Spring	19	1
Streams	3	4
Others	3	4

Terrestrial Ecosystem		
Forest	25	1
Grassland	13	3
Riparian	15	2
Agriculture Ecosystem		
Rice fields	2	4
Corn fields	6	3
Orchard	17	1
Vegetable farms	12	2
Others	3	5

Natural Hazards

Table 3 shows the natural hazards that the tourism sites have been recorded in their respective areas. The data shows that tropical cyclone ($f = 24$) is the natural hazard most recorded in the tourism sites contingent on MMRNP, with the Philippines experiencing an average of 20 tropical cyclones per year (Pati, et.al., 2014), strong winds, copious amounts of rain, and storm surges are the hallmarks of tropical cyclones, which can have a considerable negative impact on the environment, especially tourist destinations.

The geographic position and meteorological features of the area can be blamed for the regularity of tropical cyclones in certain places. Being a tropical nation in the Pacific Ocean, the Philippines is located in the Western North Pacific Basin, which is the world's most active region for tropical cyclones.

Tropical cyclones can have a variety of effects on tourist attractions. They may harm the infrastructure directly, interfere with tourism activities, and result in reduced revenue for individuals who depend on the industry.

Additionally, they may result in modifications to the environment and ecosystems, which may have an impact on the natural features that attract visitors to these locations.

The importance of understanding the danger of tropical cyclones for locations like wind farms is emphasized by Li et al.'s study (2023).

Although they focus on wind farms, the technique and insights can also be used to tourist sites, particularly when predicting the effects of tropical cyclones and preparing preparations for such occurrences. Ghosh and Mistri conducted a study in 2023 on the Sundarbans region of India's susceptibility to tropical cyclones.

Their research stresses how crucial it is to comprehend the local ecology, in particular the area's physical and social fragility, in order to appropriately assess the possible effects of cyclones.

This is crucial for tourist attractions, which frequently interact with local populations and are woven into their surroundings. The damage that tropical cyclones bring to Australia's coral reefs was investigated in a study by Do, Saunders, and Kuleshov in 2022.

Their findings focus attention to potential cyclone effects on natural ecosystems, which are frequently the primary attractions of travel locations. It is obvious that the right management and conservation strategies are needed to protect these ecosystems and keep the tourism industry viable.

Table 3: Natural Hazards

Natural Hazards	Frequency	Rank
Earthquake	9	3
Flood	9	3
Landslide	15	2
Tropical Cyclone	24	1
Others	1	4

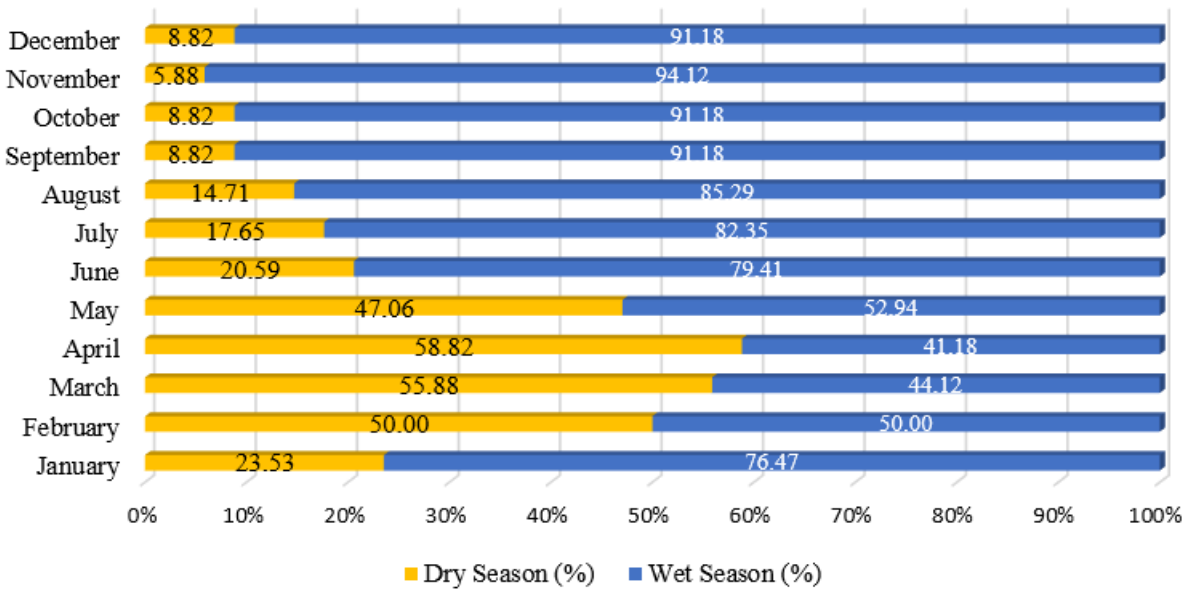


Figure 1: Distribution of the Wet and Dry Season

The percentage distribution of the rainy and dry seasons experienced by the tourist destinations in each region is shown in Figure 1. The data shows that most of the tourism sites were experiencing dry season from the months of February to May, with the month of April (58.82%) being the driest, and wet season from the months of June to January with December (91.18%) being the wettest.

Seasonal fluctuations, especially the wet and dry seasons, can have a big impact on how a tourist destination operates and how its visitors are treated. It may be more enjoyable to engage in outdoor activities during the dry season, which is often characterized by decreased rainfall and milder temperatures, and it may also draw more tourists. In contrast, the rainy season, which is characterized by heavier rainfall, may cause disruptions in travel-related activities but may also increase the allure of some sights, such as waterfalls and rivers.

Fortunately, Mt. Malindang has a Corona type IV climate, according to the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA), which is characterized by more or less uniformly distributed rainfall throughout the year (Makanas, 1990). The Amihan and Habagat monsoons, which in many parts of the Philippines are the primary sources of the wet and dry seasons, are rarely a factor in locations with this sort of climate. Mount Malindang, which is located in the southern part of the Philippines, is one such area that has the Corona type IV climate.

This shows that there isn't a definite dry season in the area and that rain is likely to occur at some point throughout the year. This may have an impact on tourism because the absence of a dry season may make some tourist destinations less accessible and alluring. While the Corona type IV climate is defined by evenly distributed rainfall, it's crucial to remember that the amount of rain can still fluctuate from month to month and year to year, based on different factors like local terrain and worldwide weather patterns.

Insights into the seasonal fluctuations of soil moisture at various depths in various observing locations over the Tibetan Plateau are provided by the work of Li et al. (2023). Although the study's authors claim that tourism is not their primary emphasis, their discoveries about the substantial variations in soil moisture between the rainy and dry seasons may have repercussions for tourist destinations, particularly those that entail outdoor activities that may be impacted by soil conditions. A study on the seasonal methane emission from municipal solid waste disposal sites in Lagos, Nigeria (Riman et al., 2022). In another unusual research, the result demonstrates the substantial variations in methane emissions between the wet and dry seasons. The increased methane emissions during the wet season may have an impact on the air quality and general visitor experience at tourism destinations close to such disposal facilities. In the Tuyen Lam Reservoir in the Central Highlands of Vietnam, Tran et al. (2022) investigated the seasonal change of phytoplankton functional groups. Their research highlights the substantial differences

between the phytoplankton communities between the dry and wet seasons. This may be important for tourist destinations where bodies of water are the main draws since changes in phytoplankton communities may have an impact on the water's quality and the variety of aquatic life, both of which may have an impact on visitor experiences.

Characteristics of Tourism Sites According to Accessibility

Table 4 shows the characteristics of the tourism sites according to accessibility. The data shows that the type of transportation that is accessible in the tourism sites are the single motorcycle or locally known as habal-habal ($f = 33$) ranked first. As to the road condition, concrete roads ($f = 28$) are more common which were considered as a municipality/city road ($f = 30$).

With an emphasis on the modes of mobility offered and the state of the roads, the Table 4 offers insights into the accessibility of the tourist destinations. The data shows that the habal-habal, a form of motorbike taxi that is widely utilized in the area, is the most popular mode of transportation available in the tourist destinations contingent in MMRNP. This implies that the tourist attractions are situated in regions where the topography or the state of the roads may not be conducive to the use of heavier vehicles. In terms of the state of the roads, the data reveals that concrete roads are more prevalent and are often categorized as municipality or city roads.

These contradicting data of habal-habal as primary mode of transportation while the concrete roads are prevalent due to the inability of the transportation providers to procure 4 wheeled vehicles due to prohibitive price. A motorcycle will only cost an individual to Php 100,000.00 while a car would cost around a million pesos. This suggests that the tourist attractions are probably found in or close to urban areas, which may make them more easily accessible to visitors.

An evaluation framework for evaluating tourism accessibility in respect to regional airports is provided by the study of Zhou, Li, and Lei (2023). Although the authors' study focuses on airports, the ideas and strategies they present might be used with other modes of transportation, such as habal-habal. Their research underlines the value of comprehending visitors' impressions of accessibility, which may be pertinent to the study's tourism locations. Wardana and Lubis (2023) talk about how the Indonesian government can help create a tourist destination. They emphasize how crucial it is to construct amenities and infrastructure to make it easier to visit tourist attractions. Their findings highlight how crucial road conditions are to the growth of tourist destinations. The contribution of transportation to the growth of the tourism industry in an Indian location at a high altitude is examined by Jangra et al. in 2023. They draw attention to the difficulties presented by bad road conditions and contend that fostering the growth of tourism depends on enhancing the transportation system.

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Table 4: Characteristics of Tourism Sites According to Accessibility

	Frequency	Rank
Type of Transportation		
4x4 Drive	19	3
Bike	6	7
Bus	9	5
Habal-habal	33	1
Jeepney	6	7
Others	7	6
Private/Rental	26	2
Tricycle	15	4
Road Condition		
Asphalt	1	5
Concrete	28	1
Earth	3	3
Gravel	6	2
Paved	2	4
Road Type		

Barangay Road	6	2
Municipality/City Road	30	1

Tourism Thematic Characteristics of Tourism Sites

Table 5 shows the tourism thematic characteristics of the tourism sites. The data shows that most of the tourism sites that are contingent in MMRNP were nature-based tourism (f = 31), followed by leisure and entertainment tourism (f = 12), and meetings, incentive, conference, exhibitions (MICE) tourism (f = 11).

Traveling to natural landmarks or destinations is referred to as nature-based tourism, and it is frequently done with the intention of observing, admiring, or learning about the environment. The abundance of nature-based tourist destinations in MMRNP implies that the region's natural assets, including its ecosystems, biodiversity, and landscapes, are important tourist draws. Insights on the spatial distribution of different types of tourism resources, including nature-based resources, are provided by a study by Yao Chang et al. (2022), underscoring the significance of knowing these distributions in the growth of tourism. Tourism sites in this study are located around the MMRNP, thus, are nature-based tourism, but whether they are concerned and are involved in the protection and conservation of the nearest natural park needs to be addressed.

Activities that are meant to promote relaxation, enjoyment, or entertainment are often included in leisure and entertainment tourism. These tourist attractions show that the tourism sites in the MMRNP area provide a variety of leisure and entertainment alternatives for visitors. Tourism leisure and entertainment activities are essential to offering a range of options for visitors to unwind and enjoy. These can include leisure activities, entertainment activities, and activities for personal growth; all of these can create a memorable travel experience (Lengkong & Suryasih, 2021). For instance, it has been observed that millennial visitors to the Bogor Botanical Gardens, a well-known tourist attraction in

Indonesia, partake in a variety of leisure and recreational activities that not only offer enjoyment but also aid in their personal development. Their satisfaction levels have been found to be greatly impacted by these activities (Lengkong & Suryasih, 2021). In a different South Korean study, urban tourism was promoted when the COVID-19 pandemic was going on. The study discovered that although virtual tours piqued Indonesian Hallyu (Korean wave) fans' enthusiasm in visiting Seoul, they also underlined that they could not take the place of traditional travel (Drianda, Kesuma, & Lestari, 2021).

The perceptions of authenticity, self-connection, and serious leisure of local and foreign tourists, as well as how these aspects affect their memorable travel experiences, were also found to differ significantly in an Iranian study (Gannon, Taheri, & Croall, 2021). Rural tourism, which frequently involves a variety of leisure and entertainment activities, considerably benefits local people and the national economy, according to a study done in Malaysia's Gunung Mulu National Park (Zainuddin, Mohamed, & Harold, 2021).

Travel for the purpose of attending meetings, incentives, conferences, or exhibitions is referred to as MICE tourism which can also be another form of alternative offering for visitors or tourists. The existence of MICE tourist venues in the MMRNP indicates that the region has the infrastructure and resources required to hold such events. Different types of tourists, such as business travelers and professionals, may be drawn to this kind of tourism. In order to make travel places more alluring, Salah Zeraib et al.'s study from 2022 emphasizes the significance of tourism development methods. These tactics may be especially useful for MICE tourism destinations, which frequently need specialized facilities and services.

Table 5: Tourism Thematic Characteristics of Tourism Sites

Thematic Characteristics	Frequency	Rank
1. Cultural/Historic Tourism	3	5
2. Education Tourism	6	4
3. Health, Wellness, and Retirement Tourism	2	6
4. Leisure and Entertainment Tourism	12	2
5. Meetings, Incentive, Conference, Exhibitions (MICE) Tourism	11	3
6. Nature-based Tourism	31	1
7. Others	1	7

Activities Offered in Tourism Sites

Table 6 shows the activities offered in the tourism sites. The data shows that most tourism sites that are contingent in MMRNP offer sight-seeing activities ($f = 29$), followed by picnic ($f = 27$), camping ($f = 19$), swimming ($f = 17$), and bird watching ($f = 12$). However, ATV/Buggy Riding ($f = 3$), gardening, and other activities ($f = 4$) were less commonly offered by the tourism sites.

In many tourist destinations, especially those with distinctive natural or cultural elements, sightseeing is a well-liked activity. The high frequency of sightseeing activities in MMRNP shows that there are many things in the area that visitors can discover and enjoy. A research by Li et al. (2022) analyzes the function of sightseeing in encouraging the growth of the tourism industry and emphasizes the significance of offering top-notch sightseeing opportunities. A key factor in promoting the expansion of the tourism sector is sightseeing. It is frequently the main reason travelers travel to a place because it gives them the chance to discover and enjoy the special qualities, history, and culture of the region. A destination's appeal can be greatly increased by providing top-notch sightseeing options, which will draw more visitors and help the local tourism business thrive. High-quality sightseeing excursions can also boost visitor satisfaction, encouraging good word-of-mouth advertising and return trips. Additionally, tourism can boost the local economy by bringing in customers and producing income for nearby businesses. Therefore, spending on the creation and administration of tourist sites is essential for the tourism sector's long-term expansion.

Camping and picnicking are leisure pursuits that let visitors experience nature and the great outdoors. These activities are accessible in MMRNP, which suggests that the region has sufficient outdoor settings for them. Insights into campers' tastes and behaviors are provided by a study by Zhang et al. (2022), which are important for the creation and administration of camping activities in MMRNP. These activities give visitors the chance to interact more directly with the outdoors, potentially generating a stronger appreciation for the environment and the value of conservation.

Activities like swimming and bird viewing increase the variety of experiences accessible to tourists and appeal to their varied interests and preferences. Activities like these are not only give visitors a singular and

pleasurable experience, but they also make a substantial contribution to the variety of experiences offered to visitors, satisfying their varied interests and preferences.

For instance, Dionsio et al. (2022) created a digital application called Aqua that improves whale-watching activities by utilizing citizen science's capacity to include visitors in marine biodiversity awareness and protection. By giving tourists and whale-watching aficionados more details and scientific curiosities about species that can be spotted, the tool was created to improve the whale-watching experience. The program also assists marine biologists and whale watchers in gathering information on sightings and gives both groups the chance to participate as citizen scientists in gathering and reporting scientific data about the animals and their whereabouts. This strategy improves the visitor experience while simultaneously supporting efforts to conserve the ocean. Similar to this, the study by de la Cruz-Modino and Cosentino (2022) underlined the potential of whale-watching as a type of ecotourism because of the chances for promoting cetacean research, environmental education, and community involvement. The study focused on the synergistic connections that may be made between whale research and tourism, including a number of stakeholders and encouraging research careers while also resulting in ground-breaking discoveries in the disciplines of ecology and tourism. These studies highlight how visitor experiences can be improved, environmental conservation can be promoted, and scientific research can be advanced through activities like swimming and bird viewing. They also emphasize the significance of developing and putting into practice tools and techniques that might optimize these advantages while assuring the longevity of these initiatives.

However, to reduce any potential environmental effects, it is crucial to carefully regulate these activities. For instance, precautions should be made to make sure picnics, camping, and swimming activities don't result in pollution or other environmental harm or impair aquatic ecosystems. Similar to this, bird viewing should be done without disturbing the birds or their habitats.

In MMRNP, the least tourism activities are gardening and ATV/buggy riding. These activities can be incompatible with the local natural environment or visitor demographics, or they might call for certain facilities or resources. The variables impacting the growth of ATV tourism are discussed in research by

Chen et al. (2022), these include the local natural environment, which offers the terrain required for ATV sports, the local cultural legacy, which adds a further level of visitor appeal, the significance of infrastructure,

including amenities and roads, which can help or hinder the growth of ATV tourism. Because of these variables, this activity is less frequently provided in MMRNP.

Table 6: Activities Offered in Tourism Sites

Activities Offered	Frequency	Rank
1. Sight Seeing	29	1
2. Picnic	27	2
3. Camping	19	3
4. Swimming	17	4
5. Bird Watching	12	5
6. Trekking Trails	10	6
7. Meal/Food Preparation	9	7
8. Fruit/Vegetable Picking	8	8
9. Tree Planting	7	9
10. Farm to Table Food Preparation	6	10
11. Gardening	4	11
12. ATV/Buggy Riding	3	13
13. Others	4	11

Available Amenities/Facilities in the Tourism Sites

Table 7 shows the available amenities/facilities in the tourism sites. The data shows that most tourism sites that are contingent in MMRNP have parking lot/space (f = 32), followed by public restrooms (f = 27), and clinic/first aid kits (f = 22). However, there are a few tourism sites that has jacuzzi (f = 1), butler or valet service (f = 2), breastfeeding area, and sports/gym facilities (f = 4).

Parking lots and spots are readily available, which is consistent with the preceding conclusion that habal-habal (motorcycle taxis) are the most popular mode of transportation to these locations which does not require large parking spaces.

Moreover, tourism sites in MMRNP at present utilize lots and spaces adjacent to their sites, owned by their relatives, friends and neighbors. This is in relation with the primary activity in these tourism sites which is sightseeing, thus tourists stop for a while and go to the next destination, thus the need for parking spaces, for the convenience and safety of tourists, facilities like clinics and first aid kits are crucial.

Jacuzzis, butler or valet services, breastfeeding areas, and sports/gym facilities are some of the less typical amenities that is an indication of the kinds of guests

these places have. These facilities must be present to attract the kinds of visitors that will prefer and utilize these amenities. For instance, the existence of a jacuzzi might imply that a location caters to luxury travelers, while the availability of sports and gym facilities might suggest that a location caters to travelers who are active or health-conscious.

The research conducted by Kowalczyk, R., and Kowalczyk, A. A thorough examination of how added-value activities can greatly enhance the amenities and facilities of tourist destinations is given in (2022).

The authors contend that the addition of added-value activities can improve consumer satisfaction and boost a tourism destination's allure. These initiatives can include things like promoting green management, enhancing personal cleanliness and interpersonal contact safety, and utilizing digital tools for service delivery and promotion.

These added-value activities enhance the tourist destinations' amenities and facilities while also enhancing the overall user experience. They can improve the site's appeal, assist in meeting evolving visitor needs and expectations, and ultimately help ensure the success and sustainability of the tourism site.

Table 7: Available Amenities/Facilities in the Tourism Sites

Amenities/Facilities	Frequency	Rank
1. Bar/Coffee shop	17	6
2. Breastfeeding area	4	15
3. Business Center	5	14
4. Butler or Valet Services	2	16
5. Children playground/park	11	11
6. Clinic/first aid kit	22	3
7. Elderly/PWD-friendly Facilities	13	10
8. Evacuation Sites	14	9
9. Function Hall	17	6
10. Guest Rooms	20	4
11. Hot & Cold shower	7	13
12. Jacuzzi	1	17
13. Laundry services	5	14
14. Others	9	12
15. Parking Lot/Space	32	1
16. Public Restrooms	27	2
17. Restaurant	15	8
18. Room Service (food & beverage)	13	10
19. Spa/Medicinal Bath	1	17
20. Sports/Gym facilities	4	15
21. Swimming pools	16	7
22. Wi-Fi	18	5

Perception on Sustainable Tourism and Environmental Impacts

Table 8 shows the respondents' perception on sustainable tourism and environmental impacts. The data shows that most of the respondents have a positive perception about the statements: "aside from economic goals, tourism facility operators/managers have the responsibility to protect and conserve environment" (100%) and "it is important to orient staff & tourists about environmental conservation efforts" (100%).

The broad understanding and dedication to sustainable tourism practices may be shown in the unanimity of opinion on the duty of tourism facility operators/managers to protect and maintain the environment, as well as the significance of educating workers and visitors about such efforts. This is consistent with research by Sezerel and Karagoz (2023), which highlights the value of sustainable tourism growth in Special Environmental Protected Areas.

On the other hand, a number of respondents have a negative perception about the statements: "tourism affect the natural environment of Mt. Malindang" (32.40%), and "your business in tourism will not be

sustained if there is no Mt. Malindang" (20.60%). This implies that a potential gap between the respondents' beliefs and the realities of tourism's environmental impacts may be shown, however, in the unfavorable perception of the influence of tourism on Mt. Malindang's natural environment and the sustainability of tourism firms without Mt. Malindang.

This is in line with research by Wambura et al. (2022), which revealed that although locals saw tourism as having favorable effects on the environment and socio-culture, they did not see it as having a substantial economic impact.

The study by Ghimire and Baral (2022) emphasizes the significance of local perceptions in the development of sustainable tourism, stressing that for tourism to be sustainable, residents must be aware of it, participate in its activities, and understand its benefits and impacts.

The study by Valente and Medeiros (2022) highlights the value of public investments in sustainable tourism, especially in reducing the possible negative effects of tourism on a specific territory.

Table 8: Perception on Sustainable Tourism and Environmental Impacts n=34

Perception Statements	Positive Perception (%)	Negative Perception (%)	Undecided (%)
Environmental Impacts			
1. Tourism is compatible with environmental conservation.	94.1	-	5.88
2. Aside from economic goals, tourism facility operators/managers have the responsibility to protect and conserve environment.	100	-	-
3. Unsustainable tourism can destroy environmental resources.	94.1	2.94	2.94
4. To share and disseminate important information are ways to protect and conserve.	94.1	-	5.88
5. Tourism makes the people realize the importance of environmental conservation.	97.1	-	2.94
6. Tourism is related to people and the natural environment.	94.1	-	5.88
7. Tourism enhances the conservation of the natural environment.	94.1	2.94	2.94
8. It is important to orient staff & tourists about environmental conservation efforts.	100	-	-
9. Your tourism activities and attractions promote the natural environment in MMRNP.	94.1	5.88	-
10. Tourism promotes ecological culture of the Philippines, specifically of the Misamis Occidental to tourists.	94.1	2.94	2.94
11. Tourism affect the natural environment of Mt. Malindang.	67.6	32.4	-
12. Your business in tourism will not be sustained if there is no Mt. Malindang.	76.5	20.6	2.94
13. Science-based information is important to protect Mt. Malindang.	91.2	2.94	5.88
14. It is important to establish network of sustainable destinations around Mt. Malindang.	94.1	2.94	2.94

Perception on the Impacts of Tourism Sites in Terms of Socio-cultural and Economic Aspects

Table 9 shows the respondents' perception on the impacts of tourism sites in terms of socio-cultural and economic aspects. The data shows that most of the respondents have a positive perception about the statements: "tourism improves lifestyle of both the local residents and tourists" (100%), "well-managed attractions such as your facility, maintained in their natural state are important to attracting tourists" (100%) and "active support of the community is essential for the success of the sustainable tourism" (100%).

Both locals and visitors' lifestyles can be considerably improved by tourism. Tourism can boost the local economy by generating jobs and raising sales for nearby businesses. Additionally, it may result in upgrades to the community's transportation, healthcare, and educational systems and infrastructure. Travelers' quality of life may

be improved by the opportunities for learning, relaxation, and enjoyment that come with exploring new locations. In addition, well-run tourism destinations that are kept in their natural state are essential for drawing visitors. These tourism destinations offer the distinctive and genuine experiences they are looking for. Additionally, well run attractions demonstrate a commitment to sustainability, which is becoming more and more significant to many tourists. In addition, active participation and community support are crucial for the success of sustainable tourism.

Local communities may support tourism in a variety of ways, including by fostering ethical travel habits, engaging in decision-making, and offering local knowledge. Support from the local community can be useful in addition to ensuring that the benefits of tourism are spread fairly and that its adverse consequences are kept to a minimum.

The arguments that "tourism brings in more investment" (11.76%) and "there is a demand for sustainable tourism in and around MMRNP" (8.82%), on the other hand, are not well received by respondents.

Some people can erroneously think that tourism boosts investment. This might be as a result of individuals being concerned about the drawbacks of growing tourism, such as potential environmental harm, cultural disruption, and increased living costs. The benefits of tourism-related investments, such as job creation and economic growth, may not be distributed equally among the local population, which is another cause for worry. Furthermore, not everyone will be aware of how crucial sustainable tourism is to the MMRNP and its surroundings. This can be due to a lack of understanding of the benefits and components of sustainable tourism. They could think that sustainable tourism is more challenging to develop or less effective than conventional tourism. However, as environmental issues and the need of sustainability gain more attention, the demand for sustainable tourism is anticipated to increase.

The broad understanding and dedication to sustainable tourism practices can be seen in the unanimous agreement on the positive socio-cultural and economic effects of tourism, such as enhancing the standard of living for both locals and visitors, the significance of well-managed attractions, and the crucial role of

community support for sustainable tourism. This is consistent with research by Nazirullah et al. (2023), which highlights the socio-cultural and economic impact on tourism support and the mediating role of community value.

The demand for sustainable tourism in and around MMRNP and the unfavorable view of the impact of tourism on investment, however, raise concerns about a potential gap between the respondents' opinions and the truth regarding the economic effects of tourism. This is consistent with research by Sukmawati et al. (2022), which found that high-quality and sustainable tourism can be a driver in the new economic sector by creating top-notch attractions and products that are appealing to the global market and global buyers.

The study by Bachtiar (2022) highlights the necessity for policy synergy and a multi-sectoral, interdisciplinary approach for such development while emphasizing the need to put sustainable tourist development plans into effect. This may be especially important given the perceived underinvestment in and desire for sustainable tourism in the MMRNP. The study by Brooks et al. from 2023 emphasizes the significance of comprehending how heritage tourism affects local populations' health and welfare as well as their ability to develop sustainably. Further insight into the respondents' perspectives on the societal and economic effects of tourism may result from this.

Table 9: Perception on the Impacts of Tourism Sites in Terms of Socio-cultural and Economic Aspects n = 34

Perception Statements	Positive Perception (%)	Negative Perception (%)	Undecided (%)
Socio-cultural and Economic Impacts			
1. Tourism improves lifestyle of both the local residents and tourists.	100	-	-
2. Well-managed attractions such as your facility, maintained in their natural state are important to attracting tourists.	100	-	-
3. There is a demand for sustainable tourism in and around MMRNP.	91.18	8.82	-
4. Tourism creates job opportunities among the residents in the area.	97.06	2.94	-
5. Tourists & residents will be exposed to different experiences.	94.12	5.88	-
6. Active support of the community is essential for the success of the sustainable tourism.	100	-	-
7. Tourism provides opportunities to develop new local business.	97.06	2.94	-
8. Tourism brings in more investment.	85.29	11.76	2.94
9. Places that surround MMRNP attract many foreign tourists.	94.12	5.88	-

10. Tourism industry in the province helps to preserve local cultural activities.	94.12	2.94	2.94
11. Tourism enables to meet people of different cultures and traditions.	94.12	2.94	2.94
12. Tourism has improved the quality of the local community.	94.12	2.94	2.94

CONCLUSION AND RECOMMENDATIONS

To fully describe the Mt. Malindang Range Natural Park (MMRNP) tourism site, the report concentrates on its economic, social, and environmental components. This study delves into the economic, social, and environmental dimensions of the Mt. Malindang Range Natural Park (MMRNP) tourism site. It highlights the diverse array of goods and activities available, with a focus on outdoor recreation, which resonates with the preferences of the respondents, primarily proprietors of travel websites. Their influence on these platforms underscores their potential role in shaping tourist perceptions and behaviors.

While the perspectives on sustainable tourism and its impacts are largely positive, there exists a notable gap in investment and demand for sustainable practices within and around the MMRNP area. This underscores the imperative for initiatives aimed at bolstering environmentally friendly tourism practices and enhancing the attractiveness and sustainability of these destinations. Moving forward, concerted efforts are needed to bridge these gaps and cultivate a more vibrant and sustainable tourism ecosystem in the MMRNP region.

In this vein, several suggestions might be made to improve the viability and allure of tourist destinations dependent on MMRNP in light of the study's findings: It is recommended that several key strategies be adopted to enhance sustainable tourism practices and visitor satisfaction within the MMRNP (Mountains, Monuments, and Rivers National Park) area. Firstly, there is a call to promote sustainable tourism practices among site managers and operators through training, materials, and supportive policies. Secondly, it suggests enhancing amenities and facilities, including less common offerings like jacuzzis and nursing rooms, to improve visitor experiences. Additionally, community engagement is highlighted as crucial for the success of sustainable tourism, advocating for community involvement in tourist development and management. Furthermore, attracting investment to the area is deemed necessary, emphasizing the financial benefits and unique charms of the locations. Finally, increasing

demand for sustainable tourism is proposed through activities to improve sustainability, allure, and marketing campaigns that highlight its advantages. These recommendations aim to foster sustainable tourism growth while enhancing visitor experiences in the MMRNP region.

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