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Sustainable resort-related tourism growth: Identifying challenges and opportunities in Montalban, Rizal

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Abstract

Purpose: This study aims to identify the challenges and opportunities related to sustainable resort-related tourism growth in Montalban, Rizal, and the Philippines.

Research Methodology: This study collected data from resort managers/operators and employees in Montalban using thematic analysis. The data were analyzed using systems theory to identify the interconnection of the economic, social, and environmental components of sustainable resort development.

Results: The study found that resorts in Montalban are commercially viable, but environmental and social sustainability has been compromised since their founding and throughout the COVID-19 pandemic. The overexploitation of natural resources by resorts has led to concerns about groundwater level and water quality, while employees are subjected to precarious work and low income.

Limitations: This study was limited by the sample size of the resorts in Montalban.

Contributions: This study contributes to the current knowledge of sustainable resort-related tourism growth in rural destinations, particularly tourism destinations in the Philippines. This research seeks to educate policymakers, other tourism stakeholders, and local tourism communities on the need to shift their focus to more sustainable development.

Novelty: This study pioneers the investigation of sustainability in resort-related tourism growth in the Philippines using the case of Montalban Rizal and the use of the system model in the qualitative study of sustainability in tourism destinations.

Keywords: *Sustainable tourism, Resort-related tourism, Rural tourism, Tourism growth*

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1. Introduction

Sustainable tourism involves minimizing the negative impacts and maximizing the positive effects of tourism to maintain long-term viability. The integration of sustainability into rural tourism creates a potential for "*developing economic opportunities, increasing local prosperity, conservation, and maintenance of the environment, celebrating cultural assets and generally ensuring a greater spread in terms of who can benefit (economically, socially, and culturally)*" (McAreavey & McDonagh, 2011). Despite the benefits of sustainability, its pursuit is not without obstacles. Differences in the concept of sustainability and conflict over the equitable distribution of scarce resources make tensions commonplace in the pursuit of sustainability.

Montalban (also called Rodriguez) is the largest municipality in Rizal in terms of land area. It is also declared a "first-class" municipality. Since the 1990s, it has also served as a relocation site for informal settlers from the National Capital Region ("NCR"). This caused a positive effect on the growth of the population, and the area eventually became a "satellite" town of Metro Manila through its low-cost housing opportunities. In addition to the continuous improvement in economic activity in nearby municipalities, these factors provided a jumpstart to the municipality's otherwise declining population. The increase in population also coincided with an increase in demand for the development of rural tourism in the form of resort-related tourism growth. Resort-related tourism in Montalban has grown so exponentially that a quick search of resorts in the area on Google Maps will yield no less than fifty (50) results. Considering that this result represents only a partial number of operational public and private resorts in the area with registered business accounts on Google, it may be concluded that there has been extensive resort-related development in the municipality. The resorts in Montalban are privately owned and grouped in clusters that mimic resort towns or urban areas, where tourism is a significant part of the local scene. There are many risks associated with the rapid growth of resorts that involve substantial changes in the developing area's environment and residents' socioeconomic landscapes. Most project developers comply with growth-related policies without planning sustainable development. The social exchange between growth-oriented and sustainable development resorts operators and other stakeholders. Unfortunately, the trajectory of tourism over the years has been chiefly profit-driven (Khalid, Okafor, & Burzynska, 2021).

Between March 2020 and January 2022, several restrictions at different levels were implemented across the country to curb the spread of the Coronavirus Disease of 2019 (COVID-19). Although the COVID-19 pandemic brought even first-world countries to the brink of recession (Nasir & Ahsan, 2020), its most affected industry was tourism. In the Philippines, tourism activities are only allowed during the Modified General Community Quarantine at decreased capacities (Bautista, 2021). Additional minimum public health standards to curb the spread of the virus were also necessary and required for all establishments, including tourism destinations (DOT, n.d.). The DOT reported an 82.3% drop in tourism expenditure in 2020, which translates to only 556.89 billion from the previous year's 3.14 trillion. This drop directly translated into a decrease in the tourism sector's share of the national GDP from 12.7% in 2019 to 5.4% (PSA, 2020). While necessary, the travel restrictions imposed have disproportionately impacted the tourism sector. Restrictions in land, air, and sea travel to mitigate the spread of the virus have caused stagnation in domestic and international tourism (Khalid et al., 2021), and this experience rings true for other Southeast Asia. Pathiraja, Karunarathne, Hewage, and Jayawardena (2021) reported that the COVID-19 pandemic significantly impacted Sri Lankan wildlife tourism, with operators facing challenges such as reduced demand, increased costs, and disruptions to operations. Although the tourism industry in Southeast Asian countries, such as Indonesia, has been forecasted and shows a positive prognosis (Sawitri, Eltivia, & Riwajanti, 2021), these losses have caused even more fear that the investment trajectory in growth-led rather than sustainable tourism may continue if stakeholders are allowed to compensate for the losses incurred throughout the pandemic (Khalid et al., 2021). Additionally, it has been argued that once the worst of the pandemic has passed, societies will return to business as usual in terms of future management and planning. Considering that the tourism sector will also incur a significant amount of damage once sustainability issues are not addressed, this prognosis is worrying (Romagosa, 2020).

It is necessary to investigate the level of sustainability in Montalban, not only to prevent the degradation of the natural environment but also to ensure that local resort businesses can thrive sustainably after the pandemic is over. To achieve this, Lebe and Milfelner (2006) proposed a model that combines destination management with network management as the key to simplifying and promoting tourism in rural destinations. This model involves establishing a destination management company or organization responsible for creating a sustainable development strategy for the community. Consequently, several research works including Idziak, Majewski, and Zmyślony (2015) suggest a bottom-up approach that involves community participation in developing tourism destinations. Therefore, there is no single model that can be deemed the correct way of promoting sustainable tourism because the approach is highly dependent on the needs of the destination. The different models used in the areas further

highlighted the importance of adaptability in sustainability models. Each destination and community has different goals and standards for measuring sustainability. As sustainability models must be adaptable to localized areas, there is a need to conduct a qualitative exploration of the area before any quantitative measurement of sustainability can be performed.

This study envisioned to fill the gap in the existing research and (a) identify the challenges to sustainable resort-related tourism growth in Montalban and Rizal throughout the COVID-19 pandemic in terms of economic, social, and economic sustainability; (b) identify the challenges to sustainable development that the resorts have faced throughout the pandemic and long after, and (c) look for measures that can be suggested to promote sustainable resort-related tourism growth after the COVID-19 pandemic. Filling these gaps in the existing research can further strengthen the local government's efforts and enable future researchers to evaluate the sustainability of resort-related tourism growth and operations.

The scope of this study was limited to resorts in San Jose, Montalban, and Rizal. It did not include resorts located in other areas of Montalban or other areas of Rizal, such as Antipolo and San Mateo. It also specifically identified only the economic, environmental, and social challenges faced by the resorts and their employees throughout the height of the COVID-19 restrictions implemented between March 2020 and January 2022 and the foreseen problems that the resorts may face after this period. The study did not include the challenges faced by resorts through lockdowns and quarantines imposed after this period.

2. Literature Review

2.1. Montalban: a brief history

Montalban is located in the northernmost part of Rizal Province at the foot of the Sierra Madre Mountains. It is strategically positioned at the periphery of Metropolitan Manila, sharing a boundary with Quezon City and Caloocan City in the west. 62% of the land area of Montalban is part of the Marikina Watershed Reserve. Montalban is a town of cultural and historical significance. Under the Board Resolution No. Two S.1996, the Pamitinan Cave in Sitio Wawa, San Rafael, Montalban, and Rizal was declared a National Historic Site. In 1895, members of the Katipunan with the *Supremo* himself, Andres Bonifacio, took their oath and declared independence from Spain in this cave. The words '*Viva la Independencia Filipinas were* still written on the cave wall. (National Historical Commission of the Philippines [NHCP], 1996; Bayan & Rodriguez [Historical Marker], 2016; Layag, 2018). Aside from its relevance in the beginnings of the Katipunan, then General Emilio Aguinaldo retreated to Montalban in 1897 while the troop led by General Licerio Geronimo chased the Spanish forces away. A statue was erected in his honor, bearing a marker from the NHCP (Licerio I. Geronimo [Historical Marker], 1993). The town itself is named after a national figure, Eulogio Rodriguez, whose house is also considered a historic site (Eulogio Rodriguez Y Adona [Historical Marker], 1983). "Amang" was born into a low-income family but worked his way to becoming Senate President by 1953 (Senate of the Philippines, n.d.). In addition to its historical significance, Montalban is considered home to the great legend of Bernardo Carpio. Several versions of the story exist, from its origins as a Spanish legend (Franklin III, 1937) to the more localized versions that depict Bernardo as either a giant or a demigod of remarkable strength (NHCP, 1996); Yungib ng Pamitinan [Historical Marker], 1996). Most versions of the local legend point to Bernardo pushing apart Mt. Pamitinan and Mt. Binacayan as the origin of the Montalban Gorge and the Marikina River, where the Wawa dam was constructed. There are different versions of the legend, but most end with Bernardo trapped and chained inside the mountains. Locals attribute earthquakes from the west and east valley fault lines to Bernardo and his attempts to free himself from them.

Since the 1990s, it has also served as a relocation site for informal settlers from the National Capital Region ("NCR"). Data from the Philippine Statistics Authority [PSA] show that this has a positive effect on population growth after years of consistent decline (PSA, 2015). The last publication on the municipality of Montalban, "History and Cultural Life of Montalban and its Barrios" was published in 1954. Unfortunately, no known books or academic journals chronicling developments in the municipality have followed. Hence, a straightforward timeline of when demand for tourism increases

is unavailable. Still, population trends can be traced by following the rapid increase in population from the forced resettlement of informal settlers and slum-dwellers of Metro Manila. In 1998, President Joseph Estrada established a resettlement area in Montalban. The first housing projects were created as a model resettlement site for the "slum dwellers" and informal settlers in Metro Manila. This project was part of the government's attempts to re-urbanize Metro Manila through the demolition of poverty districts, redistribution of the poor urban population, and expansion of the urban area into new territories (Terminski, 2013). After the jumpstart provided by the development-induced displacement, Montalban eventually became a "satellite" town of Metro Manila through its low-cost housing opportunities. At present, it has a positive growth rate of 5.34%, with 97.01% of the population comprising citizens aged < 65 years.

Montalban and Rizal have only begun to reap the economic benefits from the increased population caused by the development-induced displacement of slum dwellers in 1998 and the counter-urbanization of city dwellers looking for permanent residence away from the city. Periods of urbanization bring about significant social and economic changes in the areas it takes hold, including job creation and poverty reduction. In addition to its economic benefits, it also brings many cultural changes by redefining the lifestyle of the people experiencing it (Noja, Cristea, Yüksel, Pânzaru, & Drăcea, 2018). The case of Montalban includes demand for the development of rural tourism in the form of resort-related tourism growth.

2.2. Sustainable tourism in other local and international destinations

In more popular coastal destinations, such as Boracay Island and Puerto Princesa City, Palawan, sustainability plays an even more significant role in maintaining tourism spaces. Coastal tourism destinations largely depend on the aesthetic quality of the natural environment. However, these areas are also at greater risk of environmental degradation due to congestion. In a study conducted in Batangas, it was identified that beach resorts and dive resorts are visited significantly more frequently than other tourism destinations in the province (Vizconde & Felicen, 2012); however, even coastal tourism destinations, no matter how famous, have been marred by periods of unsustainability (Ong et al., 2011). For example, in Boracay, continued concerns over the carrying capacity of the destination have been raised owing to the consistent development of infrastructure in the area. According to the Department of Environment and Natural Resources [DENR] in 2017 was 6,405 per day. However, the average daily arrival recorded in 2019 was 7,774. (Cruz & Legaspi, 2019). One instance that furthers the importance of sustainable development is the coliform crisis of 1997. Trousdale (2001), as cited by Ong et al. (2011)) reported that high levels of coliforms caused by inadequate sewage treatment on the island were found to contaminate the beach. This incident caused a 70% decline in the number of tourists in the months following the announcement. At the same time, the image of Boracay and the Philippines as tourism destinations was damaged. There have been plans to lead the island to the path of sustainability as early as 1984, but the focus of sustainability efforts in Boracay has been almost exclusively on the physical environment and aesthetic quality of the location. Little attention has been paid to social sustainability. In 2018, President Rodrigo Duterte signed Proclamation 475, declaring a state of calamity on the island and temporarily closing it as a tourist destination. In addition to the long-term adverse effects of the closure of local businesses and national revenues, over 5,000 workers have also lost their jobs. Employment adjustment measures at minimum wage standards had to be provided to displaced workers, costing the government P400 million or USD 7.4 Million. Local businesses had to take loans to cover operational costs throughout the closure period (Cruz & Legaspi, 2019). Closely followed by the economic downturn from the COVID-19 pandemic in 2020, the long-term effects of misplaced sustainability efforts will be felt by locals for years to come.

This is in stark contrast to Puerto Princesa, Palawan, where sustainability has remained at the forefront of tourism development for the last 20 years (Manalo, 2017). Tourism remains the dominant player in the local economy of Palawan, and the local government is consistent in its efforts to increase the carrying capacity of the province. These profit-forward efforts have been balanced by focusing on green technologies and community-based sustainable tourism practices (Manalo 2017). Their promotion of

sustainability has even afforded them the honor of having the Underground River of Puerto Princesa declared one of the Seven Wonders of the World in 2012.

In Malaysia, research has shown that sustainable tourism positively affects the resilience of rural tourism communities. It was also established that several factors such as (a) the lifestyle and culture of tourism operators, (b) the relationship with government authorities, (c) the flexibility of the community, and (d) environmental conditions are vital to ensuring that rural tourism destinations can recover quickly from difficult experiences. The same study also mentioned that managers and other tourism stakeholders play a vital role in conceptualizing the sustainability concept of the rural tourism community (Amir et al., 2015). Many organizations that are making headway in promoting sustainability do not realize that there is a need to educate the community on the value of investing in rural capital as an essential component in ensuring sustainability. This is in line with the research of Sulistiowati, Adisa, and Caturiani (2021), who highlighted that stakeholder synergy in key areas such as policymaking, business practices, community involvement, and tourist behavior is essential to ensure that tourism is sustainable, and therefore beneficial to everyone involved.

Rural destinations face many significant challenges. Rural tourism destinations cater to fewer tourists than their urban and coastal counterparts (Lebe & Milfelner, 2006), but rural tourism remains a viable source of livelihood for local communities. Thus, there is an ever-present desire to develop tourism destinations further. In the case of Antipolo, Rizal, and Pansol, Laguna, research has identified that resorts pay more attention to profit-driven development instead of their economic, legal, ethical, and philanthropic responsibilities (Hangdaan, Bustillo, Villamor, & Mandigma Jr, 2019). Lebe and Milfelner (2006) suggest that one of the main weaknesses of rural tourism destinations is the relative lack of knowledge about the tourism market, tourism offers, and destination marketing. The researchers proposed a model that combines destination management with network management as the key to simplifying and promoting tourism in rural destinations. This model involves establishing a destination management company or organization responsible for creating a sustainable development strategy for the community. On the other hand, several studies, including Idziak et al. (2015), suggest that using a bottom-up approach, which involves community participation, is the best way to develop sustainable tourism destinations. However, no single model can be applied to all destinations, as the best approach will vary depending on the specific needs of the community. Different models used in these areas further highlight the importance of adaptability in sustainability models. Each destination and community has different goals and standards for measuring sustainability. Adverse impacts on the environmental and social spheres, especially in rural tourism destinations, are expected. When development is focused on sustainability, these effects can be mitigated while meeting the needs of communities and the demands of the tourism market.

2.3. Theoretical and empirical models of sustainability

The two most prominent approaches to corporate sustainability are the Systemic and Triple Bottom Line (TBL) approaches. Elkington (2007) uses the TBL framework to shed light on the importance of balancing the economic, environmental, and social aspects of sustainability and the importance of stakeholders' interpretation of the sustainability of their behaviors. Unfortunately, the TBL approach has been criticized by multiple authors for failing to move forward with the sustainability agenda, despite the pervasiveness of its ideas in the last few decades. Criticisms of the TBL, especially in the research of Sridhar and Jones (2013), outlined its weaknesses as the complexity of its measurement, lack of integration between its three dimensions, and use as a mere compliance mechanism. Despite its prevalence in companies' environmental accounting systems in the past few decades, it remains an unreliable tool for measuring sustainability.

While both theories offer holistic views of sustainability, the systemic perspective adopts a more integrated approach. The three sustainability zones in the TBL approach are separate and distinct. According to de Campos Jr. (2017), this is where the TBL approach fails. The systemic approach more accurately illustrates the dynamism of the three. de Campos Jr (2017) further explains that the economic subsystem cannot exist outside the social dimension, and the social dimension in the same way cannot

exist outside the realm of the economic system. de Campos Jr (2017) also adds that because each system is dynamic and all three are interrelated, the systemic approach can better illustrate the constant positive and negative feedback loops that run between the three.

The core concept behind these 'systems' is a body with integrated parts that interact with one another to form a whole (Watson & Watson, 2011). The systemic approach is an idea that is familiar in the realm of social sciences, as the same concept is present in the works of many sociologists, including Emile Durkheim and his theory of Structural Functionalism. Over the last few decades, systems theory has evolved from a General Systems Theory to the development of a distinction between hard and soft systems. The hard-systems approach is more objective and reflects positivist epistemology. This approach has been criticized for representing an inaccurate view because it cannot acknowledge the discord in social systems, resulting in inaccurate and often inappropriate solutions to problems in social systems. On the other hand, the soft systems approach is aimed at understanding different kinds of systems ranging from the environment to humans (Watson & Watson, 2013). This is a more interpretative approach that aims to understand the viewpoints of individuals within the system instead of attempting to interpret their reality from an outsider's perspective. Therefore, soft systems thinking facilitates dialogue between stakeholders to reach an agreement instead of suggesting an optimal solution (Watson & Watson, 2011). Eventually, systems theory evolved to become a more critical approach to thinking which Watson and Watson (2011) summarizes as follows: "*Ultimately, systems thinking entails identifying the components that make up a system, understanding relations between them, and how these components impact the larger system, external systems, and supra-systems, and vice versa*." (p.64) Sustainability itself is a system-based concept. Although systems theory has been used for decades in management sciences, it has had little impact on qualitative research outside this realm. To address the pressing issues of sustainability and sustainable development, an understanding of the dynamism and interconnectedness of interactions between and within systems is necessary. In the context of this study, understanding can only be attained by acknowledging the interconnectedness between the economic, social, and environmental dimensions of sustainable resort development. This framework recognizes that institutional growth is systemically limited to the availability of finite resources in the environment, economy, and society (Martin et al., 2005). Paradigm shifts in the environment directly affect social and economic dimensions through systemic feedback loops. Correctly organizing the three spheres by hierarchy acknowledges how social and economic spheres are based on environmental sustainability (de Campos Jr., 2017).

3. Research Methodology

The province of Rizal is composed of thirteen (13) municipalities with zero (0) independent cities, with a total area of 1,191.94 square kilometers and a population of 2.88 million as of August 1, 2015 (PSA, 2015). Montalban is the largest municipality in the province of Rizal in terms of land area. It is declared a "first-class" municipality despite its agricultural character, lack of infrastructure, and economic dynamism. Its annual revenue income has been steadily increasing from PhP 486.18 million to PhP 532.9 million in 2016, and PhP 875.69 million in 2019, the third-highest in the entire province of Rizal after Cainta and Taytay (Bureau of Local Government Finance, 2016). According to the latest population data from the PSA, Montalban is home to 369,222 people, making it the largest municipality in terms of size in the country (PSA 2015). The research design necessitates the use of a purposive sampling method for respondents who meet the following criteria.

1. The place or establishment is privately owned and officially registered with Rodriguez's local government as either a public or private resort or a venue for gatherings and/or special events.
2. The place or establishment is up-to-date in the local registration of their businesses.
3. The place or establishment is entirely devoted as a place for leisure, amusement, or social gatherings; and (d) offers some form of accommodation for rent, whether in the form of private rooms for private resorts/venues or tables, bungalows, huts, and other small areas for public venues.
4. The place or establishment features at least one (1) pool that may comfortably fit at least three (3) people; and
5. The place or establishment has been in continuous operation for at least one (1) year.

Using Google Earth Pro satellite data from April 2021, the researcher initially identified forty-four (44) resorts that fulfilled the criteria. These resorts were further divided into five clusters based on differences in their topography and geographic location. Clustering was necessary because each group featured different social, economic, and topographical characteristics.

1. *Cluster 1: Resort developments close to the Sierra Madre mountains*
2. *Cluster 2: Resort developments located deep in the mountains of Rodriguez, relatively far from any residential or agricultural zones*
3. *Cluster 3: Resort developments with a close view of the Sierra Madre mountains and located close to the Marikina River*
4. *Cluster 4: Resort developments located in relatively secluded high-elevation residential zones*
5. *Cluster 5: Resort developments located in the rural, metropolitan zone*

This method allowed the respondent to classify the resorts with others who shared similar characteristics, ensuring that the sample to be chosen was homogenous. Considering the homogeneity of the population, the criteria, and the external limitations to the data collection process due to the COVID-19 pandemic, the researcher decided to focus on data collection in Cluster 5. Twenty-eight (28) resorts are located in Brgy. San Jose is grouped into this cluster. Resorts in this group are located in low-elevation residential and commercial areas. Although some are located close to the Marikina River, these establishments do not make as much use of Rodriguez's natural topography. The previous clusters were highly dependent on the attractive offers of nearby commercial establishments and proximity to the main road that leads to Quezon City. The proximity between resorts in this town, as earned by Brgy. San Jose has a reputation as a "Resort Baranggay."

An interview approach was used as the primary data collection instrument. A semi-structured interview can gather a significant amount of information while remaining ripe for contextualization, as this format allows the interviewer to improvise questions depending on the participant's responses (Galletta, 2013). The questions asked focused on prior knowledge of sustainability and resort-related tourism growth in Montalban, as well as economic conditions, use of natural resources, community support, and measures implemented to ensure sustainability before and throughout the COVID-19 pandemic. The initial data gathering plan was to interview fifteen (15) respondents from five (5) resorts in San Jose. Each resort was envisioned to have at least three (3) respondents each, composed of one (1) manager/owner and two (2) employees. The resorts interviewed were either open private rentals for events or exclusive gatherings, or for public rentals where they would share the use of pools with other clients. The prices for rental of the public resorts ranged from PhP 75.00 to PhP 200.00 per head, while private rentals ranged between PhP 7,000.00, and PhP 14,000.00.

Table 1. Public Resort

Resort	Available Facilities	Number of Pools	Price range
B	Pavilions	3	PHP 200.00/head
C	Pavilions	6	Php 75.00-150.00 / head
E	Pavilions	4	PHP 150.00/head

Table 2. Private Resorts

Resort	Available Rooms	Number of Pools	Price range
A	10	1	PHP 10,000.00 to 22,000.00
C	3	5	PHP 7,000.00
D	2	4	PHP 10,000.00 to 14,000.00

E	6	4	PHP 8,500.00 to PHP 10,000.00

There were ten (10) male and seven (7) female respondents, representing 58% and 42% of the total sample, respectively. The average length of employment in the resort is 4.28 years, with the shortest being one (one) year and the longest at thirty (30) years. The youngest and oldest respondents were found at Resort E, with Respondent 14 being only eighteen (18) years old, and Respondent 15 at seventy-three (73) years of age. Three (3) respondents achieved only a grade in school-level education, four (4) finished high school, two (2) finished two years in college, and five (5) held a college degree.

Table 3. Respondent demographics

Code	Resort	Age	G	Job Title	Years	Education
1	B	55	M	Lifeguard / Caretaker	1	Grade School
2		44	F	Owner	10	College
3		30	M	Lifeguard / Caretaker	3	High School
7	A	35	M	Manager	3	College
8		30	F	Manager	3	College UG
9		29	M	Caretaker	1	Vocational
10	E	43	M	Caretaker	1	Vocational
11		41	M	Manager	4	College
12		35	F	Caretaker	2	Grade School
13	D	31	F	Caretaker	3	High School
14		18	F	Caretaker	3	College UG
15	C	73	M	Owner	30	College
16		27	F	All-around helper	1.5	High School
17		25	M	Caretaker	1	Vocational
18		46	M	Manager / Owner	6	High School
19	E	40	F	Caretaker	4	Grade School
20		38	M	Caretaker	2	N/A

4. Results and Discussions

In the case of Montalban and Rizal, a systems approach was used to qualitatively assess the sustainability of resort-related tourism growth. This was achieved by considering all three dimensions of sustainability and identifying the problems faced throughout the height of the COVID-19 pandemic between 2020 and 2022. The following challenges were identified.

Table 4. Challenges to sustainability throughout and after the COVID-19 pandemic restrictions

Dimension of effect	Challenges during the pandemic	Opportunities for development after the pandemic
Economic	• Decrease in bookings • Operations and maintenance costs • Continuous tax payments • Economic recovery after Typhoon Ulysses	• N/A
Social	• Job insecurity	• Precarious employment
Environmental	• N/A	• Depleting groundwater levels • Water quality

4.1. Challenges in the economic dimension

The COVID-19 pandemic and the closure of resorts as a result of the lockdowns resulted in unprecedented economic challenges. The implementation of lockdowns in the Philippines as a measure to curb the spread of the COVID-19 virus significantly affected resorts in Montalban. Effectively, resorts had to close down for almost two (2) years as they were only allowed to reopen for two (2) months in 2020 and three (3) months in 2021.

These closures caused a significant decline in bookings for resorts. Respondent 7 narrated that before the pandemic, they would receive between twelve (12) to twenty (20) private bookings a month. Respondents estimated the decrease to be about seventy percent (70%). The same was true for all resorts except for one. Resort D continued to operate throughout the pandemic period. The owner explained that he did not stop operations throughout the lockdowns because he believed that the restrictions imposed by the lockdown were even good for his business. Their clients were limited to those who could afford to rent for smaller groups, so maintenance was easier. Because few resorts were operating in secret, they hosted customers regularly. On most resorts, however, the decline in bookings caused them to change their maintenance habits and employ measures to decrease maintenance costs. Regular costs of maintenance before the pandemic ranged from ten thousand (PhP 10,000.00) to one hundred thousand pesos (PhP 100,000.00) monthly. These include chemicals such as chlorine, antibacterial treatments, and pool filter powders such as dicalite, utility bills, electricity and water bills, employee wages, and business permits and taxes. Resorts are required to reduce the use of treatment chemicals. While Resort E continued to treat its pool daily, it cut down on the use of chlorine. In addition to decreasing the use of chemical treatments, Resort C had to render some of its pools inoperative to decrease maintenance costs. According to the owner of Resort C, not only did they have to reduce the treatment of the pool to two (2) to three (3) times a week from the daily treatments, but they also had to drain five (5) out of the six (6) pools. In addition to the costs of regular maintenance, taxes and other government fees have remained consistent throughout the pandemic. According to Respondent 11, taxes not only remained consistent, but the local government also did not allow them to pay fewer taxes than they did in the previous year. Respondent 15 expressed how he, as president of the resort associations, requested to impose a moratorium on the taxes to be paid by the resorts but that his request was declined.

Resorts also had to reduce operational costs, including labor. Resort C explained that they had to dismiss many of their staff members and that they were able to retain only two members (2). Respondent 2 explained that though Resort B did not dismiss any employees, they reduced their work days. During the interview, Respondent 16 recounted how insecurity in employment also affected her children's education, as she needed to have a stable income to purchase a mobile device and pay for utilities so they could keep up with the online classes. On the other hand, job security was not an issue with two of the resorts interviewed. At Resorts D and E, employees are provided with free housing and utilities on-site. Additionally, the owners of Resort E did not dismiss any employees and continued to pay their existing employees the same wage without delay throughout the pandemic. In addition to their regular wages, they were also given Christmas bonuses and 13th Month Payments. Respondents 12 and 19 narrated how the owners took care of them and their families throughout the pandemic and how they even assisted them in applying for government grants to receive extra cash. In the case of Resort D, the employees were housed on-site. Although the respondents refused to disclose their wages, it can be assumed that wages remained consistent because they continued to accept regular customers throughout the pandemic.

To add more to the challenge of keeping businesses afloat throughout the pandemic, the town of Montalban was declared to be under a state of calamity after the devastation brought by Typhoon Ulysses in November 2020. The typhoon caused severe flooding, and it was reported that approximately fourteen thousand families had to evacuate their own homes to seek temporary shelter (Staff, 2020); Sangguniang Bayan ng Rodriguez, 2020). It was one of the areas hardest hit by the typhoon, and its effects in Montalban were mostly felt in the plains and lowlands of the town, including San Jose, where the respondents were located. According to Respondent 18, Resort C was engulfed by the flood that he was unable to save anything aside from a few clothes. Because most of the pumps and filters were

submerged in thick flood waters, they also had to spend additional money to repair the broken pumps and purchase new ones. Resorts D and E suffered a similar fate, being located a few meters from the river itself. The employees of Resort E narrated how they lost all their belongings and had to buy new clothes because everything they owned was buried in muddy water. According to Respondent 11, the expenses incurred due to the flood did not help the financial instability they experienced throughout the pandemic. According to him, they spent between five hundred thousand (PhP 500,000.00) to one million (PhP 1,000,000.00) just to get the mud out of the resort. They were initially assisted by the Red Cross by lending them bulldozers, but they also had to rent additional bulldozers from the local government and employed ninety-six (96) people to dig the entire resort out of the mud. After all the digging, they also had to repair the pavilions, including damaged roofing.

Despite these challenges, the resorts remained afloat and were able to reopen as soon as the restrictions eased. The economic challenges brought about by the pandemic seemed to be temporary, as respondents have expressed how bookings have returned close to pre-pandemic levels in short periods that they were allowed to open between 2020 and 2022. Respondent 11 even remarked that the short periods that they were able to open allowed them to pay their employees regularly and to even distribute Christmas bonuses. Sustainability, in its simplest definition, involves meeting the needs of the present while also ensuring that the ability of people to meet their own needs in the future is not compromised. Economical sustainability represents a business's physical, financial, and human capital investments and the sustainability of the management and operation of these investments in the long term. Using this definition and gathering information from respondents, it can be deduced that the resorts in Montalban are economically sustainable. As additional evidence of economic sustainability, none of the respondents accepted financial assistance from the government in the form of loans. The managers even expressed that taking out loans was unnecessary to maintain their businesses. The issues experienced in this dimension throughout the pandemic can be easily remedied by allowing resorts in Montalban to reopen. Although slow, the growth of resorts in Montalban remains consistent, as more resorts have opened in Montalban since 2020. New resorts such as Hillside Resort, Merlita's Venue and Private Resort, Villa Jalapa Private Pool, and Id and Che's Resort have only recently opened.

Economic sustainability is the final step in establishing sustainable development. Prioritizing economic sustainability without first establishing environmental and social dimensions creates an imbalance in the system that puts the entire system at risk. Establishing economic sustainability has been a priority in resort-related tourism growth in Montalban since its inception and throughout the pandemic period. Development aimed at economic sustainability may have been seen as necessary to keep the resorts operational after the lockdowns were imposed, as growth remained mostly stagnant mainly because of the imposed lockdowns.

4.2. Challenges in the social dimension

The resorts in Montalban have focused their development on promoting economic sustainability, but this has effectively sacrificed the social and environmental dimensions for the sake of money. In the social dimension, precarious employment remains an ever-present challenge for social sustainability. The social domain involves important elements such as "community, education, health, housing, human rights, and liveability" (Robinson et al., 2019). Sustainability means not only conserving and using natural resources responsibly but also respecting the rights of human beings to live fulfilled lives. The 'people' or social dimension is largely neglected especially in the tourism industry (Vallance, Perkins, & Dixon, 2011) as cited in Robinson et al. (2019), and this remains true in the case of our respondents. According to Robinson et al. (2019), tourism employment is defined as "precarious work" that is "*characterized by employment that is irregular and insecure; part-time/casual, quasi-self-employment, project or fixed-term work, temporary work (often via agencies), work on commission, on-call work, and increasingly a rise in home-based employment, and so-called 'telecommuting'*".

Before the pandemic, employment stability in the resort-related tourism industry was highly dependent on seasonal tourist activities in Montalban. According to Respondent 16, her previous employers in the resort industry regularly dismissed employees during rainy seasons, when customers were scarce. Four

(4) of the seven (7) respondents who discussed their salary with the researcher were part-time/on-call employees who only earned daily rates when the resort hosted customers or when the resorts needed maintenance of the facilities. Assuming the respondents work five (5) regular days a week, the highest daily rate was 400 pesos (PhP 400.00) and the lowest was 100 pesos (PhP 190.00). According to the PSA (2018), the minimum wage rate in Montalban for establishments that do not employ more than ten (10) workers is only three pesos (PHP 283.00). This means that most of the respondents were earning a minimum wage.

Table 5. Respondents' daily/monthly salaries and other benefits

Respondent	Daily Salary	Monthly Salary	Other benefits
1	PHP 400.00	PHP 8,000.00**	n/a
3	PHP 400.00	PHP 8,000.00**	n/a
9	PHP 250.00*	PHP 5,000.00	n/a
12	PHP 190.00*	PHP 3,800.00	Free lodging and utilities; allowance and bonuses
16	PHP 250.00	PHP 5,000.00**	n/a
17	PHP 300.00	PHP 6,000.00**	Free lodging and utilities
19	PHP 250.00*	PHP 5,000.00	Free lodging and utilities; allowance and bonuses

** full-time employee; only the monthly rate was provided by the respondent and the daily rate was computed assuming the respondents worked five regular days a week*
*** part-time / on-call employee; only the daily rate was provided by the respondent and the monthly rate was computed assuming the respondents worked five regular days a week*

According to PSA (2018), a family of five members needs at least seven thousand three-hundred thirty-seven pesos (PhP 7,337.00) to meet the food threshold. To meet basic food and non-food needs, a family of five will need at least ten thousand four hundred eighty-one pesos (PhP 10,481.00) per month. Although there are differences in the additional benefits provided by each resort and those on the lower end of the wage spectrum also provided free lodging and utilities, the total earnings of the respondents remained well below the livable wage. Only two (2) of the respondents earn enough to meet the food threshold, and all of them do not earn enough to meet both food and non-food needs. Employment instability is not a surprise given that the pandemic has caused challenges in employment, especially among Persons of Concern in developing countries such as Nigeria (Muhammed, Adenike, & Salahudeen, 2020), as socio-economic activities ceased throughout the pandemic. However, concerns about Montalban were present even before the restrictions began. Additionally, employers need to ensure that they pay their employees enough to meet both food and non-food needs. Failure to address political, ethical, and social issues related to the sustainability of development causes a domino effect that effectively undermines any success in the economic dimension. Achieving social sustainability did not solely mean paying wages or providing benefits; it involved an equitable "*distribution of resources, services, and opportunities*" (Campbell 1996, as cited in Opp (2017)) to improve quality of life. Therefore, although most of the respondents were paid above the minimum wage in Montalban, sustainability cannot be achieved if they are unable to meet their own and their families basic needs.

4.3. Challenges in the economic dimension

Unlike the economic dimension of sustainability, which can be computed by auditing the assets and liabilities of a business, the sustainability of the environmental dimension cannot be easily computed. In addition to balancing the needs of the present with the ability of future generations to meet their own needs, this also involved considering the people who may be disadvantaged by development and asking

questions such as "What forms of natural capital are affected by our operations?", "Will the natural capital be affected by the planned developments of the business?" and "Are the natural capitals sustainable?" (Elkington 2007). In this section, the perceived extent of the sustainability challenges faced by the resorts was determined.

Groundwater in the Philippines currently supplies less *than 50% of the potable water supply and 85% of the piped water supply in the Philippines*" (BGS, n.d.). In the case of resorts, the groundwater reservoir of Montalban provides water for all of them. In three (3) of the resorts, a *dagdag-bath* system was employed, which involved emptying half of the pool water, replacing it with fresh water from the deep well, and then treating the water with chemicals to kill the remaining bacteria. With the remaining two (2) resorts, the entire pool was emptied and replaced with fresh water from the deep wells. Subsequently, the resorts used a minimal amount of chemicals to disinfect the remaining bacteria in what they perceived to be already clean water. The *dagdag-bawas* practice of the resorts may be economically sustainable because the respondents did not pay water for utilities and used minimal chemicals to treat the water. However, this also raises the question of the allowable extent of the use of natural resources for these purposes and the limited use of groundwater for replenishment.

Unlike arid and semi-arid areas of the world, the tropical climate of the Philippines allows for a quick recharge of groundwater aquifers. This was especially true in the areas where the resorts were located, as water is readily available through the Marikina River Basin. The groundwater reservoir in Montalban is capable of providing 175.58 liters per second (lps) of water (Berkman, 2015). Several factories in Montalban, particularly those located near Wawa Dam, have been using high-capacity pumps, resulting in overdrafts in the water source (Berkman, 2015). The DENR is aware of diminishing groundwater levels and has already issued a ban on water extraction from deep wells in Rizal as early as 2008 (Philstar, 2008). The use of deep wells to fill the resort pools was therefore not only illegal but also unsustainable, as it may lead to groundwater over-drafting if not controlled and monitored properly.

In addition to the threats to the water supply posed by overdrafts, excessive pumping of groundwater has been proven to contribute to abrupt sea level rise, causing flooding. According to the National Water Resources Board [NWRB], excessive groundwater pumping has led to an abrupt rise in sea levels, particularly in the northern parts of Metro Manila "*at a rate of two to nine millimeters per year*" (philstar, 2008). In addition to increasing the risk of flooding, overdrafts are also known to cause land subsidence (lowering of the ground), formation of earth fissures, activation of pre-existing shallow faults, and triggering of microseismic and seismic events (Gambolati & Teatini, 2015). These link groundwater over-extraction to causing human-induced earthquakes (Tiwari, Jha, Kundu, Gahalaut, & Vissa, 2021; Wetzler et al., 2019). Not only does this pose a significant hazard to Montalban, but, according to Wetzler et al. (2019), stress changes extend beyond the aquifer itself making it a possibility for overdrafts to "*induce seismic events at larger distances with magnitudes that are not constrained by the size of the aquifer*." The threat that this poses to Montalban is significant, as it is largely unknown how the seismic events that occur from over-drafting can affect the East and West Valley Faults of the Marikina Valley Fault System in Montalban. Despite the known threats associated with over-drafting from the reservoir, the ban on deep-water drilling, and the illegal use of deep wells, there have been no recent groundwater assessments done to measure the level and quality of the groundwater in Montalban. To date, the DENR through the Mines and Geosciences Bureau [MGB] has only assessed the provinces of Batangas and Laguna since 2019 (MGB Region IV Calabarzon, 2019a; 2019b; 2021). The uninterrupted use of groundwater in pools called into question how this practice may be exhausting the natural capital that the residents of Montalban, as well as nearby provinces and cities, all depend on. Not only did over-drafting endanger the ability of people to continuously access water from the aquifer reservoir, but the associated environmental risks also challenged the ability of residents to live safely and securely, thus making this a significant challenge to sustainability.

Furthermore, adding to the already significant environmental concerns over the use of groundwater is the quality of the water itself and the public health concerns associated with its use. The Marikina River was declared dead in 2004 (Philstar 2004). It was also classified as Class C, which is considered safe

only for the propagation of fish, recreational boating, and industrial water supplies (DENR, 1990). According to Berkman (2015), in the project "Formulation of an Integrated River Basin Management and Development Master Plan for Marikina River Basin," the groundwater supply remains safe for use as "the water from the river itself could be partially filtered as it percolates to the groundwater aquifer." However, the DENR did not consider the groundwater reservoir in Montalban to be a reliable source of water for domestic purposes (Berkman, 2015), which included using water for leisure and recreational purposes. An additional threat to the safety of groundwater resources is the Montalban Solid Waste Disposal Facility, located in Brgy. San Isidro, Montalban. Regardless of the ideal site selection, monitoring systems, and use of the best landfill and leachate collection systems, the danger of leachate infiltration in groundwater reservoirs remains high (Luo et al., 2020; Mukherjee et al., 2015). According to a study conducted in 2012 that investigated the transport of leachate contaminants into the surface and groundwater in Montalban, there were definite indications of leachate contamination from a nearby sanitary landfill. The study "unequivocally identifies[d] leachate as a source of contamination in the surface water and groundwater" '(Castaneda & David, 2012). The same study explained that leachate contamination into the groundwater reservoir occurs during periods of excessive rainfall, such as the flood that the resorts experienced in 2020. This further explains that ingestion and dermal contact are the primary means by which leachate can reach human beings, and both of these are highly likely if not inevitable when customers swim in pools. Exposure to pollutants in leachate leads to public health concerns including carcinogenic effects, acute toxicity, and genotoxicity (Luo et al., 2020).

In addition to the threats posed by groundwater use to the safety and security of residents in Montalban, associated public health concerns also threaten the social and economic dimensions of sustainability. Any health and safety issues related to water quality not only have the potential to harm customers but can also tarnish the reputation that the resorts have spent the last few years building. This happened when sewage contaminated the waters in Boracay in 1997, causing a 70% decline in tourism in the months that followed (Ong et al., 2011). With all of this information in the table, it was in the best interest of the local government, the resort owners, and the local community to assess the quality of the groundwater in Montalban.

5. Conclusion

5.1. Conclusion

Using the systems approach, it is evident that each dimension is interconnected through constant feedback loops that run through them. Owing to the hierarchical nature of the three dimensions, economic issues are effectively isolated. The identified issues in the social dimension were also independent of the pandemic, as these are the result of long-established standards of employment in the tourism industry. On the environmental front, the effect of the pandemic was limited. While problems in the environmental dimension are bound to affect the social and economic dimensions, problems in the economic dimension do not necessarily carry the same breadth of effects. Unfortunately, resort-related tourism growth in Montalban has been dominated by economic factors. However, the focus has been unequal. Instead of establishing an environmental dimension, decisions in the social and environmental sectors are dependent on the economic dimension. Thus, business decisions are made keeping only the short-term return on investment in mind, sacrificing the long-term sustainability of the environmental and social dimensions. This has resulted in issues regarding the groundwater supply level and water quality. The precarious nature of employment in the local tourism sector in Montalban must also be addressed. Resort workers must receive living wages and enjoy the right to secure tenure and humane working conditions. This study recommends the immediate conduct of a formal groundwater level assessment of the reservoir and addressing concerns over the quality and classification of the water that permeates from the Marikina River into the aquifer reservoir. Local government interventions must be undertaken to address the problem of leachate contamination and sealing of illegal deep wells.

When the social and environmental dimensions were prioritized, the tourism-carrying capacity of the environment, as well as the well-being of residents, employees, and the community in general, was given more weight than the return on investment. Thus, tourism growth is sustainable because it maximizes the use of natural resources instead of using them until they are depleted. The promotion of

sustainability in social and environmental dimensions is necessary to ensure the long-term viability of tourism growth in Montalban.

5.2. Limitation

This study focuses only on the sustainability of resort-related tourism in Montalban during the pandemic. Therefore, the results may not fully reflect the sustainability challenges faced by other rural tourism destinations in the Philippines. Mixed method studies using this research as a baseline for evaluating sustainability may be necessary to accurately measure the level of sustainability in rural tourism destinations in the Philippines.

5.3. Suggestion

Based on the findings and limitations of this study, the following recommendations were made. First, there is an immediate need to conduct a formal groundwater level assessment of the reservoir to address environmental and public health concerns related to over-drafting from the reservoir. Local government interventions must be undertaken to address the problem of leachate contamination and sealing of illegal deep wells. Second, the precarious nature of employment in the local tourism sector in Montalban must be addressed. Resort workers must receive living wages and enjoy the right to secure tenure and humane working conditions. Finally, resorts must secure the ability of their workers to live healthy and fulfilled lives.

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