

# The Effects of the Covid-19 Pandemic on Tourist Arrivals and Economic Viability of Sanipaan Marine Park, Island Garden City of Samal, Philippines

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## Abstract

This study examines the COVID-19 pandemic's effect on Sanipaan Marine Sanctuary's tourist arrival and economic viability. A simple t-test was used to analyze the Before-COVID (2018 and 2019) and During-COVID (2020 and 2021) data.

The result shows a significant difference between the "Before" and "During" groups' average values, demonstrating that the COVID-19 pandemic significantly impacted visitor arrivals. The estimated t-statistic of 10.356 shows that visitor arrivals during the pandemic (3353) were considerably lower than before (30507.5), above the crucial value of 4.303 at 0.05.

Additionally, a simple linear regression examined the link between visitor arrivals and entrance fee collection. Tourists (x1) and entrance fee collection are significantly linked (p-value = 0.037). Tourist numbers raise admission fees by 9.3481 units. The R-squared value of 0.868 implies that tourists explain 86.8% of entrance fee volatility. The adjusted R-squared value of 0.811 conservatively estimates the model's fit. The regression model's F-statistic of 15.09 supports its significance (p-value = 0.037), demonstrating that tourist numbers considerably affect entrance fee earnings.

The analysis shows that visitor arrivals account for 87% of entrance fee variation, emphasizing the park's economic dependence on tourism. It demonstrates the COVID-19 pandemic's influence on Sanipaan Marine Park's tourism and business. The 66.89% difference between the 2022 and 2018 figures shows the pandemic's ongoing consequences on visitor arrivals.

These findings provide important insights for policymakers and stakeholders managing and developing Sanipaan Marine Sanctuary, highlighting the need for strategic planning and initiatives to address pandemic challenges and foster a sustainable recovery in tourist arrivals and economic stability.

**Keywords:** Covid-19 pandemic impact, tourist arrivals, economic viability

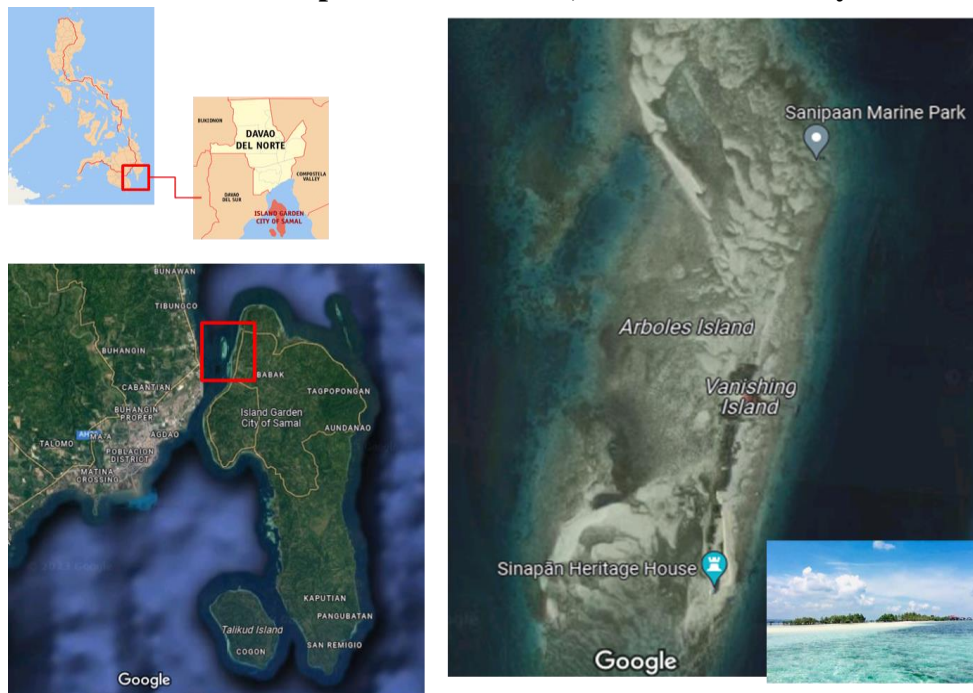
## Chapter 1

### 1.1 Introduction

Samal Island is endowed with rich natural resources and is home to abundant biodiversity and an ecological system. It is also one of the largest and known resort cities in the country due to its pristine waters and stretches of sandy beaches that can be found along the west coast of the island, which makes eco-tourism one of the great contributors to the unprecedented growth of the economy in the city (Labor, n.d.).

Among the island’s several attractions and hidden gems is the Sanipaan Shoal, often known as “the vanishing island.” Half of the 80-hectare Sanipaan Shoal appears as a sand bar at low tide but disappears at high tide. This is located in Barangay Tambo, Island Garden City of Samal. It offers a stunning view underwater and a breathtaking, immaculate vanishing isle. Its rich marine biodiversity makes it a perfect spot for diving, swimming, snorkeling, and other underwater adventures. When the tide recedes and the crystal water is just above your ankle, you can feel the grassy and sandy beach touching your feet, and the corals, reefs, fish, seashells, and starfish are visible to the naked eye.

**Figure 1. Location of the Sanipaan Marine Park, Island Garden City of Samal**



However, due to the COVID-19 pandemic, the United Nations World Tourism Organization (UNWTO, 2020) reports that between January and May 2020, every destination in the world implemented travel restrictions, and 45% entirely or partly closed their borders to tourists, including the Island Garden City of Samal. In March 2020, the island was under lockdown and closed its tourism industry, greatly affecting its tourism sector. This could be seen in the dramatic 72% decrease in tourist arrivals for the first three quarters of 2020 compared to the same period in 2019 when nearly 1.09 million people visited Samal. Investors, resort owners, and local governments are some of the major players that were affected by this fall in tourism (City Tourism and Investment Office, Island Garden City of Samal, 2023).

Thus, tourism activities in “Sanipaan” have come to a halt, which gives it a moment to breathe. The local government of Samal has then continued to conduct activities to preserve and rehabilitate the Sanipaan

Shoal, as so many things remain to be done to restore its beauty and glory fully. This initiative has further supported the rich marine life on the island; mangroves have been planted all over the property, mangrove cleaning and tagging and coastal clean-up were conducted in the area, and the island itself has been designated a protected marine reserve area.

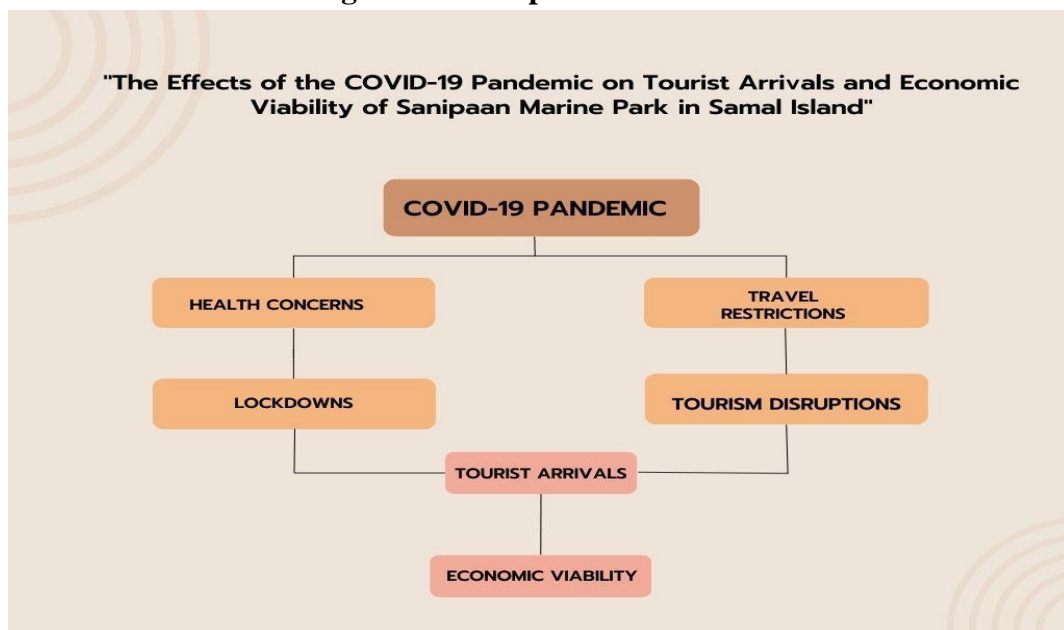
The COVID-19 pandemic has significantly impacted multiple industries, including tourism. The imposition of global travel restrictions and safety protocols aimed at curbing the transmission of the virus has considerably impacted tourist destinations across the globe. The Sanipaan Shoal on Samal Island is a distinguished ecotourism site recognized for its abundant marine biodiversity and remarkable natural aesthetics. Nonetheless, the ramifications of the pandemic on the influx of tourists and the economic conditions of Sanipaan Shoal have yet to be thoroughly investigated. This investigation aims to analyze the impact of the COVID-19 pandemic on the influx of tourists and the financial viability of Sanipaan Shoal.

On the other hand, the daily cases of COVID-19 continued to climb up in the city. Hence, the Information and Technology Division of the City Administrator Office created a monitoring system known as the Information on Tourists and Residents Against COVID-19 System (ITRACS) that uses QR Codes and QR Code Scanners installed on the strategic areas of the island city as well as on every establishment for contact tracing. After a few months and a gradual easing of travel restrictions, it was decided to open up the tourism sector, albeit to a restricted extent. To manage the influx of tourists on the island and fulfill its initial function of contact tracing, ITRACS was incorporated into the resort booking system. The system was given to every accommodation establishment accredited by the City Investment and Tourism Office and was allowed to operate during the pandemic.

Finally, with the decline of tourism on the island, jobs were lost, consequently threatening the city’s sustainable economic growth. Widespread accounts of abrupt changes in the number of people visiting the island severely impact the finances of conservation efforts, the tourism industry, and the livelihoods of individuals who provide labor, commodities, and services to tourists and the tourism industry.

## 1.2 Conceptual Framework

Figure 2. Conceptual Framework



### 1.3 Null Hypothesis

The COVID-19 pandemic had no significant effect on the influx of tourists and the economic viability of Sanipaan Marine Park on Samal Island.

### 1.4 Objectives:

1. Conduct a quantitative and analytical assessment of the decline in tourist footfall at Sanipaan Marine Sanctuary, Samal.
2. Analyze the economic impacts resulting from the decline in tourism in Sanipaan Marine Park, Samal.

### 1.5 Significance of the study

Understanding the effects of the COVID-19 pandemic on Sanipaan Marine Park is crucial for numerous parties, including government agencies, conservation organizations, and stakeholders. Through a comprehensive evaluation of the magnitude of the influence, viable strategies can be formulated and executed to facilitate the recuperation and enduring advancement of Sanipaan Marine Park. Furthermore, the results of this study will contribute to the current corpus of knowledge concerning the socio-economic aftermath of pandemics on ecotourism sites. It will offer valuable insights into approaches for enhancing future resilience and preparedness

## Chapter 2

### Review of Related Literature

The International Federation of Red Cross and Red Crescent Societies classified pandemics such as COVID-19 as natural hazards (Sedddghi, 2020). These events have been exhaustively documented and investigated, yielding crucial insights for developing interventions and policies by governments and partner institutions. The COVID-19 pandemic precipitated a severe global economic recession, which peaked in 2020. During this period, the global economy contracted by 3.36 percent (World Bank, 2022a), while the proportion of people living in extreme poverty rose to 9.4 percent (World Bank, 2022b). In the first quarter of 2020, COVID-19 was first detected in the Philippines; by December 2022, the number of confirmed cases had risen to 4 million, with 66,466 fatalities (WHO, 2022). Tourism is one of the industries most severely affected by the pandemic.

As a tourist destination, the Philippines has breathtaking and picturesque natural sites and attractions. With seven thousand six hundred forty-one (7641) islands and islets based on the latest data, one could have a lot of experiences from ridge to reef.

The pandemic-induced lockdowns restricted mobility and economic activities, severely disrupting the supply- and demand-side economies and displacing the labor supply. Key tourism-related economic indicators experienced especially steep output declines in 2020, with the transport and storage sector experiencing a 30.9% decline and the accommodation and culinary services sector experiencing a 45.5% decline (Biswas, 2021). The COVID-19 pandemic drastically disrupted the marine tourism-based hospitality industry in 2020 and 2021, when all tourism activities were suspended due to government lockdowns. In numerous regions of the Philippines, marine tourism is intricately intertwined with the economies of coastal fishery communities (Maliao et.al, 2023).

One of the most notable cases of lockdown in tourist destinations was the rehabilitation of Boracay in 2018. A study showed that the aggregate economic loss in total output would range from PHP20.8 billion to PHP83.15 billion. In contrast, in terms of income, the loss in compensation would range from PHP 7 billion to PHP 27.9 billion (Reyes et al., 2018). However, in 2019, 1.7 million travelers visited Boracay Island, 50 percent of whom were from abroad, generating nearly PHP 50 billion in tourism revenue (Abad,

n.d), clearly showing that the rehabilitation efforts by the government have ultimately paid off. During the pandemic, the nationwide cessation of all tourism activities initiated a chain reaction across all economic sectors. This tourism disruption reverberated in the coastal fishing communities, with family members losing their jobs and other economic opportunities (Maliao et al., 2023).

As restrictions from the recent pandemic begin to ease, more and more people take a trip to leave the closed fatigue from two two-year “lockdown.” This phenomenon is now called revenge travel. Revenge travel characterizes a recent tourism behavior where individuals travel to escape from the psychological pressure, daily routines, and rules that resulted from the pandemic (Zaman, Raza, Abbasi, Aktan, Farias, 2021). (Zaman, et al, 2021)

In the country, revenge travelers prioritize open areas/spaces to breathe fresh air and enjoy their holidays while considering the social/physical distancing measures mandated at the site. This calls for the managers to determine the tourism carrying capacity of their site and ensure that they would only allow visitors within their total daily visits. The UNWTO defined tourism carrying capacity as “the maximum number of people that may visit a tourist destination at the same time, without causing destruction of the physical, economic and sociocultural environment and on the unacceptable decrease in the quality of visitors’ satisfaction.

Ecotourism is a sustainable form of natural resource-based tourism that focuses primarily on experiencing and learning about nature, and that is ethically managed to be low-impact, non-consumptive, and locally-oriented (control, benefits, and scale)." Ecotourism aids in involving the local community in preserving the ecosystem and biodiversity thereat, which in turn offers the community financial benefits. Ecotourism supports local communities' well-being, preserves biodiversity, calls for tourists and the tourism industry to act responsibly, uses the fewest resources and commercial opportunities possible, and, most importantly, incorporates learning opportunities (Tourism - From Empirical Research Towards Practical Application. (n.d.). InTechOpen, 2016).

In contemporary times, ecotourism plays a significant role in our nation's tourism industry, owing to the abundance of picturesque natural features such as rivers, lakes, beaches, islands, and forests. These items are natural endowments. The development of ecotourism in areas with abundant resources necessitates the implementation of sustainable natural environment management practices. Currently, there exists a limited influx of international tourists who engage in ecotourism and responsible travel to natural regions within the country. Their preference for a vacation is contingent upon its adherence to environmentally sustainable practices. The individuals in question express a preference for engaging with wildlife that is safeguarded by an eco-tourism initiative rather than visiting zoological gardens.

Development activities have the potential to impact natural environments negatively. It is imperative to initiate negotiations between ecotourism experts and local communities to establish a system of checks and balances that can effectively address the potential conflict between urban development and environmental conservation. Raising awareness about ecotourism is critical in effectively implementing the proposed plan. It is of utmost significance to acquaint local communities with the essence and advantages of novel concepts (Tourism - From Empirical Research Towards Practical Application. (n.d.). InTechOpen, 2016).

### Chapter 3

#### 3.1 Methodology

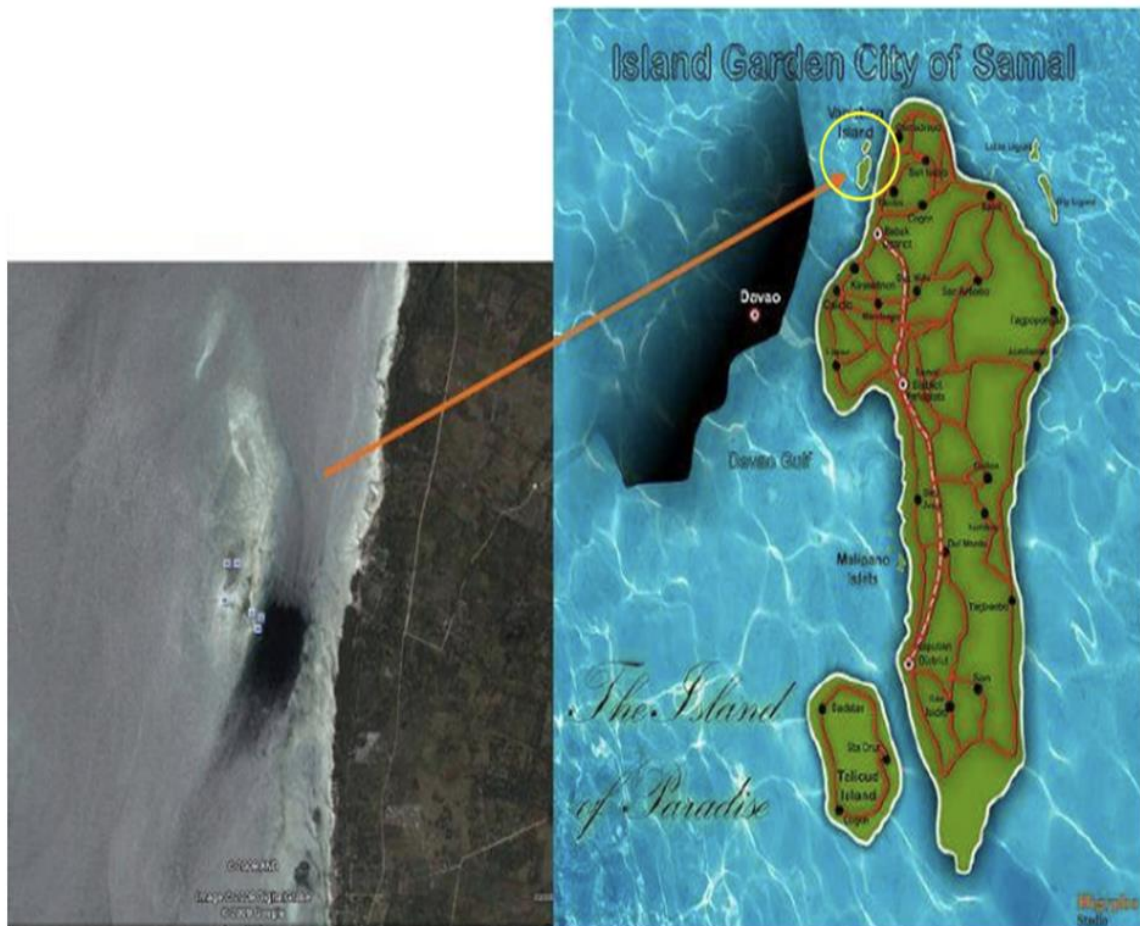
##### 3.1.1 Research Design

The study employs a quantitative approach, using data from Island Garden City of Samal’s City Tourism and Investment Office and City Treasury Office, respectively.

##### 3.2 Scope and Limitations of the Study

The study was conducted in one of the community-based ecotourism destinations in the Island Garden City of Samal, specifically in Sanipaán Marine Park, Vanishing Island, Barangay Tambo, Babak District, Davao del Norte. Sanipaán Marine Park Management Plan of Samal, 2013 – 2017(2013). Shown in Figure 1 is the geographical map of Samal, wherein the Sanipaán Marine Park, Vanishing Island, is emphasized in a circle (Dela Cruz et al., 2020).

**Figure 3. Location of the Sanipaán Marine Park.**



This study is only limited to Sanipaán Marine Park’s tourist arrival and the income it generated from Environmental User Fees and Entrance Fee Collection from 2018 to 2022.

##### 3.3 Data Analysis

Utilize statistical techniques, namely descriptive statistics and simple t-tests, to evaluate quantitative data and compare before-pandemic and after-pandemic data. Linear Regression to see if there is any significant relationship between the tourist arrival and the amount of fee collected in Sanipaán Marine Park.

### 3.4 Ethical Considerations

The City Government of Samal, namely the City Tourism and Investment Office, City Treasury Office, City Environment and Natural Resources Office, and the People’s Organization of Sanipaán Marine Park, allowed the researchers to conduct a study on Sanipaán’s tourist arrival and the economic implications that goes with it.

## Chapter 4

### Data and Analysis

Data gathered from Island Garden City of Samal’s City Tourism and Investment Office and the City Treasury Office showed the following:

**Table 1. Tourist arrival in Vanishing Island, Sanipaán, Tourist Arrival Report 2022**

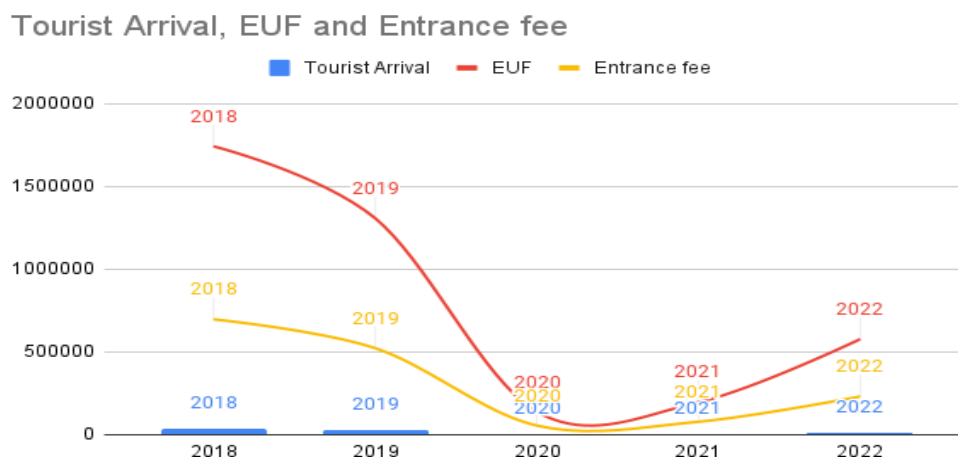
2018	2019	2020	2021	2022	Total
34, 855	26, 160	2,775	3, 931	11, 554	79, 275

**Table 2: Environmental User Fee and Entrance Fee for Sanipaán Marine Park,**

	2018	2019	2020	2021	2022
<b>EUf</b>	974,394	1,923,027	580,540	8,152,232	32,638,119
<b>Entrance Fee</b>	348,552	261,600	55,860	33,432	169,500

Data showed there’s a decline in tourist arrival of 70% during the height of the Covid 19 pandemic. However, it is essential to note that between the years 2018 and 2019, there has been a decline of 24.94% in tourist arrival at Sanipaán Marine Park, which translates to a decrease of 28.51% in entrance collection fees. In the years 2021 and 2022, tourist arrival spiked by 194.17%, which also increased the collection of entrances to 134.13%, coinciding with the Philippines’ national lift on lockdowns (Press, 2022). The lockdowns severely affect the local economy as tourist arrival generates income for the local government through the Environmental User’s Fee and Entrance Fee collection system.

**Figure 4: Line chart showing the tourist arrival, the EUf, and entrance fee collection.**



Based on one-on-one interviews, boatmen who operate under the name Sanipaan Bangkero, a people's organization, lamented that before the pandemic, there were 24 boats transporting tourists from Sanipaan's staging point to the Vanishing Island, Sanipaan Marine Park. One trip would cost 400 pesos, and every boat could ferry five people with a minimum of 2 to 3 daily trips. After the pandemic, this number has been reduced to half, with only 12 boats in operation. The reduced number of boats and boatmen was due to the declining tourist arrival and mandatory vaccination. Some boatmen refused to be vaccinated and gave up on boating livelihood.

## Chapter 5

### 5.1 Results and Discussion

To determine if there is any significant difference in tourist arrivals at Sanipaan Marine Sanctuary before the pandemic and during the pandemic, we grouped the data into pre-covid (2018 and 2019) and during COVID-19 (2020 and 2021). The researchers analyzed the data set using a simple t-test.

The t-test analysis showed a notable difference between the average values of the "Before" and "During" groups. This indicates that the tourist arrival under investigation has been significantly affected by the COVID-19 pandemic. The calculated t-statistic of 10.356 indicates that the variable's mean value during the pandemic (3353) is significantly lower than the mean value before the pandemic (30507.5). This difference greatly exceeds the critical value of 4.303 at a significance level of 0.05.

The number of tourist arrivals and the amount collected for entrance fees was analyzed using simple linear regression. The number of tourists who visit ( $x_1$ ) has a value of 9.3481. It is statistically significant (compared to the p-value = 0.037), which means that there is a link between the number of tourists and the amount of money collected in entrance fees. For every unit rise in the number of tourists, the expected amount of entry fees will go up by 9.3481 units. R-squared (0.868) shows that the number of tourists can explain about 86.8% of the difference in the amount of entrance fees collected. This shows that the two factors are linked in a significant way. Adjusted R-squared (0.811) looks at the number of factors and the size of the sample to give a more modest estimate of how well the model fits. The F-statistic (15.09) tests show the general importance of the model. The whole regression model seems statistically significant based on the p-value (0.037). So, we can say that the number of tourists greatly affects how much money the entrance fee makes.

Based on the analysis, the park's entrance fee tends to increase by about 9.35 units for every extra tourist. This link is statistically significant, meaning it's not just a coincidence. The research also shows that the number of tourists explains a big chunk (about 87%) of the difference in the amount of money collected in entrance fees. This means that the number of tourists arriving is a big part of how much money the park makes from entrance fees.

The findings suggest that the number of tourist arrivals has changed significantly due to the COVID-19 pandemic. It provides evidence to substantiate the notion that the pandemic has had a discernible effect on the arrivals of tourists in Sanipaan Marine Park and its economy. However, when comparing data from 2018 to that of the most recent, which is 2022, it is notable to see that there's still a 66.89% difference.

### 5.2 Limitations and suggestions for future research

This study is only limited to Sanipaan Marine Park's tourist arrival and the income it generates over the five-year period from 2018 to 2022. Data gathering was time constrained. It would have been more thorough if there was a comparison between Sanipaan Marine Park's tourist arrival and the rest of Samal



Island.

Therefore, based on the findings, the global pandemic Covid-19 had indeed significantly impacted tourist arrival and the economic viability of Sanipaan Marine Park. The findings provide evidence to support the hypothesis that the pandemic has had a discernible impact on the tourist arrival and economic viability of Sanipaan Marine Park. The data obtained from pre-pandemic, during the pandemic, and after showed a remarkable difference. It is still too early to say that Sanipaan Marine Park's tourism activity has fully recovered. Another year or so of close monitoring, including the underlying issues associated with tourist arrival, would give a clearer picture.

The ITRACS is very significant in monitoring people's movement throughout the island. It could also be used to predict a future influx of tourists and how this could be handled more effectively, like ensuring that the island's natural beauty would still be preserved while taking most advantage from the visiting tourists.

Sustainable management of the natural environment is necessary to develop ecotourism. Negotiations are needed between experts on ecotourism and local communities to establish checks and balances between urban development and environmental conservation. The promotion of ecotourism awareness is crucial to successfully developing the plan. Introducing the nature and benefits of the new ideas to local communities is important.

## CHAPTER 6

### 6.1 Recommendations

By actively incorporating the local community in the conservation and preservation of the tourism area, it would greatly benefit the tourism industry of the island and the community at large. This can be done through Information and Education Campaign to educate the local community on the importance of mangroves and the conservation of the area for sustainable tourism. One evident issue that persisted even before Samal Island became an established city, is the lack of awareness of the significance of mangroves which is present in Sanipaan Marine Park. The local populace does not know enough about these species' positive impacts on the environment, ecological worth, and economic value. In addition to the locals' influence, the community's participation in managing Sanipaan Marine Park may be the key to the area's long-term viability.

The pandemic poses an unprecedented crisis in the ecotourism industry on the island. Thus, the local government must consider the future of Samal tourism in case the same crisis happens again. Our experience with COVID-19 shows us the importance of resilience to ensure the long-term viability of the tourist areas on the island. In the context of tourism, resilience refers to preserving the well-being of tourists, residents, and employees and enhancing the economic flexibility of the community.

To build a sustainable and risk-resilient tourism industry, the government must start reconsidering tourism for the future. For instance, allotting an emergency fund or, if there is an existing emergency fund, extending the fund's value to avoid the economic crisis in 2020 brought about by COVID-19. Moreover, the government should provide the local residents with other means of livelihood to allow them to fend for themselves and their families in these trying times.

### 6.2 Conclusion

This study examined how the COVID-19 pandemic affected tourism at Sanipaan Marine Park. The results have shed important light on the major effects of the pandemic on the tourism sector and the marine park's

financial viability.

The null hypothesis, which stated that the COVID-19 pandemic had no substantial impact on tourist numbers and the financial stability of Sanipaan Marine Park, was clearly refuted through careful data analysis and interpretation. The empirical data in this study unmistakably shows that the pandemic has had a significant impact on the two topics under examination.

When compared to pre-pandemic levels, the data showed a sharp fall in tourist arrivals during the pandemic. Restrictions on travel, health issues, and the general disruption of global tourist patterns caused this downturn. The decline immediately influenced Sanipaan Marine Park's financial stability because it depends primarily on tourism-related revenue sources.

The financial investigation showed that the marine park's revenue during the pandemic decreased significantly, further demonstrating the rejection of the null hypothesis. The park's operations, upkeep, and potential growth are all significantly impacted by income reduction.

Recognizing the difficulties the Sanipaan Marine Park and the larger tourism sector are now experiencing is crucial. The results of this study highlight the necessity of strategic planning, adaptability, and resilience to deal with such crises and guarantee the long-term viability of tourism-related endeavors.

The findings point to the pandemic's harmful effects. Still, they also highlight potential paths for recovery and renewal and give nature time to breathe and rehabilitate independently. It also highlighted how the pandemic directly affected the local community, which depended on ecotourism for livelihood. The study emphasizes the need to implement efficient marketing plans, encourage domestic travel, and investigate other revenue sources. To restore tourist trust and lessen interruptions in the future, it also underlines the importance of improving health and safety procedures.

The results of this study should be a useful tool for policymakers, the tourism sector, and the local stakeholders of Sanipaan Marine Park as they develop plans and initiatives to address the COVID-19 pandemic's challenges and promote a resilient and sustainable future.

Overall, this study has advanced our knowledge of how the COVID-19 pandemic affects visitor numbers and Sanipaan Marine Park's economic sustainability. Rejecting the null hypothesis has given stakeholders concrete proof of the pandemic's major effects and urged them to take proactive actions to safeguard the recovery and long-term viability of the marine park and the larger Samal Island tourism sector.

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