



Sustainable Ecotourism: The Case of the Riverine Communities in Capiz, Philippines

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Abstract

The Capizenos had been firmly fighting the pandemic for almost two years. The province's economy and the people's livelihood had drastically fallen as the virus hindered the logistics, sales, and production efforts of the region. Capiz State University implemented the RISE Capiz (Riverine Improvement towards a Sustainable Ecotourism in Roxas City, Capiz) Program to address the gaps, challenges, and needs of the riverine communities within Roxas City, Capiz, Philippines. It aimed to establish a sustainable ecotourism industry in the riverine communities. This study involved a mixed-methods approach, combining qualitative and quantitative methodologies. The qualitative component utilized a citizen-centric community-based participatory action research (CBPAR) approach, ensuring river tour members' active participation in the research process. The results indicate that the trainings were well received and have produced tangible outcomes in terms of increased income and improved livelihoods. The implementation of the acquired knowledge and skills has not only benefited the riverine communities, but also played a role in preserving the riverine communities. It is the hope that the impact of these trainings will be long-lasting and continue to provide benefits to the riverine communities in the future. The utilization of social media pages, as a tool for promoting RISE Capiz's Palina and Cadimahan river tour operators and their offerings, was found to be an effective strategy.

Keywords: livelihood, Sustainable Ecotourism, qualitative and quantitative methodologies, (CBPAR) approach, riverine communities.

Introduction

Many people and businesses have been affected since the start of the pandemic. The new realities of momentary unemployment, children home-schooling, working from home, and the absence of physical contact with colleagues, friends, and sometimes even family members will take time to get used to. Adapting to these lifestyle changes and the fear of contracting the virus is challenging for all of us. The Capizenos had been firmly fighting the pandemic for almost two years. The province's

economy and the people's livelihood had drastically fallen as the virus hindered the logistics, sales, and production efforts of the region. According to the Provincial Tourism and Cultural Affairs Office (2022), 1.4M tourists have been to Capiz, Philippines, in the past three years. In 2019, there were 318,480 (15% increase in 2018) local and international tourists that visited Capiz either to stay and explore the province, or go to other destinations in Panay Island. There is a need for the prov-

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ince to keep our tourist stay and explore our place more rather than being just an entry point to other provinces in Panay Island. With these concerns in mind, CAPSU, headed by its University President, Dr. Editha C. Alfon and the RDE Office, led by its Vice President, Dr. Efren L. Linan, proposed a five-year project plan entitled RISE Capiz (Riverine Improvement towards a Sustainable Ecotourism in Roxas City, Capiz) to address the gaps, challenges, and needs of the riverine communities within Roxas City, Capiz, Philippines. The RISE Capiz project aims to nurture three riverine communities. Unfortunately, due to territorial waters, boundary restrictions, logistic difficulties, rapid changes in tides, and many other factors, the researchers were limited to focusing only on two riverine communities as beneficiaries, namely: the Palina Greenbelt Eco-Park at Brgy. Cagay and the Cadimahan River Tour at Brgy. Lawis Bay-Bay Roxas City.

Statement of the Problem

This study aims to establish a sustainable ecotourism industry in the riverine communities of Roxas City, Capiz, Philippines. Specifically, the study sought to answer the following objectives.

1. Evaluate the effectiveness of training programs conducted and identify areas for improvement.
2. Assess the effectiveness of the river tour operators' current marketing and promotional activities.
3. Determine the economic impact of ecotourism activities on the communities, including income generation, employment opportunities, and river tour economics.

Research Design

This study involved a mixed-methods approach, combining qualitative and quantitative methodologies. The qualitative component utilized a citizen-centric community-based participatory action research (CBPAR) approach, ensuring river tour members' active participation in the research process. This approach ensured that the perspectives and experiences of the riverine communities were central to the study. The quantitative component used a descriptive method to gather numerical data to analyze the research objectives comprehensively.

Research Instrument

The qualitative component involved conducting in-depth interviews and focus group discussions (FGDs) with key stakeholders, including river tour operators. During these interviews and FGDs, semi-structured interview guides were employed to delve into the effectiveness of previous training programs, evaluate ongoing marketing and promotional activities, and comprehend how ecotourism activities impact the community economically. In addition, site visits were undertaken to capture firsthand observations and experiences, which were then recorded in observation and field notes. The river tour operators were surveyed for the quantitative component. The questionnaires were formulated and validated to acquire quantitative data about the efficacy of prior training initiatives, existing marketing, and promotional campaigns, and the economic impacts of the ecotourism on the surrounding community. The reach, engagement, and impact of the river tour operators' online marketing efforts were measured using social media analytics tools like Facebook Page Insights to collect quantitative data.

Data Collection

Data collection for this study was conducted through primary and secondary sources. The primary data was gathered through interviews, focus group discussions (FGDs), surveys, and direct observations. With the participant's consent, the interviews and FGDs were audio-recorded, and later transcriptions of these recordings were analyzed. Survey distribution methods varied based on participant availability and preferences, with options including both in-person and online administration. Secondary data from entities like the Department of Tourism comprised statistics on earnings generated by eco-tourist ventures and visitor counts in that locality.

Respondents of the Study

The study involved multiple categories of respondents to ensure a comprehensive understanding of the ecotourism industry in the riverine communities of Roxas City, Capiz. The inclusion criteria for respondents who: a) active members of the Palina and Cadimahan river tour operators for the last past (5) five years; (b) are fisherfolks and residents of Palina and Cadimahan, Roxas City; and (c) fit

the characteristic criteria as determined through researchers' professional judgment and the objective opinions of the researchers' colleagues.

Data Analysis Procedure

The data analysis procedure for this study involved a systematic approach to analyze both qualitative and quantitative data. The qualitative data from interviews, FGDs, and observations underwent thematic analysis. It required transcribing and organizing the interview and FGD data while identifying common themes, patterns, and categories. Subsequently, an analysis was performed on the coded data to uncover valuable insights regarding the effectiveness of previous training programs, present marketing activities, and the economic implications associated with ecotourism in the riverine communities. The presentation of the themes and findings involved incorporating narratives, quotes, and supporting evidence obtained from the data. The collected quantitative data from surveys and social media analytics underwent descriptive statistical analysis. Using a statistical software program, frequencies, percentages, and averages were derived from the entered survey data to provide a summary. The analysis offered a numerical comprehension of the efficiency of past training programs, ongoing marketing and promotional efforts, and the financial influence of ecotourism on the community. Social media analytics data were also analyzed to assess the reach, engagement, and impact of the river tour operators' online marketing efforts. The findings obtained from the quantitative analysis were visually represented through tables, charts, and graphs. Comparing and integrating findings from both qualitative and quantitative data sources was done to perform data triangulation, ensuring the integrity and rigour of the data analysis. It provided for a detailed and interconnected exploration of the research aims.

Results and Discussion

Training Conducted under the RISE Capiz R&D Program

Table 1 provides a comprehensive overview of the trainings that were conducted as part of the RISE Capiz R&D Program for the riverine communities in Roxas City, Capiz. The trainings were de-

signed to promote sustainable practices and improve the livelihoods of the riverine communities. The data encompasses various aspects of each training, including the number of participants, any animals or materials that were dispersed, any mortality rates, and financial outcomes such as sales. This information is important in evaluating the effectiveness of the trainings and the positive impact to the riverine communities. The RISE Capiz R&D program recently conducted a series of trainings aimed at providing support and knowledge to the riverine communities in the riverine communities. This report provides a summary of the trainings that were conducted and their outcomes. Training 1: Darag Native Chicken Production. The training was conducted on January 10th and February 17th, 2022 and was attended by 10 people in Palina and 17 people in Cadimahan. The training aimed to educate the attendees on the proper methods of raising Darag native chickens. A total of 50 chickens were dispersed in Palina and 85 chickens were dispersed in Cadimahan. However, there were 9 mortalities among the chickens. The attendees were able to incubate 320 eggs in Palina and 115 eggs in Cadimahan. Out of these, 245 Darag native chickens were raised in Palina and 75 were raised in Cadimahan. The attendees were able to sell 4 heads of Darag native chickens for 1000 pesos. Training 2: Solid Waste Management. The training was conducted on January 25 and 31, 2022 and was attended by 50 people. The goal of the training was to educate the attendees on proper waste management techniques that they can implement in the riverine communities. Training 3: Screenhouse and Urban Gardening. The training was conducted on March 9 and 10, 2022 and was attended by 50 people. The goal of the training was to educate the attendees on the construction and management of screenhouses and urban gardens for the sustainability of the infrastructure. A variety of seeds, such as okra, eggplant, tomato, pipino, upo, squash, etc., were dispersed among the attendees. Training 4: Efficient Microorganism (EM) Concentration and Soil Amendments. The training was conducted on April 6 and 7, 2022 and was attended by 50 people. The goal of the training was to educate the attendees on the production and

Title of Trainings Conducted	No. of Beneficiaries / Attendees	No. of Dispersed Animals	No. of Mortality	Amount of Sales
Darag Native Chicken Production for the Riverine Communities of Roxas City (January 10 and February 17, 2022)	Palina: 10 Cadimahan: 17	Palina: 50 Cadimahan: 85	9 Darag Chicken	Palina: 320 eggs incubated 245 DNC were raised Sold: 4 heads of DNC worth 1000 pesos Cadimahan: 115 eggs incubated 75 DNC were raised
Solid Waste Management Training for the Riverine Communities of Roxas City (January 25 and 31, 2022)	50	-	-	-
Training on Screenhouse and Urban Gardening for the Riverine Communities (March 9-10, 2022)	50	Dispersed seeds like okra, eggplant, tomato, pipino, upo, squash, etc.,	-	-
Training on Effective Microorganism Concoction and Soil Ameliorants for the Riverine Communities (April 6-7, 2022)	50	Dispersed seedling trays, seedling pots, and carbonized rice hull maker	-	-
Training on Aquamarine Production for the Riverine Communities (July 18-19, 2022)	50	10,000 pcs bangus fingerlings 300 pcs 7 inches lapu-lapu	3200 pcs Bangus fingerlings 50 pcs Lapu-lapu	Target harvest schedule for Bangus is on February, 2023; while the Lapu-lapu will be harvested after 8 months of fingerling planting
Training on the Sustainability of the Floating Greenhouse and Aquademofarm	50	Dispersed seedlings, bokashi, drums for fertilizer, sprinklers, and seeds for planting	-	Used for cooking: 2pcs of squash, 1 kg of eggplant, 1kg of spring beans, 1 1/2 kg. of tomatoes, 3kg of cucumber, 2 bundles of pechay, malabar spinach Income: P2000.00

Table 1. Summary of Trainings conducted under the RISE Capiz R&D Program to the Riverine Communities in Roxas City, Capiz

application of Efficient Microorganisms (EM) as a soil amendment. Seedling trays, seedling pots, and a carbonized rice hull maker were dispersed among the attendees. No mortalities or sales were involved in this training. Training 5: Aquamarine Production. The training was conducted on July 18 and 19, 2022 and was attended by 50 people. The goal of the training was to educate the attendees on the proper methods of aquamarine production, including the raising of bangus fingerlings and lapu-lapu. A total of 10,000 bangus fingerlings and 300 7-inch lapu-lapu were dispersed among the attendees. However, 3200 bangus fingerlings and 50 lapu-lapu had mortalities. The target harvest schedule for the bangus is on February 2023, while the lapu-lapu will be harvested after 8 months of fingerling planting. Training 6: Sustainability of floating greenhouse and aquademofarm. The training was conducted and attended by 50 people. The goal of the training was to educate the attendees on the sustainability of floating greenhouses and aquademofarms, including the use of bokashi, drums for fertilizer, sprinklers, and seeds for planting. Seedlings and other materials were dispersed among the attendees. The attendees were able to use 2 squash, 1 kg of eggplant, 1 kg of spring beans, 1.5 kg of tomatoes, 3 kg of cucumber, 2 bundles of pechay, and malabar spinach for cooking and generate an income of 2000 pesos. For the aquamarine demo-farm on bangus production, the beneficiaries had harvested the bangus last April 12, 2023. The beneficiaries had gained a net income of P 77,220.40

To achieve this goal, it is important to understand the current landscape of social media usage and its impact on businesses and industries. The widespread accessibility and usage of social media platforms such as Facebook, Twitter, YouTube, and Instagram have made it a crucial tool for river tour operators to reach and engage with their target audience. In the case of RISE Capiz, the creation of social media pages specifically for Palina and Cadimahan river tour operators allowed us to effectively promote and market the services to a broader audience. The page served as a platform to showcase the beautiful and unique features of the rivers, as well as the delicious and authentic local cuisine offered by the tour operators. To maximize the reach and engagement of the page, a variety of strategies were implemented. High-quality, visually appealing photos, and videos were regularly posted to attract and retain the attention of potential customers. Additionally, information and updates on upcoming events and promotions were consistently shared to keep followers informed and interested. The page also utilized social media-engaging organic content capabilities, such as targeting the interactive activities of Facebook users through analytics, to reach a larger audience beyond just current followers. This allowed RISE Capiz to expand its reach and attract potential customers who may not have otherwise been aware of the river tour operators and services. The social media pages also served as a means

No. of Kilos Harvested (Bangus Production)	Total Expenditures	Total Gross Income	Total Net Income
1,628	P272,733.00	P349,953.40	P77, 220.40

RISE Capiz’ Social Media Pages

RISE Capiz’s social media pages are a new initiatives that aim to promote sustainable ecotourism in the Palina and Cadimahan riverine communities for their targeted audiences. With the increasing popularity of social media, RISE Capiz saw an opportunity to create a platform that would showcase the beauty, cultural significance, and services of these river tour operators while also providing an educational experience for visitors.

for customers to leave reviews and provide feedback on their experiences with the river tour operators. This not only helped to improve overall customer satisfaction but also helped to attract new customers through positive word of mouth. The creation and utilization of social media pages for the promotion of Palina and Cadimahan river tour operators in terms of food and other services have proven to be a highly effective strategy. It has allowed them to reach and engage

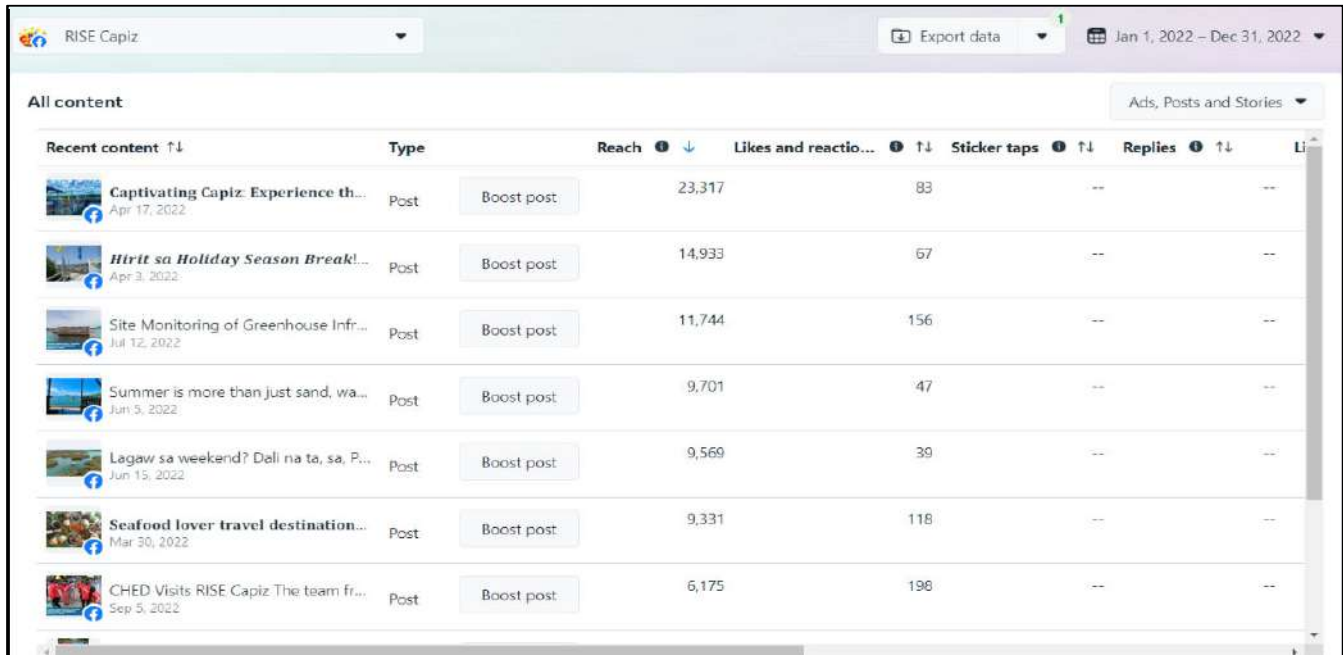


Figure 1. Social media analytics of Palina and Cadimahan river tours by popular posts and interests for the year of 2022.

with a larger audience, expand their customer base, and improve overall customer satisfaction. The social media analytics for river tour operators revealed that posts on recreational and vacation opportunities at the riverine community are among the most popular among readers. The top performing post, titled "Cadimah River Tour," reached a total of 23,317 individuals and highlighted the park's swimming and fishing offerings. The second highest performing post, "Summer

Activities at Palina Greenbelt Ecopark," reached 14,933 individuals and emphasized the diverse range of activities available during the summer season. Additionally, "Site Monitoring of Greenhouse Infrastructure for Riverine Communities in Palina Greenbelt Ecopark" reached 11,744 individuals and stressed the efforts to improve and sustain ecotourism in the area. The fourth and fifth highest-performing posts, both discussing vacation opportunities at Palina

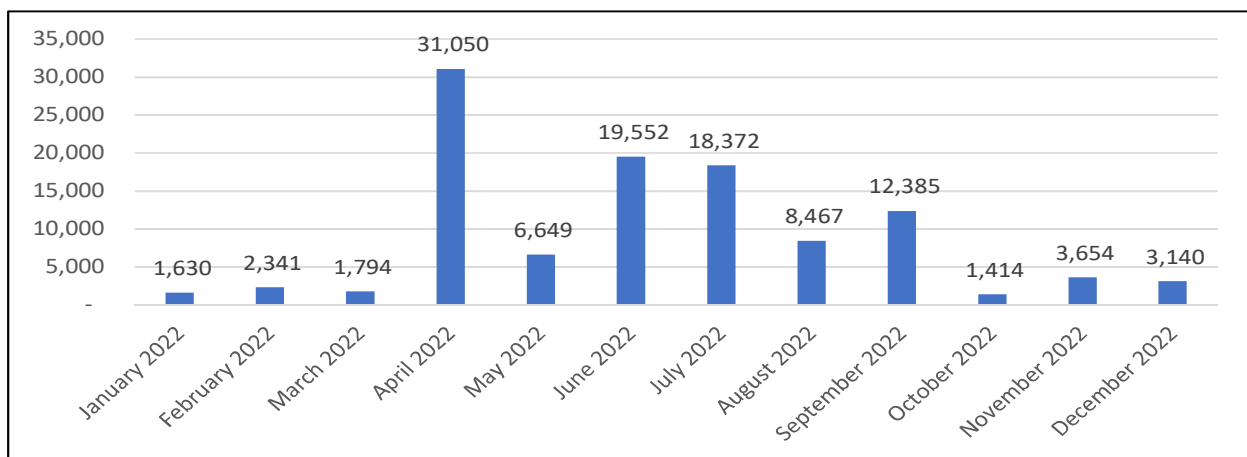


Figure 2. Monthly reach of combined social media pages (Facebook, Twitter, Youtube, & Instagram) of river tour operators for the year 2022.

Greenbelt Ecopark, reached 9,701 and 9,569 individuals, respectively. These posts emphasized the picturesque scenery and various recreational activities available at the park, such as sailing and relaxation. Overall, these analytics indicate a strong interest in recreational and vacation opportunities at Palina Greenbelt Ecopark among social media users. The data provided illustrates fluctuations in the page reach metric for the year 2022. There was a total of 110,448 reach gained by the social media pages of RISE Capiz. The highest reach recorded was in April with 31,050, while the lowest reach was recorded in October with 1,414. A general trend of decreasing reach can be observed from April to October, followed by a slight increase in November and December. However, it is important to note that several months exhibit relatively large differences in reach (April and May, June and July, and September and October). The data shows that the social media pages for the river tour operators is primarily being promoted and viewed by the Filipinos with 95.3% or 105,256.94 reaches. The next largest international audience is from UAE with 0.8% or 883.58 reach, followed by Saudi Arabia with 0.6% or 662.69 audience reach. Singapore has the lowest audience reach with 0.1% or 110.49. If the data will be broken down in the Philippine contexts, it revealed that most of the audience reach came

from the residents of Roxas City, as it makes up 37.4% or (41,307.6 reach) of the total audience. The next largest audience is from Mambusao, making up 7.0% (7,731.36 reach) of the total. The cities of Iloilo, Pontevedra, and Quezon City also have a significant portion of the audience at 6.8% (7,510.46 reach), 5.0% (5,522.4 reach), and 2.5% (2,761.2 reach) respectively. This suggests that the promotion of the River Tour is most effective in Roxas City and nearby cities and municipalities. However, it is worth noting that the municipalities of Sigma, President Roxas, Dumarao, and Jamindan have very low audience percentages of 1.8%, 1.7%, 1.3%, and 1.3%, respectively. Further, the data imply that the international audience has viewed the social media pages of the RISE Capiz as it shows the number of tourists both local and international who have visited and availed the tourism services of the Roxas City River Tour Operators. The monthly reach of the combined social media pages of river tour operators in Roxas City for the year 2022 correlates with the number of visitors to the Palina Greenbelt Ecopark and Cadimahan River Tour. The highest reach was recorded in April, which coincides with the highest number of visitors in Palina and Cadimahan. However, it is important to note that there were external factors, such as the presence of Paralytic Shellfish Poison (PSP) or toxic red tide and

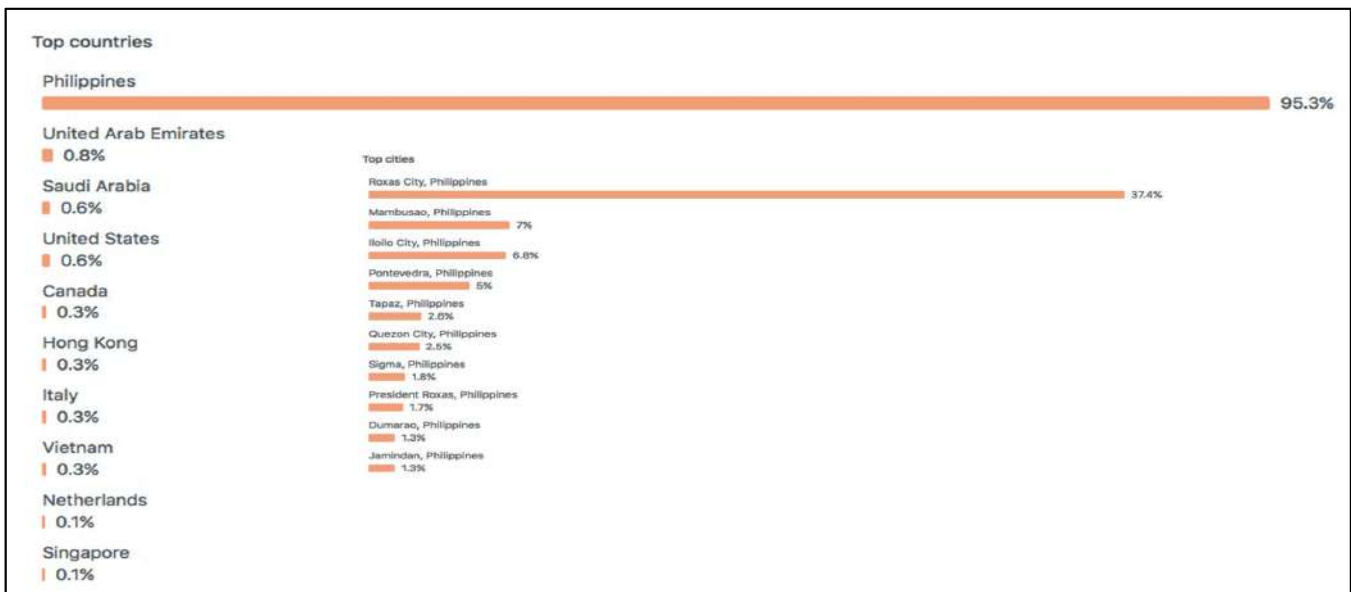


Figure 3. Audience breakdown of combined social media pages (Facebook, Twitter, Youtube, & Instagram) for river tour operators by top cities and countries for the year 2022.

severe weather conditions, that likely contributed to the decrease in visitors during certain months. These factors deterred tourists from visiting the area for river tours, resulting in a decrease in river tour rental services. Overall, it is clear that the social media reach of river tour operators plays a significant role in attracting visitors to the area, but it should be considered alongside external factors that can impact the industry. The social media also received inquiries from the targeted audience on booking and availing the services of the river tour operators. In analyzing the data, it was found that the utilization of social media pages led to a significant increase in website traffic and customer engagement. It also helped to expand the customer base and improve overall customer satisfaction.

Comparative Analysis of Data on Tourists Who Visited the River Tourism Industries in Capiz

The number of visitors to the Palina Greenbelt Ecopark and Cadimahan river tour industry in Roxas City, Capiz has fluctuated over the past six years with the highest number of visitors recorded in 2018 for Palina and Cadimahan. However, there is a significant drop in visitors is seen in 2020, likely due to the Covid-19 pandemic outbreak.

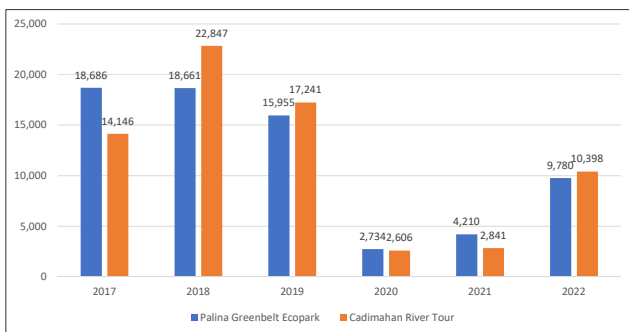


Figure 4. Summary on the Annual Data on Visitors' Arrival to Cadimahan River Tour and Palina Greenbelt Ecopark (2017-2021)

The data also shows a recovery from the pandemic effects in 2021 and 2022, it's worth mentioning that this recovery could be attributed to the implementation of the RISE Capiz Program and the reopening of food establishments under GCQ at up to 30% capacity according to memorandum circular

no.20-57 series of 2022, which may have improved accessibility and comfort for visitors (DTI, 2022).

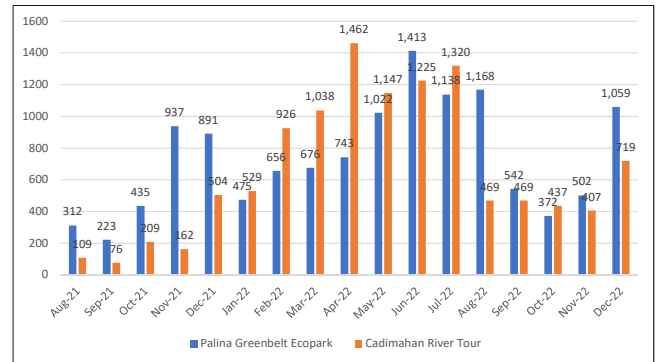


Figure 5. No. of Visitors in the Palina Greenbelt Ecopark and Cadimahan River Tour from the start of the implementation of the RISE Capiz Program (August 2021-December 2022)

There is a general upward trend in the number of visitors in the river tour industry in Roxas City for both Palina and Cadimahan, with a few fluctuations. The number of visitors in Palina increases from 312 in August 2021 to 1,059 in December 2022. The number of visitors in Cadimahan increased from 109 in August 2021 to 719 in December 2022. It appears that the main cause of the decrease in visitors to the river tour industry in Roxas City during August, September, October, and November 2022 was the presence of Paralytic Shellfish Poison (PSP) or toxic red tide in the local waters, as reported in Shellfish Bulletin No. 19 series of 2022. The presence of toxic red tide likely had an impact on food services for the river tour operators, especially the shellfish, as the toxic red tide can make seafood inedible and unsafe to consume (BFAR, 2022). The tropical cyclones and weather disturbances, such as heavy rainfall and the Intertropical Convergence Zone (ITCZ), also likely contributed to the low number of visitors during these months as these severe weather conditions and PSP warnings likely deterred tourists from visiting the area for river tours, resulting in a decrease in river tour rental services (Roxas City DRRMO, 2022).

Income Generated by the River Tour Operators under the implementation of the RISE Capiz R&D Program

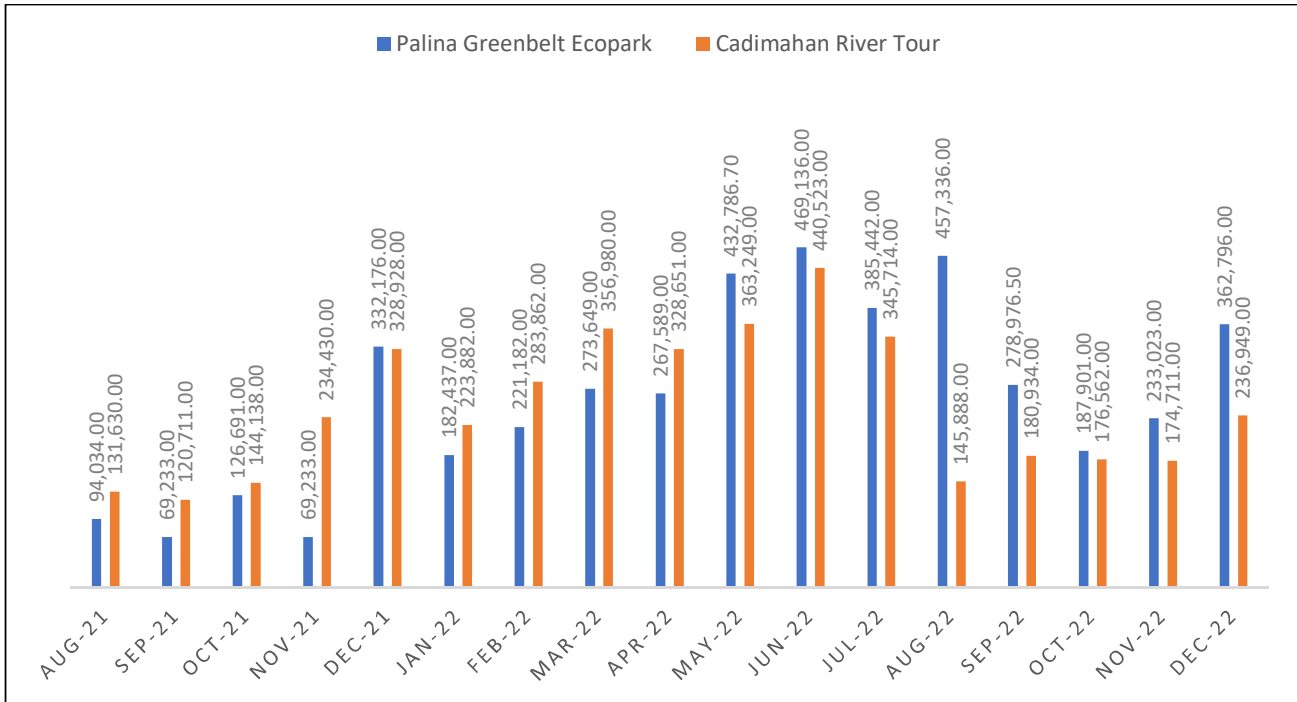


Figure 6. Income Generated by the River Tour Operators from the start of the RISE Capiz Program Implementation (August 2021 - December 2022)

The Palina Greenbelt Ecopark generated a total income of Php 4,443,621.20 while Cadimahan generated a total income of Php 4,217,742.00 from the start of the RISE Capiz Program implementation on August 2021 to December 2022. The highest income generated by Palina was observed in June 2022- Php 469,136.00 while the highest income generated by Cadimahan was observed in June 2022, with a value of Php 440,523.00. The lowest income generated by Palina was observed in September 2021, with a value of Php 69,233.00, while the lowest income generated by Cadimahan was observed in September 2021, with a value of Php 120,711.00. The data indicates that the income generated by both operators varies month to month, with some months generating higher income and some generating lower income. However, the total income generated by both operators is relatively close, with Palina having a slightly higher total income than Cadimahan. The data also shows that there is a steady increase in income for both operators from August 2021 to June 2022, with a slight decrease of income in August 2022 (Roxas City Tourism, 2022).

Conclusions and Recommendations

The RISE Capiz Research and Development Program was successful in delivering various training sessions in the riverine communities of Roxas City in the province of Capiz, Philippines. The general objective of the program was to establish a sustainable ecotourism industry in the riverine communities of Roxas City, Capiz. The results indicate that the trainings were well received and have produced tangible outcomes in terms of increased income and improved livelihoods. The implementation of the acquired knowledge and skills has not only benefited the riverine communities, but also played a role in preserving the riverine communities. It is the hope that the impact of these trainings will be long-lasting and continue to provide benefits to the riverine communities in the future. The utilization of social media pages as a tool for promoting RISE Capiz’s Palina and Cadimahan River tour operators and their offerings was found to be an effective strategy. It is recommended to continue the maintenance and utilization of the social media pages as a valuable tool for the promotion and growth of the river tour operator operators.

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