

Environmentally Conscious Tourism: Lessons from the Successful Rehabilitation of Boracay Island

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Abstract. This study aimed to explore the lessons learned from the successful rehabilitation of Boracay Island. The Boracay rehabilitation is a significant government intervention designed to address the environmental challenges posed by tourism. The study focuses on understanding the community's perspective on environmentally-conscious tourism, evaluating the effectiveness of Boracay's rehabilitation strategies, and assessing the overall outcomes of the rehabilitation efforts. Employing a qualitative design through a case study method, information was gathered from twelve participants who were purposively chosen based on their direct involvement, expertise, experience, and roles in the Boracay rehabilitation. Through thematic analysis, key themes were identified that contributed to the understanding of environmentally-conscious tourism and rehabilitation strategies on the island. The findings reveal a positive behavioral change among participants toward environmental consciousness and practices due to their experiences with the Boracay rehabilitation. Strict regulatory measures and collaborative efforts among government entities, businesses, and residents have driven this behavioral shift. The study also found that effective rehabilitation strategies have led to environmental restoration, infrastructure improvement, and heightened community awareness and compliance with environmental regulations. Crucial strategies for achieving environmental success through the Boracay rehabilitation program include infrastructure investments, strict regulatory measures, and stakeholder collaboration. Despite initial economic hardships and concerns about governance, unfinished projects, and the sustainability of community compliance, the study concludes that the Boracay rehabilitation has successfully enhanced the island's environmental health, improved quality of life, and increased its attractiveness as a tourist destination. The study underscores the importance of continued collaboration among stakeholders to sustain the positive outcomes of the rehabilitation program, coupled with effective governance, adaptive policies, and strengthened education and awareness campaigns on Boracay Island.

Keywords: Boracay Island rehabilitation; Environmentally-conscious tourism; Sustainable tourism; Thematic analysis.

1.0 Introduction

Environmentally-conscious tourism is an emerging policy trend and movement in various countries today (Koh & Fakfare, 2020; WTO, 2005, 2019). However, a survey of existing literature found that there is an existing gap between policies and practices in tourism resource management implementation, such as lax policy implementation, weak governance, and low awareness among stakeholders (Chauhan, 2007; Maming et al., 2021; Nunkoo, 2017; Oleniewicz et al., 2020; Özgüt & Akanyeti, 2022). As a result, the ecological integrity of tourist destinations is threatened. Looking at the tourism landscape of a well-known tourism destination in the Philippines, Boracay Island, former President Duterte even urgently closed the Island in April 2018 due to its worsening environmental problems, calling the Island a "cesspool" during his talk at the Manila Times business forum in Davao, noting the presence of trash just 20 meters away from the coastline and foul smell in the beach (Parrocha, 2018). Through Executive Order (EO) No. 53, issued on May 8, 2018, Boracay Island was closed for six

(6) months for several environmental issues and violations, such as ineffective waste management, water quality deterioration, degradation of coastal areas and habitats and unsuitable development of coastal infrastructure and establishments (Rodil, N. M., 2018). UN Environment (2019) data shows that the increasing local population and the growing number of tourist arrivals are straining freshwater supplies, sewage treatment facilities, and landfills. The hotel industry alone is causing environmental pollution, of which 75% is from overconsumption of energy, water, and materials from its business operations, according to the study by Bohdanowicz and Martinac (2007), as cited by Viernes (2014). Viernes (2014) added that the wastewater, fumes, and materials released throughout the tourism operation harm the ecosystem.

The 6-month closure inflicted devastating loss on business, livelihood, and jobs, yet affected workers on the Island perceived it as a 6-month breather to Mother Nature. They realized the immense need to rehabilitate the Island. Notable achievements were attained since its culmination in September 2022, such as the clearing of illegal structures in wetlands and forest lands, improved water quality, the establishment of sewage treatment plants among hotels, and improved drainage systems, among others. Moreover, new sustainable practices are adopted and initiated by various accommodation establishments in response to the sustainable tourism call of the government and tourists, such as use of solar power, switching to recyclable materials, organizing clean-up drives and tree planting activities, use of eco-friendly cleaning solutions, use of LED and inverter appliances, use of recyclables materials (i.e., eco-brick project), locally sourced dishes, educating guests thru online platform, i.e., encourage to bring eco-bag and reusable water bottle in the Island, as evidenced from several resorts in Boracay.

Since the culmination of the government's Boracay Rehabilitation initiative, a limited number of studies have been published that provide in-depth studies that explore lessons and insights from successful rehabilitation programs in a world-class tourist destination like Boracay Island. Previous studies by Maming et al. (2021) focus on the perceived effect of the rehabilitation as well as the challenges, while Mijares and Rodriguez (2021) documented the lived experiences of displaced workers during the rehabilitation of the Island. The humble aim of this study is to shed new light on the topic by exploring stakeholders' experiences and lessons learned on the rehabilitation of the Island through their lens.

In this light, the researcher strongly believes that this study is relevant and useful given the vital role of environmentally conscious tourism in achieving sustainable development in the country, both in rural and urban areas. Specifically, information and data collected in the process can provide business owners and managers, particularly in the tourism sector, with best practices and valuable lessons they can integrate into their operations and strategic plans toward a more sustainable tourism business management. Likewise, this research can guide government and non-government organizations in crafting or enhancing more effective policies or programs related to environmental protection and conservation initiatives in a tourist destination, locally and internationally.

2.0 Methodology

2.1 Research Design

Qualitative research design was used in this study. Creating new knowledge is the ultimate goal of every research project; however, through a qualitative research design, a researcher can create new knowledge based on a deeper understanding and rich detail of the subject matter (Tripp-Reimer & Kelley, 2006). Further, when there is a need for fresh insights into a familiar issue, when there is a lack of prior knowledge on the subject at hand, or when more in-depth knowledge of phenomena is desired, the qualitative research design is appropriate (Creswell, 1998; Tripp-Reimer & Kelley, 2006). A qualitative research design was used in this study for a deep exploration of participants' perspectives and experiences regarding the rehabilitation of Boracay Island and their understanding of environmentally conscious tourism, fostering an in-depth appreciation of the complexity and dynamics inherent in rehabilitation strategies and environmental protection initiatives. Further, this study utilized a case study method. The utilization of the case study method allows for the exploration of a phenomenon within its specific context, utilizing a diverse range of data sources; this approach facilitates the analysis and comprehension of the various elements of the phenomenon by employing multiple perspectives (Baxter & Jack, 2015). Hence, a case study is appropriate for this study as it can provide a deeper understanding of the participants' lived experiences during the identified phenomenon or event, in this instance, the successful rehabilitation of Boracay

Island. This methodological approach facilitated the identification of key lessons learned, best practices, success factors and areas for improvement in promoting environmental protection and sustainable tourism in the Island.

2.2 Research Locale

The case study was conducted in Boracay Island in Malay, Aklan, in the 4th quarter of 2023. Boracay Island is located in the Western Visayas Region, in the Province of Aklan, particularly in the Municipality of Malay. The Island is divided into two main categories of land: reserved forest land, which spans an area of 377.68 hectares, and agricultural land, which covers 628.96 hectares and is designated as alienable and disposable. Boracay, being a world-famous white beach, had 2 million tourist arrivals in 2019 (Malay Municipal Tourism Office, as cited in Zabal, 2020) and 1.7M last year in 2022 (Patoza, 2023). It is home to various establishments that cater to the needs of local and international tourists, such as resorts, hotels, restaurants, and tour operators, among others. Beach activities popular with tourists include swimming, island hopping, diving, snorkeling, parasailing, and kayaking. Its breathtaking view and crystal waters have invited local and international tourists from around the world, making the Island a key player in the country's economic development and job generation.

2.3 Research Participants

The study participants were selected using purposive sampling. This study will have 12 key participants for this study, specifically eight (8) heads or managers of the following agencies/establishments/organizations: a) DILG, b) DENR, c) Boracay Foundation, d) DOT, e) LGU Malay, f) Hotel, g) Resort, and h) Transport Group, and one (1) Tourist, and three (3) residents of Boracay Island; and they were selected using purposive sampling. Data from this study were collected from participants who are directly involved in implementing Boracay Rehabilitation efforts or have direct experience during the rehabilitation process. Representatives from different sectors were chosen based on their knowledge, experience, and expertise relevant to the topic of this study. Such individuals were selected because they possess specific features or characteristics that will facilitate deeper investigation or comprehension of the key concepts and concerns the researcher wishes to investigate (Bryman, 2012) as cited by Ritchie et al. (2013). Moreover, participants in this study were presented using pseudonyms in order to protect their identities. Hence, this measure is implemented to guarantee the preservation of informants' anonymity and confidentiality throughout the research, in compliance with the stipulations outlined in RA 10173, also known as the Data Privacy Act.

2.4 Research Instrument

Semi-structured interviews were employed to obtain in-depth information on the key participants' experiences and perspectives. A personal interview was done between one key participant and the researcher. Questions were open-ended and covered topics related to the study's interest. The semi-structured interview adhered to a pre-established guide or protocol and is focused on a primary theme in order to establish a fundamental framework; it also leaves room for discovery by permitting the interviewee to pursue thematic trajectories as the discussion progresses. (Magaldi & Berler, 2020). In this study, the discussion focused on the experiences and perceptions of the key participants pertaining to environment-conscious tourism. Their learnings substantiated it from the successful rehabilitation of Boracay Island Resort. To ensure consistency and neutrality during the interviews, the researcher utilized open-ended questions and allowed flexibility in the discussions, as George (2022) recommended. To maintain neutrality during interviews, the researcher refrained from expressing personal opinions or leading participants toward specific answers or responses. Thus creating a safe and open environment for participants to express their insights and perspectives candidly.

2.5 Data Gathering Procedure

The researcher contacted the participants who matched the criteria. Approval from the Office of the Mayor of the Municipality of Malay and the participants' consent were obtained for the conduct of the study. Specifically, the participants were provided with an explanation of the research study and the ethical considerations as stipulated in the signed Informed Consent Form. Participants who were willing to participate were interviewed at their most convenient schedule. They were also notified that the interview was audio-recorded, and measures were undertaken to ensure the confidentiality of their identities. After the interview schedule, the researcher provided the participants with the analyzed data to ensure their true feelings and experiences were reflected in the analysis.

2.6 Ethical Considerations

Ethical considerations were properly observed during the present study. The researcher sought approval from the Research Ethics Review Board of the University for the conduct of this study. In addition, the researcher sought approval from the Office of the Mayor of the Municipality of Malay. Most importantly, consent forms were provided to the informants to obtain their prior and informed consent. The researchers used pseudonyms throughout the discussions to protect the privacy and confidentiality of the participants involved in this study. The use of pseudonyms ensures that no personal identifiers are revealed, thereby ensuring the confidentiality of the process and the anonymity of all participants.

3.0 Results and Discussion

The study revealed several overarching themes, including Community Engagement, Strict Regulatory Measure, Behavioral Shifts Towards Environmentally-Conscious Tourism Practices, Positive Changes through Infrastructure Improvements, and Strict Regulatory Measures as a Driver of Change.

Theme 1: Community Engagement

This theme was emphasized in the discussions made by participants revolving around community participation in an environmentally-conscious tourism, focusing on practices that promote environmental protection and conservation among various stakeholders.

Gloria, a representative from the business sector, expressed her answer with a strong sense of responsibility toward environmental protection. She stresses tourists' role and the significance of laws and regulations to guide tourists in adopting environmentally-friendly practices. She highlights practices, such as use of eco-bags and minimizing plastic usage among tourists when visiting the Island, and that tourists should be aware and comply with existing environmental laws. She narrates;

"There should be laws for tourists to practice and follow for them to be aware of their actions while they are on the island. We have various laws, like laws regarding the usage of plastics, which should be disseminated among tourists."

On the other hand, Henry and Helen focus on practical measures adopted in their respective establishments. Henry, conveying a tone of strong conviction, discusses measures, such as waste segregation and staff training as crucial steps towards responsible tourism operations, and that they are already doing it even before closure, and improving such measures at present. Henry states;

"Maybe one of those is abiding by the regulations set by the DENR ... waste segregation, because improper disposal leads to the deterioration of our environment, so that's one, even before closure we are already doing it, and right now we are heightening our practices, that's it."

Meanwhile, Helen brings attention to specific practices like using glass instead of plastic bottles and encouraging guests to reuse towels, aligning with the broader goal of waste management. While another participant, Arlyn, emphasized education and community involvement, including regular clean-up drives and partnerships with local government units for environmental campaigns. Helen recounts;

"Us, we do the little things...we participate in monthly clean-up drives, and then the daily practices, we also educate other visitors and guests going to Boracay."

Boracay residents, Johnny, Sally and Cecile, all recognized the crucial link between tourism and environmental conservation. Johnny, expressing his sentiments reflecting a tone of urgency and concern, emphasized that a sustainable tourism industry needs a healthy environment" Johnny then recalls and mentions;

"First and foremost, Boracay is a tourism haven, it's the number one tourism destination in the Philippines. Technically, we know that the environment plays a vital role in the tourism industry. Without the environment, there's no tourism. Technically, we should not destroy the environment. If you are a tourist or a stakeholder, we need to invest in tourism-tourism should not destroy the environment."

This insight aligns with Sally's view of the necessity for proper waste disposal and adherence to environmental laws, especially in an island destination like Boracay that heavily depend on tourism. Sally categorically states;

"Garbage segregation which could mean you are not allowed to throw garbage anywhere. There's an allotted time for garbage disposal and the trucks would not accept your garbage if it's not well segregated. Abiding by the law, you cannot smoke in non-smoking areas."

Cecile further stresses with optimism and concern, the importance of preserving natural resources like forests, water bodies, and wildlife to ensure more meaningful tourism experience among tourists, and provided another perspective focusing on educating the younger generations towards environmentally-conscious behaviors. She then remarked;

"The animals and the birds should also be preserved to be environmentally friendly, even caves because these are part of the environment that draws tourists... I teach my grandchildren proper waste disposal whenever they throw garbage everywhere, and to be kind also to living organisms and living things like the birds... to protect the environment, such as the birds and other things that contribute towards ecological balance."

Theme 2: Strict Regulatory Measures

This theme arose from the discussions made by participants on the aspect of legal compliance as an important part of an environmentally-conscious tourism. Participant's answers related to compliance and enforcement of environmental laws and regulations exemplify this as can be glossed in the succeeding discussions.

Looking at the perspective of the participants from the government sector or unit, Dennis, Elen, Manny and Rina's discussion focuses on the regulatory aspect and holistic development in a tourist destination. Elen's perspective emphasized regulatory aspects when she disclosed that;

"Environmental-conscious tourism involves strict adherence to laws and regulations. We must ensure that all developments comply with environmental standards and acquire necessary permits to prevent ecological damage."

While Dennis broadens Elen's concept including holistic development,

"Our approach to environmental-conscious tourism extends beyond regulations. It's about fostering social consciousness, accountability, and creating a business-friendly environment while prioritizing environmental protection."

This is also supported by Rina, when she stated;

"Environmentally-conscious tourism, often referred to as eco-tourism, emphasizes the importance of travel that is sensitive to and appreciative of the natural and cultural environments of the destination. It seeks to minimize impact, promote environmental awareness, and provide benefits to both the environment and the local communities. This form of tourism is critical in areas that are environmentally sensitive or have been degraded due to overuse or mismanagement, such as Boracay Island in the Philippines."

Rina even emphasized the important role of Boracay rehabilitation in addressing overcrowding and environmental degradation in the Island as guided by the principles of environmentally-conscious tourism. Toby, a tourist, expressed his change of perspective when the Boracay issue gained national attention, shifting his lack of strong environmental consciousness to heightened awareness. According to Toby as he shared his transformative experience,

"Before, I really didn't have a strong consciousness when it came to the environment. However, the closure of Boracay brought national scrutiny to environmental issues, leading to increased awareness. From that, I have acquired a sense of consciousness about environmental issues."

This transformation has led him to adopt environmentally-friendly practices such as waste segregation, energy conservation and reduced carbon footprint during his stay in the Island. He stated further that;

"Of course, when I had an awareness about the effects of being environmentally conscious, personally, for instance, in the hotels I have been practicing waste segregation and turning off the electricity when not in use...also when I learned about carbon footprints, I started to practice walking as a mode of transportation rather than riding public vehicles. Through this practice, I've learned to appreciate the beauty of Boracay Island more. I have been doing this since I have learned to become environmentally conscious."

The preceding findings suggest that stakeholder engagement, regulatory measures, education, and awareness play a vital role in achieving environmentally conscious tourism. Advancing environmental protection and conservation initiatives requires the active involvement of diverse stakeholders, including businesses, residents, government and non-government organizations, and tourists. Their collective efforts were crucial in implementing sustainable practices. Collaboration among government agencies plays a crucial role in ensuring the environmental viability of a tourist destination in areas such as regulatory measures, financial support, protection of cultural and natural assets, and enforcement of quality standards among tourism establishments (Baloch et al., 2023). Moreover, government interventions are effective when community members and its stakeholders are involved and engaged equally. As highlighted by Handayani and Lazuardi (2022), stakeholders other than government organizations, such as visitors and communities, are critical to environmental conservation and sustainable tourism.

On the other hand, regulatory measures through the implementation and enforcement of strict laws and regulations were necessary to manage waste, control pollution, and conserve the ecological health of the island. Studies by Sunlu (2002) show that effective and strict implementation of regulatory measures can mitigate environmental danger. Through enforcement of environmental policies and ordinances, the island can recover from environmental degradation and promote positive behaviors in the community. Lastly, educating the community about environmental conservation was also a key component in fostering sustainable behaviors to gain a better understanding of concepts of sustainable tourism and be empowered to engage in meaningful ecological actions. Hence, awareness campaigns and educational programs will help foster a culture of environmental concern and responsible tourism in an island tourism destination.

Theme 3: Negative Effects of Abrupt Implementation

Majority of the participants have expressed their sentiment on the closure that affected many livelihoods and businesses, especially participants coming from the business sector.

Henry emphasized the challenges posed by rehabilitation implementation but also sees the positive changes in the island such as environmental awareness and improved conditions of the sewerage system in the island. However, he expressed with a tone of disappointment and frustration how the government handles the implementation of the rehabilitation initiatives, noting the negative impacts among the workers and businesses, and its abrupt implementation. He shares;

"Well, I think, there's a lot of changes I mean, huge changes since during the Rehab, illegal septic tanks were discovered without the knowledge, [the beach was made] a waste disposal. You know, human and restaurant waste. It's a good thing that the government thought of rehabilitating the island. However, everything happened so suddenly, without further notice. The announcement that the island will be closed and rehabilitated happened so quickly. But it's still a good thing, for almost how many decades the island has recuperated for 6 months, also during the pandemic for 2-3 years. It's good that it happened but some people who didn't have savings were left hungry. There are advantages and disadvantages."

Helen also reflects on operational changes due to closure, like relocating beach beds and adjusting services set-ups to accommodate new regulations, which affected tourist experience and expectations in an island tourist destination like the Boracay. She narrates;

"When it comes to the operation, our beach beds were relocated so we can maintain that feature. Since we have our rooftop, they can sunbathe there but other tourists want an overlooking view of the beach. Those are some changes in our operations. Additionally, we used to set up chairs and tables on the side because it catches more guests. Such setups, more people will dine. However, it was gone (during rehab), that is one of the disadvantages."

Arlyn's sentiments further added the weight of pandemic to the economic turmoil experienced by the industry during closure, and everyone was set in a survival mode. She stated,

"It slowed down, because the Boracay suffered from both closure and the pandemic. The progress was really slow, it went downhill. But of course, we had to survive."

Although she added that government support was provided during rehabilitation, as she recalls;

"One good thing about that is that the members diverted to venture to other projects like in agriculture and other livelihood. There was native chicken raising- DOLE provided funds that served as a capital for these ventures."

The immediate implementation of rehabilitation measures in Boracay had adverse economic, social, and psychological consequences for local stakeholders. Although the long-term advantages of rehabilitation are evident in the enhanced environmental sustainability, the immediate repercussions emphasize the necessity of meticulous planning, community engagement, and gradual transition strategies in future development initiatives.

Unfinished Rehabilitation Projects

The unfinished rehabilitation projects in Boracay show a number of issues and have consequences for the sustainable growth of the island. The transcript revealed that some participants were apprehensive about the possible adverse effects of unfinished projects on the sustainability of the environment, economic stability, and general well-being of the community.

Gloria highlighted that the drainage system, although improved, was still incomplete and needs to be fully addressed because it is one of the main reasons of Boracay closure, she further stated while expressing a hint of frustration, when she said;

"The main problem of the island is the drainage system and the reason why the island was closed. It was called out by former President Duterte before "Boracay is Cesspool." It was also seen that in some establishments' kitchens and showers are connected to the drainage, and the smell is really noticeable."

The talk about incomplete rehabilitation projects emphasizes how important it is for development projects to have thorough planning, efficient execution, and open communication. To solve these issues and guarantee the long-term viability of Boracay Island, government officials must maintain their commitment, local communities must actively participate, and strategic alliances with pertinent parties must be formed.

Adverse Impact of Rehabilitation Strategies

Several challenges and consequences encountered by the local community, businesses, and stakeholders during the rehabilitation process are underscored in the discussion on the adverse impact of rehabilitation strategies in Boracay.

Henry provided a critical perspective, questioning the necessity of the rehabilitation for improving the roads and beaches, arguing that the closure might not have been essential for achieving that kind of improvement, and furiously emphasized the adverse economic impact on local businesses. He skeptically states that,

"Some would say that the beach has been beautified, even the roads. Which makes me think "Do they really need to rehabilitate the whole island to make the beach, the roads better? I don't think so. A lot of things were compromised. Did they really need to sacrifice the whole island because even the mainland is affected because most of our suppliers are from the mainland."

Although Helen echoed the same sentiment, she mentioned the support received from the government and the positive outlook of the community during the rehabilitation.

"But the main problem was the people's source of life or income, but we were able to get support from the government. People also learned to plant vegetables, because planting became a hit that time so that's additional worth of income."

On the other hand, Cecile emphasized the importance of political will in order to sustain the infrastructure improvements for long-term success, and cautiously states,

"What we need for these projects is the political will on the part of the local government unit, sometimes they cannot just implement the programs easily because of course, they are voters. It's the political will that implements it."

While rehabilitation projects seemed to be beneficial to the island, especially in the environmental aspect, short-term economic consequences have impacted local businesses. Although the government provided financial and social support during the Boracay closure, there was skepticism and distrust of government rehabilitation efforts among some stakeholders. These findings aligned with the study of Tops, J., and Lamers, M. (2024), whose participants felt substantially ignored, unfairly treated, and skeptical about future government actions due to a lack of dialogue and limited socio-economic support measures during the Boracay rehabilitation process. Enhanced support from the government and community engagement can provide vital assistance during challenging times. Therefore, rehabilitation programs that foster community involvement in sustainability interventions and decision-making processes and ensure transparent communication about the benefits and timelines of rehabilitation could have helped build support and reduce resistance during the process (Legaspi & Dela Santa, 2022; Mijares & Rodriguez, 2021; & Tops, J., & Lamers, M., 2024).

Theme 4: Behavioral Shifts Towards Environmentally-Conscious Tourism Practices

Looking at the positive side of Boracay rehabilitation, transformative changes have occurred and moved the Boracay community towards environmentally-conscious endeavors, creating a positive shift in behaviors and practices.

Helen's mention of specific initiatives like rainwater harvesting and heightened waste segregation demonstrates a proactive approach to sustainability within their organizations. She notes;

"So far, with regards to water- in my previous company, we used to have a rain water tank. During the pandemic, in times of rains, the tank would catch the rain and we use it to water the plants in the garden. So I've pitched this idea to my current boss since we are going to put up another building. Hopefully, it will be realized since it can also be used in various ways such as in toilet-flushing. Additionally, we also do segregation because we collect a lot of garbage and waste in housekeeping."

Manny, Arlyn and Helen also mentioned optimistically their on-going programs and participation in clean-up drives in the coastal areas. As Manny mentioned,

"The first project was Project Pristine. The Project Pristine is coordinated with the support of tourism frontliners. Every Friday, Saturday, and Sunday, we have a clean-up drive. It could be underwater, coastal, and tree planting. So, that is Project Pristine."

Helen also expressed that,

"...because they invite hotels to gather for a clean-up drive and tree planting projects, sometimes we do it in the mangrove areas in collaboration with the LGU."

Rina from the government sector also shared a post-rehabilitation initiative, thru partnership with private companies in providing trash bins in the island and surf rake for removal of beach debris, stating;

*"post-rehabilitation in 2018, the *** partnered with *** for the provision of trash bins that were strategically distributed all over the island including the White Beach to facilitate ease and proper disposal of trash in Boracay Island. Also through the ***, *** was able to donate a surf rake for the removal of different beach debris along the beachfront areas."*

Toby as well has observed positive changes post-closure among hotel establishments in the island, such as stricter regulations and improved monitoring of carrying capacity. Additionally, Toby noticed visible initiatives like garbage bins in hotels and automatic electricity-saving systems in rooms, indicating a shift towards sustainable practices, he remarked;

"...hotels now have garbage bins that are visible to the public eye, and then the rooms now have automatic key cards which function as the switch/ breaker for the electricity. If you compare it in the past, there were only a few hotels that used such a system..."

The study's findings suggest that Boracay rehabilitation has led to significant behavioral changes among the members of the community, especially the business sector, wherein more environmentally-conscious measures are more prevalent as their response to the government's call for more responsible business operations on the Island. Such measures are consistent with the ongoing efforts of various establishments on the Island, where they are adopting eco-friendly practices, including the use of solar power, switching to recyclable materials, organizing clean-up drives and tree planting activities, using eco-friendly cleaning solutions, using LED and inverter appliances, use of recyclables materials (i.e., eco-brick project), locally sourced dishes, educating guests thru online platform, i.e., encourage to bring eco-bag and reusable water bottle in the Island (The District Boracay, n.d.; Discovery Shores, n.d.; Feliz Hotel, 2019).

Theme 5: Positive Changes through Infrastructure improvements

This theme arose from the discussions made by participants on the aspect of infrastructure development as an effective rehabilitation strategy in the Island. Most of the participants shared positive feedback on road widening projects, transportation enhancements, and waste management and drainage systems.

Better Road Systems

Arlyn, Sally, Cecile and Elen expressed their satisfaction and optimism while sharing their perspective on the significant improvement observed in the island brought by infrastructure projects through Boracay rehabilitation. Arlyn, with optimism and relief, praised the widening of roads leading to a safer and more comfortable travel experience for locals and tourists, stating,

"Road widening, since it has contributed to an easier and safer movement of tourists...It's the roads, since you can really feel that the road was widened. It's less risky and has become accessible. There are also portions or areas where drivers can unload the passengers safely- road widening has contributed to the safety of tourists and the beautification of the road itself."

Sally echoed this sentiment, noting that widened roads made it easier for the movement of vehicles, especially those located in barangay roads:

"I'm sure it's the road widening [project] because the road ways have widened. Vehicles are no longer suffering from narrow roads. Sidewalks were also built for pedestrians."

Cecile, on the other hand, supported this observation by mentioning the effective implementation of road setbacks. She added;

"Of course it's positive. The setback from the high-water mark is very good. Also, the implementation of the 15-meter from the center of the road, Boracay is really strict with that."

Elen also emphasized optimistically the overall improvement observed through Boracay rehabilitation and the leadership of the former Pres. Duterte, particularly the improvement of roads and transportation systems. She commented;

"Changes have become visible after the rehab, not just on the DENR side, because of the closure and the statement of President Duterte, infrastructure. Roads have become better, and the transportation should be DOT registered."

Shift to Sustainable Transportation System

The shift to e-trikes was another positive observation highlighted by the participants like Arlyn, Helen and Johnny. Arlyn appreciated the transition from traditional tricycles to e-trikes, highlighting the comfort of travel when she said;

"Road widening, since it has contributed to an easier and safer movement of tourists."

Helen also mentioned the benefits of this transportation development in terms of less smoke emission leading to a cleaner environment. She mentioned;

“Right now, the use of e-trike lessens the air pollution. That’s one of the good things that has happened in Boracay.”

Improved Waste and Drainage Systems

Meanwhile, Helen and Toby, have expressed their satisfaction with the waste management and drainage system improvements in the Island. Helen emphasized that drainage system has improved the flooding situation in the area,

“They also developed the drainage, it has become really helpful, the flooding situation has changed, compared to before it has lessened now. It is because the drainages have already been cleaned, and they installed additional drainage, so at least it has helped somehow.”

Toby echoed the same observation,

“The government focused on building and improving infrastructures for sustainability purposes. Boracay is easily flooded before when there is a huge amount of rain but as I have observed, the flooding situation got better perhaps because of the drainage system built and the wastes are better managed.”

Gloria, however, pointed out with frustration that while there were improvements, the drainage system still needs further attention to address unfinished projects,

“The island is okay now, but not really perfect because of the unfinished drainage system of TIEZA.”

The findings suggest that the participants undoubtedly experience the positive impact of infrastructure development on the Island, noting that it has resulted in improved safety and reduced pollution, thus making the Island more accessible and pleasant for residents and tourists alike, therefore enhancing tourist experience and competitiveness of the Island leading to economic benefits in the long run. The participants’ positive observation correlates with the study of Maming (2022), confirming satisfactory implementation of Boracay rehabilitation efforts, particularly in drainage and sewerage system, road networks, and beach easement, thus leading to positive results in water quality, air quality, road expansions as well as improved ecological viability. Such evidence supports the effectiveness of infrastructure development in addressing environmental issues and attaining island sustainability. Improvements through investments in infrastructure in areas such as transport, communications, energy, and waste treatment are vital in tourism development towards the achievement of SDGs (UNWTO, 2013). Moreover, studies by Hollier and Lanquar (1996), as cited by Nguyen et al. (2020), highlight the importance of adequate tourist transport infrastructure and improved public facilities at tourist attractions in achieving sustaining tourism.

The adoption of more sustainable modes of transportation, such as e-trikes on the Island, aligns well with global trends towards eco-friendly practices that aim to reduce the environmental footprint of urban transport (UNWTO, 2013). Furthermore, the improvement of the drainage and sewerage system, as observed by the informants, as one of the effective strategies, is clearly addressing the major concern of the Island regarding waste-water management and disposal (Villanueva, 2018; Wright, 2018). Enhancing drainage and sewerage facilities on the Island shows the commitment of the government and its stakeholders to rehabilitate the deteriorating health of its environment, specifically in the area of water and waste management. Nevertheless, some participants have also expressed their critical perspectives on unfinished projects, particularly the development of drainage systems. Farmaki (2020) and Purnomo et al. (2020) emphasized that unfinished projects can worsen existing environmental problems. They can lead to higher costs in the long run, and through effective project implementation and leadership with political will, these kinds of challenges can be addressed and mitigated.

Theme 6: Strict Regulatory Measures as a Driver of Change in Boracay

A notable answer among participants is the strict regulatory measures that have significantly influenced the island’s transformation. This theme highlights the varied perspectives of various stakeholders on these regulations, highlighting both positive outcomes and challenges faced during the implementation process.

Positive Outcomes of Strict Regulations

Strict rules put in place during Boracay's rehabilitation have produced a number of benefits that have improved the island's infrastructure, community involvement, and environmental sustainability. Helen and Gloria, with pride and satisfaction, discussed the beneficial impacts of strict regulations on environmental cleanliness and law compliance among members of the community. Helen appreciates the local government unit's prompt enforcement of anti-burning regulations,

"What I like about the regulations right now is they prohibit the burning of garbage, especially plastic garbage. Once the LGU sees smoke appear, they would immediately go to the location. It really is a good action."

Thus, highlighting the positive effects to the environment leading to a cleaner and improved health conditions for the community. Gloria also notes the positive change in the Bulabog area, noting that the community has increased environmental consciousness and compliance, particularly in adhering to legal setbacks. She adds;

"...waste around the area is gone and people are now conscious of the laws. Also, the buildings that are close to the water, like 5 meters, were demolished. The Bulabog development is a great example of the improvement of Boracay."

Cecile also underscores DENR's effective preservation efforts of wetlands in the Island. She proudly pointed out the successful regaining and maintenance of mangroves of wetlands. She states;

"So far, DENR has become very strict. So they were able to regain parts of the mangroves, particularly the wetlands, so on. They were able to get those and preserve the wetlands. It was already identified, so I think that's a good move. Similar to what happened in front of Boracay D'mall, there used to be a lot of stalls and structures so they had these structures removed because mostly they were illegal, and they installed ornamental plants that's why it's a lot better now."

Another effective strategy noted proudly by Toby, is the implementation of the Island's carrying capacity,

"Although I'm not really sure if its implementation has been strengthened- the regulation on the carrying capacity of the island. I believe that the tourists now are being monitored unlike before where people can enter freely without being monitored- that they can ride the pump boat and spend a night or two on the island. But now since it's been monitored, emissions of carbon footprint are lessened and in effect, the waste being produced have also been lessened. This has led to a reduction in environmental impact, particularly in terms of waste management."

Similarly, Rina highlights with pride the positive impacts of DOT's strict implementation of mandatory accreditation and increases sustainable practices among tourism establishments, crediting the success through the coordinated efforts among various agencies and stakeholders,

"The whole-of-government approach adopted during the Boracay Island rehabilitation is widely regarded as one of the most effective strategies in achieving its environmental and sustainability goals."

Criticisms on Law Enforcement

Strict regulations have helped bring about positive developments in Boracay, but participants have also brought up issues and complaints about law enforcement. Sally, reflecting on the road widening project, emphasize with the lot owners who were affected by the road expansions:

"That's it, the road-widening project. But some have been clamorin since the project has eaten up portions of private land owned by private citizens and they were not compensated for this. But that's the beauty of it, the road has become safer, it's like there is an access to road everywhere."

Henry resonated with this sentiment when expresses frustration over the extensive restrictions on beach beds and other amenities, and expressed a desire for more flexible regulations:

"They should loosen their restrictions about beach beds which should already be allowed in limited numbers. Wherever you go in the world there's always a beach bed. Because of the closure, prohibitions were imposed, limitations were implemented."

Dennis added with a tone of concern, that the closure and subsequent regulations has also led to reductions of tourist arrivals due to cumbersome entry requirements and restrictions of certain activities in the Island:

"But the business owners have complained because the tourist arrivals have really decreased because of the lapses of the system of national government, so they find it hard and stressful because of the requirements that are asked before they enter and there are activities in Boracay that were restricted because it damages the environment."

However, he optimistically highlights the positive side of the regulatory measure, particularly leading to increased awareness and compliance among establishments, increased LGU income and establishment of database for DOT accreditation:

"They slowly complied and because of that, it generated additional income for the local government units, and because of this awareness campaign; they became more conscious of what they need to comply with in order for them to operate legally on the island. It raises awareness and we were also able to establish a database of the establishment's compliance and whether it is used for DOT accreditation."

On the other hand, Ellen discusses the challenges in the enforcement side of environmental laws, particularly in securing funding and sustaining legal actions against violators. She notes that;

"Perhaps the most challenging is the people who are resistant. Just like 2 weeks ago, CENRO submitted a report that there is a construction at wetland 8. They issued a notice already but they are really resistant."

Cecille also raises concern on some enforcement of garbage collection ordinances, noting a decline in strictness overtime, particularly in some areas of the Island:

"One of those is the issue of garbage since they are not really strict with that. During the time of Sacapaño, proper waste disposal was strictly implemented. I'm just not sure in other areas, since we are in the mountainous part, we just throw it on the proper areas and they will pick it for disposal."

The findings suggest that strict regulatory measures as an effective Boracay rehabilitation strategy have driven significant changes in environmental conservation and law compliance in the area. However, issues on sustained community compliance and concerns about environmental restrictions still exist and need to be addressed by the regulatory and enforcing units. The participants' discussion on the positive changes driven by strict regulatory measures is parallel to the statement of Miguel (2022), suggesting that Boracay's rehabilitation achievement can be attributed to the implementation of environmentally-conscious tourism practices and policies on the Island, coupled with the strong political will of President Rodrigo Roa Duterte's administration.

Strict enforcement of laws, as emphasized by the participants, has resulted in notable accomplishments. This strategy has resulted in the removal of illegal structures inside the 25+5-meter beach easement and 12-meter road easement, reclamation of wetlands and their ongoing rehabilitation, improved water quality in beaches, the connection of establishments to sewerage treatment facilities, and installation of new drainage systems (Lena, 2021). Hence, this confirms the studies of Rashid (2019) and Sunlu (2002) on the importance of effective implementation and strict enforcement of regulatory measures in mitigating environmental violations and enhancing ecological viability.

In the context of Boracay's rehabilitation efforts, the findings of the study highlight the importance of effective enforcement, coupled with flexibility on community needs, which leads to achieving positive environmental change and law compliance in the community; however, sustaining this positive changes necessitates the whole-of-government approach; enhanced collaboration among various stakeholders through public-private partnerships and dialogues for a comprehensive discussion of areas of concerns and future interventions and continued environmental campaigns and information dissemination to sustain community awareness and culture of compliance (Tops, J., & Lamers, M., 2024); and robust monitoring and continued strict law enforcement for long-term environmental health and well-being (Sawali C.M.A., n.d.).

4.0 Conclusion

Despite the small number of informants who were accommodated in this study, it can be concluded from the diverse information they have shared that environmentally-conscious tourism is becoming a way of life in Boracay Island, especially among the residents and the business establishments, as a result of their experiences and learnings from Boracay Rehabilitation. It can also be deduced from their opinion that the island rehabilitation- a government-led intervention for environmental stewardship has been a transformative process, fostering a shift towards environmentally-conscious tourism. Further, the rehabilitation strategies have led to substantial improvement in infrastructure, environmental conservation, and community engagement, leading to a safer, cleaner, and more appealing tourist destination for residents, businesses, and tourists alike. The island rehabilitation has been successful in achieving an environmentally conscious tourism culture, leading towards effective environmental conservation and restoration interventions. These conclusions, however, do not represent the general sentiment of the public at large, particularly the business sector, residents, and tourists. However, due to the proximity of the matter studied to the lives, work, and personal experiences of the informants, it can be drawn from their inputs that balancing strict regulatory measures with stakeholder needs, sustaining regulatory enforcement and community compliance, enhancing education and awareness campaigns, strengthening stakeholder engagements and collaborations are all critical in maintaining the positive outcomes and serving as a model for other tourist destinations planning for sustainable tourism interventions.

5.0 Contributions of Authors

The authors indicate equal ownership of the study. The corresponding author being the research advisee acknowledges that without the guidance and supervision of the research advisor, this study would not have materialized. The preparation of this publication manuscript was executed by the corresponding author under the supervision and guidance of the co-author-her dissertation advisor.

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The authors declare no conflicts of interest about the publication of this paper.

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