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**Preserving what Boracay has
and restoring what it has lost**

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Abstract

It is that time of the year when Pia Miraflores, Raffy Cooper, and Al Lumagod of the Boracay Foundation, Inc. (BFI), brace themselves for the upcoming Laboracay season, an annual summer celebration during the weekend of Labor Day in the island of Boracay. Pia and Raffy take the responsibility of meeting with their BFI members who are resort owners and organizers of the parties held in the island. They discuss the schedule and extent of parties that will be organized so as to manage in advance the amount of damages that will be due from the events. Meanwhile, Al has been busy with the fortification of existing corals and coral planting at the Baling Hai Beach in preparation for the expected sand erosion from the activities during the season. The aftermath is equally daunting, the tedious activity of the beach cleanup. If only the resort owners would consider the impact of the huge parties they are organizing on the island, then LaBoracay will be seen positively. If only the partygoers would be responsible for their garbage, then, cleaning Boracay can be much easier.

Keywords: Boracay, coral planting, sustainability

1. Boracay as a tourism destination

Before becoming the top summer party destination in the Philippines, the island of Boracay has been known as a humble paradise renowned for its pristine white sand beaches, crystal clear waters, abundant supply of fresh seafood, rich marine biodiversity, and tranquil environment perfect for anyone in search of a relaxing escapade (Figure 1).

Figure 1: White Beach, Station 2, Boracay Island, Philippines



Boracay is an island under the authority of the province of Aklan, Philippines (Figure 2). It is situated 315 kilometers south of Manila and two kilometers off the northwest tip of Panay in Region VI (Western Visayas). Boracay is seven kilometers in length, and less than a kilometer in width at its narrowest point. It is comprised of several barangays, Manoc-Manoc, Balabag, and Yapak in the municipality of Malay, Aklan (Figure 3). Renowned photographs of the island are mostly taken on the westward side facing the White Beach, a four-kilometer beach of white, powdery fine sand lined with resorts, shops, and restaurants. The White Beach is divided into three sections called Stations. The northernmost area of White Beach is called Station 1, which has the widest beachfront where luxurious accommodations are located. The central part of White Beach is called Station 2, where tourists usually eat, shop, and party. Station 3, the most unobtrusive area, is situated on the southern part of the island. The seasons affect the climactic conditions of the beach. During the Amihan (northeast monsoon) season from November to May, the waters of the beach are calm and the climate is conducive to daylight beach activities. However, during the Habagat (southwest monsoon) season from June to October, conditions reverse as the rainy season commences. (Department of Tourism [DOT], n.d.).

The tourism industry began to flourish on the island in the 1970s (Grele & Yousry-Jouve, 2004). In the 1980s, the island was a haven for backpackers as a budget destination. In 1984, 14,000 tourist arrivals were reported to have visited Boracay. In the 1990s until the contemporary time, Boracay's beaches always top the list of the best beaches in the world. In 2013, as per the report of Umbao (2013), Boracay's white beaches were hailed as the top beach in Asia, in the recently released TripAdvisor's Traveller's Choice Top 25 Beaches in Asia. In 2014, 1.47 million tourists, both local and foreign, have continuously arrived in Boracay. True to inamesake,

the island destination, known as the crown jewel and the treasure of the Philippine tourism industry, contributed PHP 27 billion of tourism receipts in 2014.

In a span of three decades, Boracay has evolved to a paradise island not only for Filipinos but also for international tourists who have come to visit the island not only for the humble paradise that it has been known for, but also for the endless festivities the island hosts.

Figure 2: Location of Boracay in Aklan, Philippines



Source: http://commons.wikimedia.org/wiki/File:Ph_locator_aklan_boracay.png

Figure 3. A more detailed map of Boracay in Aklan Philippines



Source: http://paradisaboracay.com/mapofboracay.htm_aklan_boracay.png

Laboracay and the Environmental Issues Confronting Boracay

The image of Boracay as a tourism destination had always been an island paradise with pristine beaches, gorgeous natural environment, and airy bungalows, perfect for relaxation. Nowadays, Boracay's image has evolved into an overcrowded tourism destination with cramped spaces, traffic jams, and "concrete jungles" (Figure 4). It is now known as a destination for nightly street parties, the biggest of which is the *LaBoracay*.

Figure 4: Laboracay party



Source: <http://www.philstar.com/supreme/2015/05/30/1460086/eat-sleep-laboracay-repeat>

LaBoracay is an unofficial event that happens within the week when the Philippine Labor Day is commemorated, every first of May. In 2015, as many as 80,000 tourists were estimated to have arrived on Boracay during the Labor Day weekend. In May 1, 2015 alone, a total of 10,431 tourists visited Boracay to join the festivity (Santos, 2016).

Figure 5: Algal bloom in the White beach coastline



Source: Loyola (2014), Manila Bulletin

As a premier tourist destination in the Philippines, with an increasing number of visitors for parties, environmentalists have deemed that Boracay is rapidly reaching its carrying capacity which often leads to environmental degradation (Environmental Literacy, n.d.). The excessive

volume of tourists during peak seasons poses threats on the environmental sustainability of the island due to the amount of wastes produced, high population density, and industrial emissions. One of the most immediate concern is solid waste management which damages corals, mangroves, other marine life, and causes health issues among the residents and tourists of the island. A concrete manifestation of the effect of solid wastes in Boracay is the frequency of green algal bloom (Figure 5; still highly debatable) which is a result of “poor waste management, with sewage being dumped into the waters” (Department of Environment and Natural Resources (DENR) Secretary, Ramon Jesus P. Paje, as quoted by Inquirer.net, 2015). Although, there are groups arguing that this is an environmental cycle that has been happening even before the massive influx of tourists on the island.

2. Preserving and restoring Boracay

2.1 The Boracay Foundation, Inc. (BFI)

With all the sustainability issues that the island paradise is facing, the Boracay Foundation, Inc. (BFI), is actively taking part in addressing these issues. BFI was established in 1996 as a non-profit, non-stock, association aimed in sustaining Boracay’s environmental, business, and social needs. Boracay’s stakeholders established BFI in response to the alarming environmental issue of the coliform scare and the island energy crisis situation at that time. Over the years, the BFI has reinforced its groundwork through its several working committees that focus on the mandate of fostering a united, concerted, and environment conscious development of Boracay, thereby preserving and sustaining its culture, natural beauty, and ecological balance.

True to its commitment in addressing environmental issues, BFI is dynamically involved in numerous restoration and environment preservation initiatives such as underwater environment protection, solid waste management, preservation of the sea grasses, protection of corals through mangrove planting, coral transplantation, deployment of artificial reefs, constant monitoring of coral growth, regular beach and underwater clean ups, information education, communication campaigns to the youth, and development of communities surrounding the island through programs (seminars and workshops) and projects to enhance professionalism in tourism-related goods and services.

As of 2015, BFI is comprised of over a hundred fifty members representing the island’s leading enterprises including “resorts, hotels, restaurants, water sports, market stalls, airlines, banks, island organizations, residents, and expatriates.” BFI constantly works closely with the local government (municipality and provincial), the DOT, and members of the academe in their environmental efforts. Frontrunners in BFI include Maria Pia Carmela R. Miraflores, the Executive Director of (BFI), who plans and stewards the environmental initiatives of BFI and takes part in the promotion of the island to local and foreign tourists, Raffy P. Cooper, the Marketing Officer of BFI, who performs market research, designing collaterals and promotions,

and coordinating various activities of BFI, and Adel Alkaris L. Lumagod, the Project Officer and Resident Marine Biologist of BFI, who takes an active role in organizing, promoting, and executing the environmental initiatives of BFI.

2.2 Efforts to address Environmental Degradation

Ecological Solid Waste Management. The concept of ecological solid waste management is comprehensively defined in the Ecological Solid Waste Management Act of 2000 (Republic Act 9003) as the “systematic administration of activities, which provide for segregation at source, segregated transportation, storage, transfer, processing, treatment, and disposal of solid waste and all other waste management activities, which do not harm the environment.” This is the national government’s effort to create and maintain a sustainable and healthy environment in terms of managing ecological solid wastes (Ecological Management Bureau, n.d.).

Locally, efforts have also been made to foster proper waste management. A memorandum of agreement (MOA) between the Department of Environment and Natural Resources (DENR) and the municipality and three barangays were forged to enforce and comply with the "no segregation, no collection" policy (Bacani, 2015). The Boracay Redevelopment Task Force (BRTF), a ADB-selected grant recipient, has been working on solid waste management project including both landfill mining and waste-to-energy package amounting to USD 14.7 million (Bacani, 2015). Other organizations such as Boracay Water, the supplier of water in Boracay, is set to finish a 12-kilometer sewer line and 13 lift stations, the Manocmanoc Sewer Network Sewage Treatment Plant (STP). The plant is set to operate in 2016 to treat five million liters per day, increasing used water coverage from 31 percent to 75 percent, while supporting other various sewage process treatments (Loyola, 2014).

Mangrove Rehabilitation. Boracay has been gifted with a wide distribution of mangroves. Tourists may only visit Boracay several times a year and one may not notice that mangroves are largely responsible for making beach trips beautiful and memorable.

Several efforts have been made to restore and preserve the mangroves in Boracay. At the national level, an agreement to rehabilitate mangrove areas were reached between Boracay stakeholders and the DENR. At the local level, initiatives by local agencies and organizations were observed. In 2011, the Municipal Agriculture’s Office, together with the BFI, conducted a mangrove ocular inspection and specie identification at Sitio Logutan in Manoc-Manoc which assessed the mangrove ecosystem and helped in identifying ways to develop and restore them.

In 2012, the Roots for Boracay: Mangrove Rehabilitation Project was launched by the DENR, the Tan Yan Kee Foundation, local government of Malaya, and the Climate Change Foundation to plant a total of 2,000 mangroves in a one-hectare area in Manocmanoc, which were complemented by constructions of lamp posts and fences to protect the mangroves (Tan Yan Kee Foundation, Inc., 2014). The Environmental Management Service Unit (EMSU) also

conducted several initiatives, continuous monitoring and maintenance to preserve and restore mangroves. Mangrove planting were conducted by EMSU of the local government unit of Malay in 2013, where 200 seedlings were planted in Sitio Logutan. EMSU also initiated Mangrove Seedling Production and the Mangrove Nursery in Cubay Sur with BBMP partner agencies in 2014.

Coral Reef Rehabilitation. In partnership with the BBMP, the BFI continuously rehabilitates the coral reefs of Boracay through regular underwater clean-up, coral transplantation, and coral restoration. Coral REEFurbishment Project (CRP), a community based project, and school campaign advocacy with partner agencies such as the Boracay Island Water Company (BIWC) and LGU of Malay which collects coral fragments that are planted to rocks where they are given a chance to grow and adapt to the existing environment.

In September 2011, BFI started the conceptualization of artificial reefs called reef domes in Boracay – these are locally fabricated reef domes made of cement, crushed bottles, and limestones deployed along the island’s coastal waters, which serves as a coral nursery for the planted corals, a habitat and a feeding ground for marine organisms, and a wave breaker (Figure 6). In 2012, it was launched in several locations, Coral Garden, Angol Point, and at the front of Boracay Regency Beach Resort and Spa. BFI conducts quarterly monitoring to document the progress of the project. After four years, the reef domes became nursing grounds for big fishes and other organisms such as shells, sea squirts, and thousands of juvenile and big fishes. As per the monitoring from 2012 to 2014, the total percentage of the the fishes thriving in the vicinity is 10.74 percent from 0 percent marine organisms in 2011.

Figure 6: A natural school of striped eel catfish thriving on the reef dome



Source: Boracay Foundation, Inc.

Environmental Activities and Policies. Environmental activities are promoted and incorporated in conventional island activities to prevent and address the environmental issues faced by Boracay.

The '25 plus 5 meter easement rule' was implemented by the DENR in partnership with local government units to address the issues of beach erosion, coral destruction, and poor waste management by preventing infrastructures and establishments to be built and situated within 30 meters from the coastline (Estrada, 2014). In August 2013, a self-demolition project was made by the Boracay Re-development task force, where business owners voluntarily cleared the structures encroaching the 25 plus 5 perimeter (Zabal, 2013). A municipal order has been imposed in 2012 to regulate the excessive noise in the island after midnight, limiting noise for open bars to 40 decibels, under the Municipal Ordinance No. 144 declaring Boracay Island as a Noise Sensitive Zone, "An ordinance declaring Boracay island as a noise sensitive zone and adopting the rules and regulations of the national pollution control commission pertaining to noise" (Garcia, 2012).

Organizations, private enterprises, and tourists also involve themselves in several environmental activities. 'Cause for a New Coast', a clean-up drive last 2015 were attended by volunteers from the environmental groups, the local government of Malay, Aklan, and partners from establishments such as Sur Bar and sponsorships by Emperador Distillers, Inc (InterAksyon.com, 2015). This year of 2016, "Love The Beach" campaign was initiated by Nestea Philippines in partnership with BFI to encourage tourists and celebrities alike to join a beach clean-up and waste segregation activity (Santos, AJT, 2016). BFI, in its staunch commitment to preserve the marine environment, has hired its own Bantay Dagat personnel to complement the LGU's Bantay Dagat personnel, which ensures that boatmen do not violate the rules against anchoring and illegal fishing in Boracay's waters.

3. The Triple Bottom Line Strategy on Boracay Foundation, Inc.

The BFI, with the concerted efforts of Pia, Raffy, and Al, has been working towards promoting and contributing to the environmental welfare of Boracay through its initiatives and efforts. However, a conflict arises between the organization and its members, specifically the resort owners, who are the same persons in charge of organizing parties and events in the island. BFI's action, as an organization, is counterproductive without proper cooperation and coordination with its members. An important question lies as to how the BFI can regulate its own members, the resort and business owners, so that its environmental efforts can be properly sustained.

Based on the interview with BFI management, program participation, and site visits, an analysis of the triple bottom line strategy will be employed to assess the sustainability of the environmental efforts conducted and implemented by the BFI (Figure 7).

The triple bottom line allows the inclusion of economic and social aspects in an environmental agenda, which Elkington (1997) termed as profit, people, and planet referring to economic,

social, and environmental respectively (Alhaddi, 2015). By analyzing the viewpoints of concerned stakeholders can the coordination among them be construed.

Figure 7: The Triple Bottom Line



Viewpoint of Boracay Foundation, Inc. (BFI) – PEOPLE AND PLANET (the relationship between BFI and the environment). Pia, Raffy, and Al, the BFI management, has been actively working towards addressing the pressing environmental issues in the Island of Boracay due to unregulated events and parties like Laboracay.

“... in 2018, the DOT targets 2.7 million tourist arrivals for the island. This would mean more money for us stakeholders, but this would simultaneously require additional infrastructure to accommodate the tourists. This would also mean additional environmental impacts, which needs to be considered and be given attention....” – Mr. Dionisio J. Salme, President of BFI

With over a hundred fifty members, BFI has been implementing environmental initiatives including, but not limited to, coastal cleanups, underwater cleanups, coral reef restoration, and mangrove planting. It has also embarked on the development of neighboring communities through capability enhancement seminars and other community-based projects. However, the struggle remains with its relationship and coordination with its members.

Viewpoint of Resort Owners – PROFIT and PLANET (profit maximization and environment preservation). The beach resort owners, who are mostly members of the BFI, has been concerned primarily with two things--gaining profits and addressing the environmental issues of the island. Organizing activities and parties during Laboracay also necessitates taking responsibility of the possible environmental consequences from their events, for example solid wastes.

"Boracay Island has seen the benefits of excellent tourism over the years, especially during the Laboracay weekend, but sadly, along comes the deterioration of the island's natural setting. We need to understand that in order for us to continue enjoying the beauty of Boracay, we all need to do our fair share in taking care of the island." – Saki Mirabueno, Head of Marketing for Boracay Newcoast, Global-Estate Resorts, Inc.

Viewpoint of Surrounding Community in the Boracay island – PEOPLE AND PROFIT (the role played by the local community who benefits from the tourism activities in the island). The community surrounding Boracay are composed of local people who conventionally sells goods and services to the tourists visiting the locality. They are the vendors who walk with tourists along the White beach, pitching their products such as souvenirs and water-activities. The same people gain profit from the booming industry, and consequently, suffer from the environmental consequences obtained from the tourism-related activities hosted in the island.

4. The Way Forward

BFI has been actively contributing positively to the environmental well-being of the Boracay island through its various initiatives and projects. In the events and parties held during Laboracay, BFI has also been involved in the pre and post events to ensure that measures are on place to avoid further damage to the island's surrounding environment. The Boracay island attracts tourists through its natural attractions as well as the events and parties it has been hosting. Events and parties, like Laboracay, has been a significant profit-generating industry in the island. Therefore, proper measures must be in place to protect and preserve the island.

Internally, espousing proper coordination and cooperation with its members, most especially the resort owners, is necessary in achieving sustainable environmental initiatives and projects. We suggest the creation of internal policies and incentives for its members to participate in the conceptualization and implementation of BFI projects and initiatives.

For future projects and initiatives, initiatives which will allow tourists to be involved in the organizations' activities must be designed. This can be done through campaigns raising environmental awareness and responsibility among tourists, or by incorporating an environmental theme to usual tourism activities such as coral planting and beach clean-up.

BFI should also continuously work with the local and national government units, and other non-government organizations in creating and implementing policies and initiatives. We recommend stricter enforcement of sanctions for activities that are causing environmental degradation such as solid waste disposal, etc.

In conclusion, the carrying capacity, absorptive capacity, and rate of loss of valuable environmental resources are essential factors needed to be factored in the estimates of growth

and human well-being. Activities and events must be able to replenish consumed environmental resources in the island.

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