



Good Practice Story Title:

Implementing Satoumi with the "I Love Clean Beach" Program at Baisha Bay Nature Center

Destination:

North Coast & Guanyinshan National Scenic Area Headquarters, Tourism Administration, MOTC

Country:

Republic of China(Taiwan)

Submitting Organization:

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Category:

- Destination Management
- Nature & Scenery
- Environment & Climate
- Culture & Tradition
- Thriving Communities
- Business & Marketing

Destination description:

The North Coast and Guanyinshan National Scenic Area was officially designated on May 15, 2002. The area includes three former provincial-level scenic spots in Taiwan: the North Coast, Yehliu, and Guanyinshan, covering a total area of approximately 12,351 hectares. This includes about 7,940 hectares of land and 4,411 hectares of sea. The administrative regions span across seven districts: Wanli, Jinshan, Shimen, Sanzhi, Wugu, Bali in New Taipei City, and Keelung. The area is renowned for its unique cultural, geological, and coastal landscapes, particularly the Queen's Head in Yehliu, which is a well-known tourist attraction both domestically and internationally. In recent years, efforts have been made to designate this area as a UNESCO Global Geopark.



Summary of Good Practice Story:

The North Coast and Guanyinshan National Scenic Area Administration (hereafter referred to as the NSA) under the Tourism Bureau of the Ministry of Transportation and Communications manages an area adjacent to the Greater Taipei Metropolitan Area. This area includes the scenic regions of the North Coast, Guanyinshan, and Keelung, featuring a beautiful 50-kilometer-long coastline. The original inhabitants lived off the sea, using the coast to repair fishing gear and dry fishing nets. Additionally, the port and fish market areas near the coast engaged in various socio-economic activities related to the sea, emphasizing the importance of agricultural and fishery production and providing economic and social security. Through sustainable use, they aimed to achieve biological and cultural diversity, aligning with the "Satoumi Initiative" for a harmonious relationship between humans and the coastal environment.

However, the strong northeast monsoon, past pollutant discharges, and ocean currents have led to the accumulation of marine debris on the reefs and beaches. This continuous buildup has resulted in the decline or loss of the biological and economic productivity of the beaches, rendering their functions unsustainable. Reducing the threat of marine debris to beach organisms, human economic or recreational activities, and addressing the issue of coastal waste cleanup have become pressing environmental issues for the North Coast.

Issues faced:

The ocean itself does not produce garbage; most marine debris originates from land-based waste entering the ocean, and some is marine debris from other countries. Due to the lack of monitoring of marine debris in Taiwan, there are few statistics on the types or sources of waste. The numerous coastal management agencies make it difficult to formulate or evaluate the effectiveness of source control. The resource utilization of national scenic areas, including marine areas, is highly concentrated. Cleaning up marine debris along the coast and in the sea is crucial to saving the increasingly depleted fishery resources. Through beach cleaning mechanisms, we can promote the "Satoumi" initiative, which emphasizes the integration of humans and the sea. Active management and cleanup of marine debris are necessary to restore fishery resources and biodiversity, ensuring their sustainable use. By establishing a classification system for marine debris and conducting academic research, we aim to create value for recycled marine waste materials and shape an industrial chain for marine waste recycling. This will aid in the recovery and reuse of marine debris, effectively implementing a circular economy. Through initiatives such as voluntary beach cleanups by schools and businesses, and by inviting local community associations and government agencies along the North Coast to encourage local residents to participate in beach cleanups, the number of participants and the amount of waste collected have increased annually. The number of participants grew from 3,306 in 2011 to 52,488 in 2018, with the weight of marine debris removed increasing from 5.04 tons to 66.1 tons. After the pandemic, beach cleanup participation in 2023 rebounded to 35,531 people, removing 58 tons of marine debris. Source reduction and the establishment of cleaning mechanisms led to the Executive Yuan approving the "Salute to the Ocean" plan in 2019, which effectively reduced coastal waste by 60%. Surveys by civil organizations showed a nearly 40% reduction in coastal waste compared to 2019 levels, indicating significant progress in coastal cleanliness and maintenance. Through academic surveys and the publication of professional papers, along with environmental education, we aim to internalize the concept of sustainability in daily actions. Our solution involves four steps: source reduction, interception and cleanup, recycling, and marine and environmental education. These efforts aim to achieve the goal of sustainable travel. In 2018, the Baishawan Nature Center applied for and received certification from the Environmental Protection Administration as an environmental education facility, becoming the first such center in the country to use a beach



as its educational site. Through indoor exhibits, beach cleanup activities, and environmental interpretation, we seek to promote public understanding and care for nature, encouraging support for and participation in conservation efforts. This also enhances the depth and breadth of recreational activities in the Baishawan area and improves the quality of tourism services.

In 2023, we managed to clean approximately 6,650 tons of marine debris and organized 544 beach cleanup activities, with 35,531 participants collecting around 5.8 tons of trash. We are committed to creating a zero-waste tourism environment while emphasizing the importance of a circular economy.

Solution:

(1) First, it is necessary to address the long-term accumulation of marine debris. By establishing a system for recycling and certifying marine waste, we can create value for recycled marine waste materials and shape an industrial chain for marine waste recycling, which will aid in the recovery and reuse of marine debris and implement a circular economy.

The North Coast and Guanyinshan National Scenic Area Administration (NSA) hosted the first "Formosa North Coast Art Season" in 2023, inviting Japanese artist Hideaki Shibata to create art using recycled marine debris with the theme of fish. This event aimed to raise awareness of environmental protection issues.

In 2013, in collaboration with the Wilderness Conservation Association, NSA organized the "North Coast Marine Passengers Special Exhibition." This exhibition utilized beach cleanup data accumulated over the years along the North Coast to tell the local coastal story.

(2) Next, we will utilize manpower and technological aids such as drones to monitor the distribution of marine debris and develop cleanup plans. Specific actions include:

In alignment with the "Salute to the Ocean" policy, we coordinate the coastal environment cleanup within the "North Coast and Guanyinshan National Scenic Area," covering parts of New Taipei City and Keelung City. The cleanup responsibilities include shorelines such as Shalun Beach, Baisha Bay, Kite Park, and Jinshan Bay. In 2021, approximately 2,489 tons of waste were cleaned up; in 2022, around 2,018 tons; and in 2023, about 6,650 tons. Preliminary analysis indicates that most of the waste consists of plastic debris, such as buoys, fishing gear, glass bottles, PET bottles, household waste, and driftwood.

Besides organizing cleanups with our own funds, we also initiate public-private partnerships for beach cleanup activities. The public can apply for beach cleanups through the "I Love Beach Cleanups" webpage, where we provide tools such as grabbers and gloves. This encourages public participation in beach cleanups, promotes eco-friendly tourism through public-led initiatives, and supports volunteer services to practically implement environmental protection. This approach saves public funds on beach garbage cleanup and involves the community in maintaining coastal cleanliness. In 2021, the "I Love Beach Cleanups" initiative resulted in 373 events with 19,988 participants, collecting about 2.8 tons of trash. In 2022, 361 events were held with 21,485 participants, collecting about 3.6 tons of trash. In 2023, a total of 544 events were organized with 35,531 participants, collecting around 5.8 tons of trash.

(3) Using the data from the aforementioned public beach cleanups to achieve transparency in marine debris information, we will conduct surveys and research on marine debris within the North Coast jurisdiction and appropriately disclose relevant information, encouraging public participation. Specific measures include collaborating with academic experts, scholars, and environmental groups to conduct marine debris surveys in the waters surrounding Taiwan and appropriately publish the survey results on the Baishawan Nature Center's "I Love





Beach Cleanups" platform. Additionally, we will encourage and facilitate the adoption of coastlines by businesses and civil groups and their participation in beach cleanup activities.

Analyze whether the participants of the "I Love Beach Cleanups" initiative are motivated by awareness of the "Satoumi" concept and voluntarily join the cleanups, or if they participate to fulfill environmental education requirements or public service hours provided by the NSA. This analysis will help determine future environmental education targets and objectives.

Collect and analyze waste data during beach cleanups using the International Coastal Cleanup (ICC) classification to understand the composition and sources of marine debris. Compare the findings with the 2018 Environmental Protection Bureau's beach waste monitoring results and data from 12 years of beach cleanups in Taiwan (Walther et al., 2018) to provide a comprehensive overview of coastal pollution in the North Coast area for scholars both domestically and internationally, establishing a long-term baseline dataset.

(4) Tackling the root causes of marine waste: While cleanups help maintain coastal cleanliness, statistics show that marine waste has increased in recent years. To seek a fundamental solution, we focus on source management to prevent waste generation and entry into the ocean. Specific measures include:

Promoting the use of reusable cups and utensils among visitors during events and minimizing single-use consumption (e.g., replacing paper tickets with QR tickets, digital brochures instead of paper brochures, metal lunch boxes instead of paper ones, online surveys instead of paper surveys, and sourcing local food/products to reduce carbon footprints, and purchasing eco-friendly promotional materials).

Organizing the "North Coast Charity Tourism" initiative to offer new experiences for visitors who love the ocean and are enthusiastic about public welfare! From now on, visitors can show photos of their participation in North Coast beach cleanups at cooperating stores to receive exclusive discounts.

In response to the global sustainable tourism trend, we actively assisted tourism businesses within our jurisdiction in obtaining the Green Travel Seal (GTS) certification in 2023. The GTS certification provides a credible evaluation mechanism for tourism businesses, ensuring their commitment to environmental protection, social responsibility, and health and safety during economic development. The certification system helps review operational practices to prevent environmental damage, preserve local characteristics, and ensure a sustainable future for the next generation. Currently, Heping Island Geopark and Yehliu Geopark within our jurisdiction have obtained the GTS certification, working together to sustain the earth's environment.

(5) Environmental education and self-management: Besides general environmental education, we disseminate accurate knowledge about marine debris through school and community education systems to encourage people to cherish and protect the ocean. Specific measures include establishing the Baishawan Nature Center and conducting promotional activities through educational courses and media, subtly guiding students and the general public to understand, appreciate, and protect the ocean.

Methods, Steps, and Tools applied:

(1) The North Coast and Guanyinshan National Scenic Area Administration (NSA) has implemented a beach cleanup monitoring survey and pioneered an online beach cleanup application system. This system, in coordination with the International Coastal Cleanup (ICC) record sheet, allows the public to register their monitoring results on the "I Love Beach Cleanups" website after participating in cleanups. The collected citizen science data is compiled to produce marine debris classification tables and analysis charts, continuously recording the state of marine debris in the North Coast area.



The "I Love Beach Cleanups" initiative aligns with the International Coastal Cleanup (ICC) by using random sampling methods to survey coastal areas. During cleanups, participants extend from the seaward edge to the landward edge, aiming to pick up and clean all high-density and low-density trash areas as identified by on-site personnel. Only items listed on the record sheet are counted, while unlisted debris is not recorded.

At the beginning of each cleanup, a marker is placed at the starting point to document the length of the monitored beach. Data is recorded in meters or kilometers on the record sheet. After the cleanup, all collected debris is weighed in kilograms and noted on the record sheet. If foreign or unidentified debris is found, the monitors are asked to detail these items in the survey's notes section.

(2) This study preliminarily analyzes the participation of "I Love Beach Cleanups" members and the sources and materials of marine debris. By collecting public beach cleanup monitoring results, we aim to identify the major sources of marine debris on the North Coast, providing insights for environmental maintenance policies and education.

(3) This study uses the original data records from the "I Love Beach Cleanups" system from 2014 to 2018, totaling 1,471 cleanups with 111,130 participants, for analysis and investigation. After the COVID-19 pandemic, relevant statistics were recalculated, and ongoing monitoring will continue to track marine debris.

Achievements and Results:

(1) This study analyzes the participants of the "I Love Beach Cleanups" from 2014 to 2018, categorizing them into seven major groups: university, high school, junior high school, elementary school, local organizations, parent-child groups, and corporations. Among these, local organizations made up the largest proportion, accounting for 32% of the total participants, followed by corporations at 21%. School groups consisted of university students (19%), high school students (16%), junior high school students (3%), and elementary school students (1%). Parent-child groups accounted for 8%. The analysis of the composition of "I Love Beach Cleanups" members indicates that local organizations, corporations, and high school and above participants constitute over half of the total. Those participating to fulfill public service hours accounted for only about 20%, suggesting that public service hour requirements are a bonus rather than the main reason for participation. Additionally, since government units or public enterprises are subject to an annual four-hour service requirement, the study finds that the proportion of such participants is not high, indicating that their participation is not primarily driven by mandatory environmental education hours.

(2) Analyzing waste statistics from 2012 to 2018, four main sources of marine debris were identified:

Coastal Recreation and Living Activities: Approximately 60%

Marine Activities and Vessels: About 20%

Smoking, Medical/Personal Hygiene Products: Around 16%

Illegal Dumping: About 2%

(3) The analysis of the types of materials of the debris on the North Coast shows that plastic is the most common, making up 80% of the debris, mainly consisting of PET bottles, plastic bags, and other everyday plastic products. Glass is the second most common, often related to beverages used by anglers. Metal debris, mostly alcohol cans left by visitors, is the third most common.

(4) The five most frequently recorded types of debris on the North Coast are plastic shopping bags, plastic bottle caps, disposable cutlery, fishing gear, and plastic straws. The proportion of plastic marine debris is consistent with previous studies, although the specific items vary slightly depending on the cleanup sites.





(5) According to data released by the Ministry of the Environment in 2023, which assessed the cleanliness of the nation's coastlines, a regular monitoring of coastal debris (quick scan surveys) has been conducted by private organizations since 2020. Taiwan's coastlines have seen the removal of 179,000 tons of garbage from 2020 to 2022, with a trend of annual reduction. In 2019, 2,294 tons of marine debris were cleared, decreasing to 1,756 tons in 2020, 1,425 tons in 2021, and further down to 967 tons in 2022. The results indicate that Taiwan's coastal debris has decreased from 2,294 tons in 2018 to 940 tons in 2023, marking an overall reduction of 60%.

(6) Related Beach Cleaning Activities and Achievements

1. In January 2018, the North Coast and Guanyinshan National Scenic Area Administration successfully applied for environmental education facility certification from the Environmental Protection Administration (EPA) for the Baishawan Nature Center. This center is the first environmental education facility in the country to be based on a beach environment. It aims to enhance public understanding and concern for nature through indoor exhibitions, beach cleaning activities, and environmental interpretation. The goal is to encourage people to support and participate in conservation efforts, thereby improving environmental quality and enhancing the depth and breadth of recreational activities in the Baishawan area. The Baishawan Nature Center is currently managed by the Yehliu Geopark (the entrusted unit has obtained the GTS Green Travel Label), which organizes a series of beach cleaning and environmentally friendly activities. To encourage participation from elementary and middle school teachers, the center offers the "Marine Clean Action" course, primarily targeted at middle school students. This facilitates direct application by middle school teachers to bring students for beach cleaning activities. Based on this analysis and future planning, the center aims to attract a more diverse group of visitors to the Baishawan Nature Center.

2. In conjunction with beach cleaning activities, the Baishawan Nature Center was renovated in 2018 and received the "Svayam Accessibility Awards" for the Most Accessible Tourist Attraction. In 2023, the Baishawan Nature Center underwent another renovation and was awarded the Silver Award at the "Muse Design Awards" in the United States.

3. On April 22, 2018, the RE-THINK Environmental Education Association of Taiwan, in collaboration with Niantic, the developer of the mobile game Pokémon GO, responded to Earth Day by launching the "Pokémon GO Earth Day Clean Up" campaign. They partnered with NGOs and local players worldwide to clean beaches and protect the environment. The event was held simultaneously at 37 locations in 12 countries, including Shalun Beach on the North Coast, where RE-THINK collaborated with NGOs and local players for a cleanup effort.

4. The NSA collaborated with corporations for plastic reduction activities at Baisha Bay. Many corporations, aligning with international trends in net-zero carbon and sustainable finance, are actively engaging in sustainable development. They are enhancing their employees' sustainability awareness and organizing large-scale beach cleanup events with the NSA, integrating sustainability concepts into daily practices.

Lessons Learned and Advice:

1. Since 2011, the North Coast and Guanyinshan National Scenic Area Administration has implemented an online application system for beach cleaning, driven by the voluntary actions of visitors and continuously monitored and recorded. As of this year, the number of visitors actively applying for beach cleaning activities has been steadily





increasing, raising awareness of the severity of coastal debris. Analysis indicates that applicants mainly fall into the following two groups:

(1). Research and analysis of participants show that groups actively applying for beach cleaning activities are primarily local organizations or businesses, which can be key target groups for the continued development of environmental education through beach cleaning.

(2). The second largest group of participants includes school groups, with university and high school students showing higher autonomy in applying for beach cleaning activities. Middle and elementary school students, however, require teachers or parents to accompany them, representing a potential customer base for future growth.

2. The findings from this study provide a comprehensive overview of coastal pollution in the North Coast region, offering long-term baseline data for domestic and international scholars. These results also support the Baishawan Nature Center in developing environmental education courses that integrate local culture and natural ecology, aiming for sustainable management. While the direct impact of beach cleaning on reducing marine debris is limited, its significance lies in environmental education. Therefore, the focus of beach cleaning should be on conducting safe activities and promoting the concept of source reduction of waste. Continuous monitoring with ICC forms, recording and categorizing marine debris, is crucial for analysis and developing solutions based on the data collected. The longstanding "I Love Beach Cleaning" campaign by the North Coast and Guanyinshan National Scenic Area Administration has successfully involved businesses in public beach and mountain cleaning activities. These efforts not only address the environmental aspect of ESG (Environmental, Social, Governance) but also highlight social and governance dimensions. Beach cleaning is a form of social participation and community feedback. When combined with local revitalization efforts, it allows businesses to contribute to community development and engage in environmental education. Well-organized beach cleaning activities can foster environmental awareness, community integration, and sustainable development, while also building organizational culture, dialogue, and consensus, ultimately maintaining a beautiful and safe recreational space. (4) Through the operation of the Bisha Bay Nature Center, we hope to implement the concepts of environmental education and sustainable development, with the goal of becoming a high-quality environmental education venue. The beach cleaning activities will enable mankind and the coastal environment to gradually restore a harmonious relationship, so that mankind can coexist with nature, and in conjunction with the promotion of the Caspian Sea, the oceans of Taiwan will have a sustainable future, and will enhance the visibility of international issues. We hope that in the future, the government and the private sector will continue to work together to build a more complete, long-term, and large-scale marine pollution monitoring data, to achieve the Caspian Sea's goal of harmonious and sustainable coexistence between mankind and nature, and to gradually achieve the Caspian Sea's goal of building an environmentally friendly, safe, healthy, and friendly tourism environment.





Recognitions and Additional References

1. Recognitions

- A. Muse Design Awards 2023, Interior Design - Service Centers ,Silver.
- B. 2018 Svayam Accessibility Awards MOST ACCESSIBLE TOURIST ATTRACTION
- C. 2018, Environmental Education facilities and venues, The Organization Act of the Ministry of Environment

2. Additional references

- 3. Baisha Bay Visitor Center Muse Design Awards 2023 (網址:
<https://design.museaward.com/winner-info.php?id=12853>)
- 4. 2018 Svayam Accessibility Awards (網址:
<https://www.facebook.com/photo/?fbid=1789903621113879&set=a.276869189084004,https://tw.news.yahoo.com/%E6%89%93%E9%80%A0%E7%84%A1%E7%A4%99%E6%99%AF%E9%BB%9E-%E5%92%8C%E5%B9%B3%E5%B3%B6%E5%85%AC%E5%9C%92-%E7%99%BD%E6%B2%99%E7%81%A3%E7%8D%B2%E5%9C%8B%E9%9A%9B%E7%8D%8E-160000346.html>)
- 5. Baishawan Nature Center **Environmental Education facilities and venues**
(site:<https://eego.moenv.gov.tw/tour1/index-2.asp?Parser=99,4,12,,,,,107>)
- 6. North Coast Marine Passengers Special Exhibition (site:
https://www.sow.org.tw/sites/sow/files/201312_260_p6_7.pdf)
- 7. North Coast and Guanyinshan National Scenic Area Administration corporate partnership beach cleanup:
<https://www.northguan-nsa.gov.tw/user/article.aspx?Lang=1&SNo=04007744>



