Indigenous people (IP) within a managed ecotourism business: a case study of the Pamulaklakin Forest Trail (PFT) in the Philippines

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Indigenous People (IP) within a Managed Ecotourism Business: A Case Study of the Pamulaklakin Forest Trail (PFT) in the Philippines

Miriam Caryl Carada

ABSTRACT

The Philippines is comprised of 7107 islands, each of which has a rich and diverse flora and fauna. This biodiversity is mainly appreciated by both locals and foreign visitors through ecotourism activities. In 2015, the Department of Tourism (DOT) estimated that the number of travelers in the country was as many as 38 million (a combination of foreign and local travelers and the Filipinos working overseas). The country remains popular with travelers despite facing some difficulties. In the 2014 World Risk Report of the UNU, the Philippines placed second after Vanuatu out of 173 countries in terms of natural disaster risk. Philippines experience earthquakes, floods, volcanic eruptions, and typhoons. The Pamulaklakin Forest Trail, in the province of Zambalez, is in itself a case of an ecotourism business that was conceived as part of the recovery and reconstruction plans after there was a major eruption at Mt. Pinatubo 1991, and after the United States forces abandoned its naval base in the area. Furthermore, the initiative serves as a resilience strategy for the community the indigenous people (IP) called the Aeta. The Subic Bay Metropolitan Authority (SBMA), a government owned and controlled corporation (GOCC), managed the Pamulaklakin Trail from its foundation in 1992 until the Aetas claimed ownership of the land in 2009 as part of their ancestral domain. One of the reasons that they decided in 2013 to manage the Pamulaklakin Trail was that the area is part of the tribe's homeland. This article will discuss the sustainability of the ecotourism business of the Pamulaklakin Forest Trail (PFT), and its contribution to the resilience of the community. Field visits, including site observations and interviews with the community and staff of the SBMA, were conducted along with the gathering of secondary data. All of the data was summarized and analyzed using the business model canvas, SWOT and triple bottom line analysis. Findings indicate that there is a link between business sustainability and community resiliency, especially in terms of economic resiliency. However, the future sustainability of the business management of the tribe is in doubt as there is no business plan, marketing plan, or financial model for the business. There is also a question of the capacity of the tribe to manage the business, and there is the need for more collaboration with the SBMA in regard to management guidance. In terms of resilience, there is a significant positive impact on social resiliency, and contributions being made to environmental management and preservation for disaster resiliency, but there is hardly
any contribution by the business to economic resiliency.

**Keywords:** Ecotourism, Business Management, Indigenous People, Sustainability, Resilience

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## List of Acronyms

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<tr>
<td>CATD</td>
<td>Certificate of Ancestral Domain</td>
</tr>
<tr>
<td>DOT</td>
<td>Department of Tourism</td>
</tr>
<tr>
<td>GOCC</td>
<td>Government owned and Controlled Corporation</td>
</tr>
<tr>
<td>IP</td>
<td>Indigenous People</td>
</tr>
<tr>
<td>JMA</td>
<td>Joint Management Agreement</td>
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<td>NCIP</td>
<td>National Commission on Indigenous People</td>
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<tr>
<td>NGO</td>
<td>Non-government Organizations</td>
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<td>PFT</td>
<td>Pamulaklakin Forest Trail</td>
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<tr>
<td>PHIVOLCS</td>
<td>Philippine Institute of Volcanology and Seismology</td>
</tr>
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<td>PHP</td>
<td>Philippine Peso</td>
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<tr>
<td>SBDRRMC</td>
<td>Subic Bay disaster Risk Reduction and Management Council</td>
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<tr>
<td>SBMA</td>
<td>Subic Bay Metropolitan Authority</td>
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<tr>
<td>TIEZA</td>
<td>Tourism Infrastructure and Enterprise Zone Authority</td>
</tr>
<tr>
<td>UNU</td>
<td>United Nations University</td>
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I. Introduction

Natural disasters are very common in the Philippines, and the country ranks second after Vanuatu in 2014 in the World Risk Report of the United Nations University (UNU) under the category of risk of natural hazards. The Philippines lies in the Pacific Plate, the Ring of Fire and the Typhoon Belt, and is also vulnerable to earthquakes, volcanic activities, typhoons, and even tsunamis, as it is an archipelago of 7,107 islands.

Despite its vulnerability to natural disasters, the Philippines remain a popular tourist destination. According to the 2015 report of the Philippine Department of Tourism (DOT), there were 38 million tourists (foreign, local, and overseas Filipino workers) in the country that year. Tourists frequent the country as it is a showcase of natural treasures and is known to be one of the most ecologically diverse countries in the world. Tourists usually enjoy the beauty of The Philippines through ecological tourism, or what is commonly called ecotourism. This tourism niche has been defined in the context of the Philippines as “a form of tourism within a natural and cultural heritage area where community participation, protection and management of natural resources, culture, indigenous knowledge and practices, environment education, and ethics, as well as economic benefits, are fostered and perused for the enrichment of host communities and the satisfaction of visitors.”

This article will discuss the Pamulaklakin Forest trail (PFT), which is one of the many ecotourism destinations in the Philippines. The PFT is located in the municipality of Subic within the Subic Bay Freeport Zone (FPZ) in the province of Zambales, which is a former US Naval base. The Subic Bay PFZ has been created through the Republic Act No. 7227 commonly called the Bases Conversion and Development Act of 1992. The PFZ covers 67,000 hectares of land, and is being developed as a self-sustaining tourism, industrial, commercial, financial, and investment center managed and operated by the Subic Bay Metropolitan Authority (SBMA), which is a government owned and controlled corporation (GOCC).

The PFT is a unique ecotourism destination, not only in Subic, but also in the whole of the Philippines, as it is the only ecotourism site that is managed by a group of indigenous people who hold a clean title of the land where they are conducting their ecotourism business. It should also be noted that the PFT covers part of the home of the tribe. Although the business was initially managed by the SBMA for about 20 years, the community, the Aeta tribe, was granted ownership of the land and decided to take over management of the area in 2013. The PFT can therefore be classified as community based ecotourism, yet it is an exceptional case since the community comprises of the Aeta, an indigenous group of people. The group is one of the hundred groups of indigenous peoples in the Philippines, and is a particularly special tribe since it is one of the first, if not the first, inhabitants of the Philippines. The Aeta are traditionally a
hunting/gathering people, making them highly skilled in jungle survival.

The development of the PTF is unlike that of other tourism destinations as the PFT is a part of a former United States Naval base. In 1991, Mt. Pinatubo erupted which affected the base and resulted in the forces choosing to leave. The Filipino government was concerned that the facilities at the base would be looted and completely destroyed, and so developed the area and converted it into a PFZ. The PFT, which was part of the training grounds of the American Naval force, was subsequently developed into an ecotourism destination. The development of the area is mainly due to two reasons – the Bases Conversion and Development Act of 1992, and the reconstruction and recovery of the area due to the natural disaster. The development of the area is also geared towards helping the Aeta community to become resilient, especially economically.

Twenty-five years after the eruption of Mt. Pinatubo, the Aeta tribe is now managing the PFT. This article discusses the management style and the business strategies of the tribe, as well the sustainability of the business. The question of whether the Aeta tribe has gained resiliency in their management of the ecotourism business is raised through examination of the various impacts of the business on the community. Field visits, including site observations and interviews with the community, Aeta guides and staff of the SBMA, were performed to complement the gathering of secondary data. There was one limitation on the data gathering: the treasury department could not be accessed and so the data on the exact profits of the PFT was not obtained. Data was summarized and analyzed using the business model canvas, SWOT, and triple bottom line analysis. The business model canvas, which shows 9 building blocks of a business, is used to understand the strategy and management of the Aeta tribe. From the findings of the business model canvas, a SWOT and triple bottom line (social, economic, and environmental impact) analysis was created to understand and explain the business sustainability and the contribution of the business to the resilience of the community.

II. BACKGROUND TO THE STUDY

To be able to clearly understand the case of the PFT, it is crucial to first discuss the land development in Subic. The rich history of Subic dates back to the development of the Subic Bay in the 1800s when the Philippines became a colony of Spain, right up until the successful land claim in 2009 by the Aeta tribe due to Subic being their ancestral domain.

During the colonization of the Spaniards, Subic Bay was developed as a naval fortress due to its strategic location and the natural depth of the harbor. In 1898, the Treaty of Paris was signed which ceded the Philippines from Spain to America. 1899 was the beginning of the Philippine-American war, and Subic Bay was transformed into one of the biggest American Naval Base overseas, where it was used as a supply and
repair depot. As the base included the home of the Aeta tribes (which includes the current PFT site), the development of the base forced the tribes to retreat deeper into the forest.

Following the signing of the Treaty of Manila in 1946, the Philippines were granted full independence from America. In 1947, the Philippines and the United States signed a Military Base Agreement/ Military Assistance Agreement that established a Joint United States Military Advisory Group to advise and train Filipino armed forces in the transferring of aid and other material. The home of the Aeta tribe remained part of the base, but some parts were now used as a training ground for the soldiers. The American forces surveyed the area, dug deeper into the forest and discovered the presence of the Aeta tribe. While the American forces wanted to learn more about the tribe and their way of life, the tribe was initially hesitant to make contact with American forces due to their foreignness. However, as the tribe grew accustomed to the presence of the American forces, they eventually became quite familiar with their culture, and according to the Aeta, they established good relations with the Americans. The tribe was allowed to use the base facilities, including the hospital and food and shoes were also given to the tribe. Both parties shared a feast every Christmas, and the tribesmen were given gifts. It can be said that the Aeta and the American forces established a mutual relationship, with the Aetas benefitting from the use of some facilities and the aid that was provided, while the Americans bought goods such as crabs or fruit and learned jungle survival techniques from the Aeta.

In 1991, the Philippines suffered one of the biggest natural disasters in its history when Mt. Pinatubo erupted. The eruption damaged and killed crops in the surrounding area due to the 5cm thick ash deposits over a land area of about 4000 sq. km. The eruption was followed by a typhoon, and then a series of earthquakes and aftershocks that caused roofs to collapse. The series of disaster caused the death of 700 people and 200,000 more became homeless. The US base was also affected by the eruption and the facilities were damaged.

Negotiations were already in place to renew the treaty of Manila that was about to end in 1992, but the disaster caused the United States to decide to abandon the 89-year old base. As the Filipino government was worried that the 8,000,000Php (160,000USD) worth of infrastructure left behind would be looted and totally destroyed, the base was converted into a Freeport Zone. This was done via the Republic Act No. 7227, establishing the Subic Bay Metropolitan Authority (SBMA) which aims to promote and develop the Subic Special Economic Zone/ Freeport Zone into a self-sustaining, industrial, commercial, financial, and investment center for the generation of employment opportunities in and around the zone, and to attract and promote productive foreign investments.
The SBMA was established before the exit of the American forces, and the future of the Aeta tribe was discussed by the SBMA chairman, Mr. Richard Gordon, and some of the American forces. As the American forces had good relations and understanding of the way of life of the tribe, they requested that the SBMA help the Aeta and not relocate them. During the rehabilitation and reconstruction of the naval base, a portion of the land that covers the home of the Aeta, a part of what they call the village of Pamulaklakin, was converted to an ecotourism destination. The area is now known as the "Pamulaklakin Forest Trail." Pamulaklakin means "herbal vine" in the Aeta language.

The ecotourism business began operation after a period of two months during which utility lines (electricity and phone) were installed, and a small one story administration office made of concrete and several cottages made of wood were constructed. The first tourists/customers were groups of school children that came by bus. From the interview conducted with an Aeta guide, it was learned that they were overwhelmed by this unexpected sudden influx of people. This was due to them not having been given proper training on how to deal with them, and they were also not told to guide the tourists in exploring the area and to share their knowledge about life in the jungle until the tourists had actually arrived.

In 1997, the Filipino government passed into law the Republic Act No. 8371. This is also called the Indigenous Peoples’ Rights Act, and is popularly known as the IPRA. The law recognizes, protects and promotes the rights of Indigenous People in the Philippines. One of the reform processes of the IPRA is the awarding of ancestral domain and land titles to indigenous communities, while protecting them in their ancestral lands. Following the passing of the IPRA, the Aeta tribe claimed the area of Subic as their ancestral domain, and was subsequently granted 4,280 ha of land in 2009. This area not only covers the village of Pamulaklakin and the PFT, but also most of the Free Port Zone. Although the land has been claimed by the tribe, it is still co-managed by the SBMA. In September 2011, the tribe chief-in (leader), the SBMA chairman and the director of the National Commission on Indigenous People (NCIP) signed a joint management agreement authorizing the SBMA to provide systematic management and development of the ancestral land to help boost the economic, social and cultural life of the tribe based on programs implemented by the government. Despite this, in 2013, the tribal council decided to take over the management of the PFT.

III. TOURISM ACTIVITY AND GENERAL FEATURES

There are other ecotourism destinations within the Subic area, such as the Mangrove Park where tourists can take a small boat to observe the mangroves, the Jungle Environmental Survival Training (JEST) Camp where tourists are offered a selection of tourist activities including jungle training, and the Apaliin forest trail, which
is a hiking path for tourists. However, the PFT is special as it is a track that is off the beaten and leads deep into the jungle and the mountains of Subic. By visiting the PFT, tourists can visit the place where the Aeta reside, and learn jungle survival techniques directly from the Aeta. It is also a place where customers can experience the natural beauty of landscapes and clean rivers giving customers the option to camp, picnic and/or take a dip in the clear waters. The PFT is open to the general public at very attractive rates (Table 1).

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<th>PACKAGE</th>
<th>PRICE IN PHILIPPINE PESO (PHP)</th>
<th>ACTIVITY</th>
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<tr>
<td>Sight Seeing</td>
<td>50 / adult and child (1 USD)</td>
<td>- Visiting of vantage points in the area and taking pictures</td>
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<tr>
<td></td>
<td>50 / adult and child (1 USD)</td>
<td>- Includes a native guide</td>
</tr>
<tr>
<td>Mini Jungle tour</td>
<td>100 / adult and child (2 USD)</td>
<td>- Trekking in the forest in Subic Bay with a native guide and a demonstration on how to survive in the jungle. (The tour lasts for 30 mins.)</td>
</tr>
<tr>
<td>Ecology tour</td>
<td>250 / adult (5 USD) 250 / child (5 USD)</td>
<td>- A two to three hour trek in the Subic forest with an Aeta guide</td>
</tr>
<tr>
<td>Overnight Jungle tour</td>
<td>500/adult and child (10 USD) 500/adult and child (10 USD)</td>
<td>- Venturing into and sleeping right in the heart of the Subic Forest and discover how the natives of Subic survive in the forest (Picnic 50/adult and child)</td>
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<tr>
<td>Picnic Table</td>
<td>150/ table (3 USD)</td>
<td></td>
</tr>
<tr>
<td>Location shooting and team building</td>
<td>15,000 / day (300 USD)</td>
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There are three tours offered in the PFT, from a 30-minute tour to an overnight jungle tour/camp. A sightseeing option is available which comprises a viewing of the grounds under the supervision of an Aeta guide. Special packages are also offered for location shooting (for photoshoots, movies or commercials) and team building events. Picnic tables that can be set up near the river are also available for rent.

The structure of the PFT is simple. The jungle itself has not been changed, but some forms of infrastructure and facilities have been built near the entrance. A small sign and an information board displaying the tour options have been positioned at the entrance to
the site. Adjacent to the signboards is the reception area where customers can rest while making payments for the tours. Jungle survival demonstrations are also sometimes performed in this area. There is a small multipurpose hut where tickets for the tour can be purchased, and small souvenir shops that are owned by individual members of the community. The hut also has a phone line and a medicine box. A few meters from the souvenir shop is the administration building that is used by the SBMA employees. Between the administration building and the multipurpose hut is a bridge that leads to the jungle. Not far away from the bridge is the picnic area with a grill.

IV. TOURISM MANAGEMENT

The PFT has been under two different managements, beginning with the SBMA in 1992, and with the Aeta tribe taking over in 2013. To discover how the PFT has been and is being managed, key informant interviews (KII), focus group discussions (FGD), personal observations, and desk reviews have been conducted. During the analysis, nine elements were considered and were summarized to create a ‘business model canvas’. The nine elements of the canvas and a short description of the elements is as follows:

(1) Customer segment – Which customers are being served?
(2) Value proposition – What services and/or products are being offered to the customers?
(3) Channels – How is the customer reached and through which interaction points?
(4) Customer relationship – What relationships are being established with each customer segment?
(5) Revenue streams – What services and/or products are the customers willing to pay for?
(6) Key resources – Which resources underpin the business model and which assets are essential?
(7) Key activities – Which activities are being implemented for the business to perform well?
(8) Key partners – Who are the partners?
(9) Cost structure – Which key elements drive costs?

A. Management of the SBMA

The development of the PFT is part of the SBMA strategy for the recovery and reconstruction of the area after the United States Forces left their base following the expiration of the Manila Treaty and the eruption of Mt. Pinatubo. Another aim of the development is to help ensure the continuation of the Aeta tribe. No concrete business plan has been created by the SBMA for the PFT, but the business has been summarized in the above business model canvas (Figure 2).

As can be seen from the business model canvas, the target customer segments (i.e. tourists) for the PFT consist of groups of students, families, and other small groups. The PFT offers their customers exposure to, enjoyment of and learning about the natural
environment (including hiking, camping, and picnics), interaction with the Aeta tribe and learning about the way of life in the jungle. Student groups around Subic frequently visit the PFT to learn about nature and the tribe; whereas families visit to enjoy nature and have picnics, and other small groups usually hike and camp deep in the forest.

Customers are reached through different channels of the SBMA. In general, SBMA promotes and markets the PFT and other tourist attractions within the free port zone with the aid of the Tourism Department. In the case of the PFT, the tourism department produces and distributes leaflets about the destination. Information about the PFT is also posted on the SBMA’s official page. As it is the primary customer access point, it is important that the SBMA takes good care of the customers and establishes a personal relationship. This ensures greater customer satisfaction, and makes it more likely that customers create further business through word-of-mouth recommendations.

As the PFT is a revenue generating business, the management collects fees for different services (as shown in Table 1). While there are several small snacks and souvenirs stores on the site, they are individually owned. There is also no fee for using the hut so the stores or the hut do not contribute to the profit of the site.

In delivering service to the customers, it is important to identify the assets, or key resources of the site. The main assets are: nature, infrastructure, and the Aeta. Of the three, the Aeta tribe is a particularly important asset since many tourists come to the area to interact with and get to know one of the world’s most famous tribes and one of the first inhabitants of the Philippines. In addition to this, a number of groups come to the area to learn about the natural environment, thus making nature an important asset of the PFT. While the infrastructure is fairly limited, it does contribute to the PFT’s revenue collection. The SBMA management has tasked the Aeta with the training of the Aeta guides and the everyday cleaning in order to maintain the site’s assets and deliver good service to the customers. Training is performed with the help of several organizations. One of these is the Ecology Department that provides technical training to the Aeta, such as identification of the plants and animals within the PFT and their corresponding names in English.

Several institutions, and specially the Aeta tribe, work as part of the SBMA in the management of the business. One of these is the Tourism Department of the SBMA that is involved in the marketing and promotion of the destination. Another body is the Ecology department, which as mentioned above, provides training for the Aeta. A further entity is the treasury department, which manages profit.

Like any other business, there are costs in the delivery of the service and the maintenance of the assets, as well as generated revenue. The cost structure is not complicated and mainly comprises of the salaries of the around 60 Aeta guides and utility bills.
Construction and development of the PFT was performed a year after the eruption of Mt. Pinatubo in parallel with other reconstruction efforts in the free port zone. The development of the area was conducted quickly without any concrete business or management plan. Furthermore, although the infrastructure is simple, no proper maintenance procedures were set up. The relationship between the Aeta and the SBMA was also not determined. The aim of the development of the area is to help the Aeta to be resilient, yet an assessment of the business management shows that the site is fully managed by the SBMA, with the tribe serving as employees and not taking responsibility for any part of the business management.

B. Management of the Aeta Tribe

The Aeta Tribe was granted ownership of 4,280ha of their ancestral domain (including parts of the Freeport zone) in 2009. Having ownership of the land means having the authority to decide upon land management. The majority of the land was leased to private and multinational companies, as well as the SBMA. A tribal council, which consists of councilors and the chief-in (Table 2) decided to vote on the management of the PFT, and this resulted in the decision to take over. One of the reasons for this decision to take over the management of the site is that the PFT is part of the village of Pamulaklakin, which serves as the home of the tribe. The transition was made in November 22, 2013, making the site the only ecotourism destination in Subic that is not managed by the SBMA, and the only one in the Philippines that is managed by a group of indigenous people with a clean title of the land.

The business model canvas of the Aeta tribe management is summarized in Figure 4. The change in management shift didn’t result in major changes in the value offered or the operation, as the target customers and the services being delivered were maintained. Although it is not reflected in the new business model canvas, the change did weaken some channels, particularly the role of the SBMA, which used to be the main vehicle of promotion. Nowadays, SBMA still provides potential customers with information, however when customers enquire about the site, PFT is still listed in the official SBMA site, but the only details included are the address and phone number. The tourism

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<td></td>
<td>Nina Orohado</td>
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<tr>
<td></td>
<td>Ninita Ignacio</td>
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<td>Rony Nisina</td>
</tr>
<tr>
<td></td>
<td>Marieta Pabayan</td>
</tr>
<tr>
<td>Counselors</td>
<td>Manuel Delusas</td>
</tr>
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<td></td>
<td>Sony Boy Magay</td>
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</table>

*Table 2. Tribal council members.*
department (DOT) doesn’t produce brochures for the site, and has instead placed more emphasis and energy on the promotion of other sites in the area. In the advancement of technology and the increasing interest of young people in sharing their adventures with others, new channels for the PFT have been created. Customers have now become part of these channels by using social media to spread the word about PFT. This provides more information to the customers than the traditional channels of the PFT were able to do. The new channels are as follows:

- **Facebook**
  - Pamulaklakin Forest Trail, Subic Freeport Zone (tourist attraction) – unofficial. No information is provided, just ratings
  - Pamulaklakin Forest Trail (outdoors) - unofficial. No information is provided, just a few star ratings with comments

- **Trip Advisor**
  - Pamulaklakin Forest Trail- reviews, photos, contact details <https://www.tripadvisor.com/Attraction_Review-g4751237-d3694404-Reviews-Pamulaklakin_Forest_Trail-Subic_Bay_Freeport_Zone_Central_Luzon_Region-Luzon.html>

- **Blogs and Other Sources of Information**
  - Heart Warming Encounter at Pamulaklakin Village - blog made in 2013 providing details of a project held on the site <https://jackinetic.wordpress.com/2013/03/26/heart-warming-encounter-at-pamulaklakin-village/>
  - Pamulaklakin Forest Trail – a blog by a student in the form of a project which provides details of the tour package, rates, locations, contacts, and the Aeta management <http://pamulak.tumblr.com/>

There are two existing pages about the PFT on Facebook. Existing reviews of the PFT can also be found on the American travel website Trip Advisor. There are also blogs that
share information and the travel experiences of people who have visited the PFT.

The value proposition of PFT remains unchanged. However, the relationship between the customers and the management has become more of a dedicated personal relationship. Under the new format, the customers mainly contact the Aeta directly without going through the SBMA. When they arrive at the destination, the Aeta welcomes the customers and deliver the value proposition. There are no changes in terms of the revenue streams as revenues still come exclusively from tour fees.

Despite pointing out that the area is their home and that they know how to manage the land, it has to be said that the Aeta tribe are only replicating the way SBMA had managed PFT. The main issue is that there is still no concrete business plan, and key activities have not changed, although facilities have been upgraded. Construction of new infrastructure such as pavilions, toilets, and showers is taking place, however some infrastructures that had been used previously by the SBMA, such as the administrative building, are no longer being utilized. The main maintenance activity is still only cleaning, including the regular sweeping of the grounds.

Furthermore, the facility upgrades are mainly executed by the partners, and so the business acquired more partners/supporters, mainly foreign and local individuals, that made upgrades possible. It is through private contributions that the site was able to afford the construction of a new gazebo, a function hall, and toilet and shower rooms (Figure 3). Partnership with the SBMA is minimal, but there are still good connections with the Ecology Department. The Aeta are well versed in the ways of the jungle such as issues relating to conservation, the use of plants and trees, and banning the consumption and hunting of specific animals. A partnership still exists with the treasury department, an Aeta is designated to collect fees and list customers coming in into a log book. The money collected is delivered to the treasury department and the profit that remains is deposited to the Aeta account. In addition to the partners, there are schools and universities that conduct projects on the PFT. One of the nearby universities has set up a project for the women of the tribe, and the school has provided the tribe with an oven.
within the PFT site. There are also occasional reading programs for the young children.

As mentioned previously, the revenue stream hasn’t changed, although additions have been made to the cost structure. A new regulation was implemented by the SBMA in 2014. The regulation stipulates that all tourist facilities shall pay the Environment and Tourism Administrative Fee (ETAF), which is either 20php per visitor or 10% of the fixed entrance rate of a facility. The tribe also mentioned that they pay about 20% of their profits to the bank for a loan from the SBMA to develop some of the facilities in the site before the takeover of management, and an additional 5% of the profits goes to tax. The service costs of the tribesmen/guides have been removed from the cost structure, while the profit of the PFT (the amount deposited by the treasury department to the tribes account) minus the utility fees is divided equally among the tribesmen.

Another driver in the decision by the tribe to take over the management is that in the SBMA management, some tribesmen felt that they were not given enough tasks and that they could do more. However, the PFT still has no clear management plan with the current tribal management and the sustainability of the business is at stake. It was also suggested by some guides that they don’t earn much and there are fewer visitors coming. On the other hand, there are facilities that are being constructed and there are still opportunities with the current business model. It was also concluded from interviews with some of the Aeta guides that one problem is that there seems to be a lack of

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**Figure 4. The Business model under tribal management**
motivation by the Aeta to improve the business. If not much profit is being made, there is the feeling that they will go into the mountains and begin farming instead.

V. ANALYSIS
A. BUSINESS SUSTAINABILITY

Differences exist between the SBMA and the tribal management of the PFT. However, as previously mentioned, the focus of this article is to assess the sustainability of tribal management and its contribution to the resiliency of the community. One of the most effective ways to assess the business and its sustainability is through the application of the business model canvas to the classic SWOT analysis: strength, weakness, opportunities and threat. SWOT analysis provides these four perspectives from which elements of the business model can be assessed, allowing the canvas to provide the focus necessary for a structured decision. The SWOT analysis mainly asks four questions. The first two questions are related to the strength and weakness, which are used to assess the business internally, while the other two questions are: What opportunities does the business have? and What are the threats that the business face?, which assess the business’ position within its environment.

If we apply SWOT analysis to the PFT (figure 5), a number of weakness and threats become apparent in its management that clearly outnumber the strengths of the business. On the other hand, there are a number of opportunities that the business is not currently exploiting. For example, the value propositions or the service offered by the PFT, such

![Pamulaklakin Forest Trail (PFT): SWOT](image)

**Figure 5. PFT SWOT analysis.**
as the jungle survival techniques, can be franchised, although it should be stressed that the jungle survival techniques in PFT are currently being taught directly by the Aeta. Another alternative is that a number of tourism destinations around Subic possess more and advanced facilities, services, and infrastructure. Furthermore, the PFT has been adding/upgrading their infrastructure to improve comfort for customers. Though there are fewer services offered at PFT, one strength is that it has a very competitive and attractive price structure. PFT also enables customers to enjoy and experience the natural beauty of nature under the care of the Aeta guides. However, natural environment cannot always be easily accessed, whereas with PFT, although frequented by tour groups or families, individual travelers may expect more facilities (For example, travelers from the city without vehicles have to take a cab back). The Aeta’s response to such a situation, if there are such travelers, is to use their phone lines to help the visitors call for a cab when they finish the tour.

The PFT management also has issues with the maintenance of the environment and infrastructures. The only key activity that is currently conducted is cleaning. However, there is a clear need to periodically conduct proper maintenance such as checking infrastructure and conducting repairs once in a while, as well as environmental impact assessment, specially in relation to the facility upgrades. It has been mentioned that the Philippines is a disaster vulnerable country and in the Subic area there are persistent threats of tsunami, earthquakes. This means that there is even more reason for proper maintenance activities to be implemented. Currently, in an event that a disaster occurs or if the business is deteriorating, there is no business contingency plan. There is also not as much partnership with the SBMA, however, management are able to receive guidance on proper maintenance and environmental conservation concerns, if required.

Several threats and weaknesses have been discussed, and a number of issues have their roots in not having a business plan. One is that this ecotourism venture has been developed rapidly within two months. Although it was developed to help the Aeta community, it was done with no thought of the vision for the business and its sustainability. There is also the question on the capacity of the Aeta to manage the business. For this there are no concrete margins and no formal financial plan, and there are no fees that are dedicated to the service of the guides. There are additional costs, but there is also a very narrow/ limited source of revenue, which is highly dependent on the tour activities. Margins are not computed, and there haven’t been any changes in the pricing since the business was founded by SBMA management. One of the revenue streams is the rent of the tables and chairs for picnics which, if not properly maintained, will in the near future need such repairs that will be beyond the revenue stream of the PFT. There is also the fact that the partners, i.e. the Aeta, don’t charge individuals who made donations (infrastructure donations), nor their companions, which may not be
sustainable in the future as it may cause the PFT to lose a large big amount of revenue. The issue of donations is also a general concern. In the ecotourism business, there is always the controversy of how much a site should be developed, and the optimal balance to preserve the natural environment, which the customers enjoy. Donations are warmly welcomed by the Aeta, but issues on its impact to the environment are not being raised, and also affect the quality of the infrastructure.

There are number of opportunities that could be taken exploited by the Aeta. There are stores in the PFT, but they are not directly linked with the revenue streams of the business. Sample products are a bamboo flute, a bow and arrow, and some handicrafts. These products could be incorporated in the value proposition, and could be developed into new sources of revenue such as teaching customers how to do some handicrafts, or how to use the bow and arrows. The Aeta could also come to an agreement to incorporate the stores into one, thus enhancing it and making it part of the revenue stream. Another possibility is for the Aeta to utilize the traditional costume of the tribe, which some tribesmen still use it in their daily lives. It could be possible for customers to learn how to put on the traditional costume or even wear it. There are the new toilets and shower facilities that are being installed, for which a small charge could be levied, or there could be a change in the pricing scheme of the business. Some of the tribesmen are being called to other tourist destinations to perform traditional dances. This option could be a part of the revenue stream as a special addition to the tour for group visits or study tours. There is unused infrastructure as the administrative building, and these facilities could be opened and turned into a visitors’ center or a small gallery about the tribe, or about the beginnings of the PFT. In the PFT, there is an oven that was donated by a university, but the pavilion where it is located is infested with wasps. If pest control were called, and there was training on the use of the oven, the Aeta could make bread and sell it to visitors. This could prove particularly lucrative since there are no stores nearby in the area. In terms of marketing, there is an option to use technology (digitalizing information about the PFT) to reach a wider range of customers, but it is doubtful if the Aeta has the capacity to implement it. There is information on the business that can be found in the internet, but this is insufficient. There are also opportunities to work closer with partners, for instance the tourism department for the promotion and development of the area. There is also the ecology department that can contribute to the environmental impact assessment and the computation of the tourism capacity.

The Aeta could also collaborate more with the SBMA and use their connections and expertise in the management of the site. A gap was created between the Aeta and the SBMA when the Aeta decided to take over the management of the PFT, and there was no consideration of the management transition process of the PFT. As the SBMA governs the free port area, there is no threat of losing them as partners, and the SBMA actually
wishes to help the Aeta in the management process, but the Aeta insist on managing the place independently. One reason behind the strained relations is the difference in perceptions between the SBMA and the Aeta tribe. It is the view of the SBMA that the Aeta are their partners, and they are managing the PFT to help the tribe. However, it is the view of some Aeta that the SBMA are not treating them as partners but employees, and that they are only tasked to be the guides and janitors of the PFT. Nonetheless, the Aeta tribe should consider working closer with the SBMA, not to encourage them to manage the PFT again, but to utilize them as consultants to improve the PFT and to reach out to a wider customer base.

In conclusion, according to SWOT analysis, the PFT business, though currently in operation, is not sustainable in the long term. The most serious problem is the lack of a business plan and appropriate financial business structure. There has been a decline in the number of visitors since the shift in management, mainly due to insufficient marketing and promotion of the business. There is also no concrete organizational structure for the business - there is only a manager and a treasurer/cashier/ticket vendor. Nonetheless, there is potential for development, as there exists a number of opportunities that could be exploited, as well as strengths to be highlighted to address these weaknesses and minimize threats.

B. COMMUNITY RESILIENCY

Examining the bearings of the business to the community, especially in terms of resiliency, the impact of the business to the triple bottom line (social, environmental and economic) will now be examined. The community that is directly associated with and affected by the PFT business is the Aeta tribe because, as already mentioned, the PFT is part of the village of Pamulaklakin, which is home for about 300 Aeta families.

In relation with social and economic impacts, the community doesn’t solely rely on the profits of the PFT. A number of Aeta are recruited by the SBMA to work for different departments, such as in Ecology Department as assessors for the mangrove forest. Equal opportunities are offered to male and female Aeta, and almost all departments employ at least one Aeta in their department in the SBMA. Other members of the tribe who are not working with the SBMA earn their living and survive by farming in the mountains or fishing in the rivers. In general, the tribe doesn’t have a regular and fixed source of income, but instead receives profit from the lease of companies and investors to their ancestral land. In early August 2014, the Ambala tribe, in which the Aeta from Pamulaklakin village is a part of, received 14,791,440.51php ($295,829 USD) as payment of the companies’ lease of their ancestral land. The payment was from the lease during May of 2009 until December of 2013. The land, which is part of the free port zone, covers not only private companies but the Kalayaan and the Binictican housing in
Subic and a number of tourism areas (Apaliin Falls, PFT, and El Kabayo, among others). This amount has been settled in line with the joint management agreement (JMA), which states that 5% of the gross income will be paid by the investors for the rent of the Aeta’s ancestral land. In addition, each Aeta family is paid 20,000php/year (500 USD/year) upon receiving the Certificate of Ancestral Domain (CATD).

The PFT consist of about 60 Aeta guides. The guides are part of the community and their families are all affected by PFT activities. PFT serves as a channel for people to get to know and learn about the Aeta tribe, and for the tribe to meet and interact with people outside their community. The PFT as a venue, not only attracts academic institutions, but also different non-governmental organizations (NGOs), and civic groups who launch their projects and training sessions for the community. For instance, the Subic Bay Photography Society conducts a project called “Read to Lead” where reading is being promoted to young members of the tribe. The community is also given a chance to create their own small businesses in PFT- whether it is small souvenir stores or kiosk for snacks.

It is a fact that there are profits gained from the PFT. Nonetheless, the profit of guides in PFT as mentioned is not fixed as with SBMA management. For example, there are several cases where increased costs arise - loan payments, tax payments, and low fluctuating income. A number of Aeta working in PFT also have other sources of income, such as their “gasak,” a small farming land near PFT or deep into the jungle where they grow their bananas, sweet potatoes, and cassava, while at other times of the year they trap crabs, shrimp, wild boar, and/or chickens to survive.

Considering the environmental aspect, the SBMA in general is both earthquake and typhoon prone. There are also areas with tsunami alerts and the local volcano of Mt. Pinatubo that last erupted in 1991, although it is not currently considered a threat according to the Philippine Institute of Volcanology and Seismology (PHIVOLCS). However, according to the Subic Bay disaster risk reduction and management council (SBDRRMC), there are no information and clear assessment of the threat of hazards in the area (hazard maps). Recently, as a celebration for ‘Disaster Consciousness Month’ the council held activities such as an earthquake drill in schools and clean up events, of which the tribes weren’t included. This is unfortunate, because in terms of disasters, aside from children, elderly, and persons with disabilities, IPs such as the Aeta are among the most vulnerable groups. It is clear that the PFT, as a tourism destination, should have a disaster plan for the customers and the community (Aeta that reside in and near the PFT) in case of typhoons, earthquakes, and cases of landslides in the mountains, yet there is currently no such plan.

Infrastructure upgrades and addition should also be closely monitored in order to not disrupt the natural landscape and disrupt the way of living of other Aeta. An
interview with some Aeta guides indicated that they are hesitant whether if it is a good thing or not to upgrade and add more infrastructure to the PFT because they feel that the natural environment is being disrupted.

The Aeta follow certain rules in the forest, which are in harmony with the laws of the Philippines. One example is limiting the use of forest products. The Aeta are fully aware that they cannot cut down trees to profit from timber as this might cause landslides and loss of habitat for forest fauna such as pythons, deer, lizards, wild boar and monkeys. Tree felling, however, can be done provided permission is granted by the ecology department and is for the building of their own shelter. The Aeta also ensure that poachers of the aforementioned fauna do not enter the vicinity, and the customers are kept informed on the regulations in the jungle. Construction of the PFT contributes greatly in environmental conservation as there would be more chance of illegal logging and poaching in the area without the PFT.

Although not all community members work directly with the PFT, they are still all affected by the business since it is likely that one or two of their relatives works in the PFT and observes close relations within the tribe. Decisions are also made by the tribal council. In general, the business serves as a channel to connect the community to people outside their circle, and the environment and serves as an aid for the tribes’ social resiliency. In terms of biodiversity, the Aeta and other stakeholders are in one mind in regard to conservation and protection. The PFT contributes greatly in contributions to biodiversity conservation. In relation of the environment and biodiversity, protection and preservation helps in improving the disaster resilience of the community, specifically in terms of disaster mitigation by minimizing the impact of typhoons in the area. However, both the tribe and the visitors are seen to currently be deficient in terms of disaster resiliency, and in regard to the recovery phase. This is a surprising finding since the PFT is originally an initiative that was born out of the need for recovery and reconstruction after a disaster. In terms of economic resiliency, the tribe has its own methods of survival that do not depend on profits from the PFT. However, the PFT has the potential to be developed into being a significant contributor in increasing the economic resiliency of the community.

VI. CONCLUSION

Twenty-five years after the eruption of Mt. Pinatubo, the Aeta tribe of the Philippines has acquired their ancestral land and is now managing the Pamulaklakin Forest Trail, or the PFT. In this article, the state of ecotourism management of the Aeta tribe, its business sustainability and its contribution to community resilience has been analyzed. It can be seen that the sustainability of the business and the resilience of the community is clearly linked. This is not only the case for the village of Pamulaklakin,
which includes the PFT, but also the community of the Aeta tribe themselves.

From the SWOT analysis that is described above, there is a number of threats and weakness in the business which outnumber the strengths. However, there are a number of opportunities for the business to flourish, yet, if these are not taken, then while it is currently in operation the PFT may not be sustainable in the long term. The biggest problem is that there is no vision for the business, nor is there any business plan specifically there is no financial structure. Numbers have been in decline since the transfer of management to the Aeta tribe and there is also insufficient marketing and promotion of the PFT. Nonetheless, there remains the potential for development. Opportunities should be exploited and strengths should be highlighted to address the weakness and minimize threats. One key to further development is also partnership with the SBMA.

The PFT improves the social resiliency of the community as it serves as a connection between the tribe/community and the outsiders/customers/tourists, allowing them to learn from each other. The PFT also serves as a venue for social activities that promote capacity development of the Aeta, such as NGO programs in literacy for young Aeta. One motivation for the development of the site is the eruption of Mount Pinatubo. Although it was not directly instigated to mitigate volcanic eruption, conservation of the PFT contributes to the mitigation of other disasters, thus minimizing the impact of typhoons and reducing the risk of landslides. The PFT also helps prevent illegal logging and poachers from entering the area. However, the PFT makes no contribution in the education of the community regarding disasters, and consequently, Aeta knowledge in response to disaster is still lacking. The PFT therefore has some work to do to help the community become disaster resilient. One of the goals of the development of the PFT is to bring economic resiliency to the community. This issue remains unclear since one of the limitations of the study was not having access to the exact profits of the business, but instead relying on the testimonies of the guides about the salary and the profit. One thing is however guaranteed, there is no concrete financial structure of the business, and the guides does not have regular wages, but instead earn an equal share of money from the profit of the PFT. In short, it is clear that the PFT has a major affect on the resiliency of the community.

VII. RECOMMENDATIONS

Several observations have been made in this case study, and the following recommendations have been made on their basis to increase business sustainability and the resiliency of the community.

(1) Business development

As repeatedly mentioned, there is a number of weakness and threats in the PFT
business, and the main root of most of them is the lack of business planning or even a plan at all. The business was rapidly developed after the American Naval base was closed down following the natural disaster that struck the area. This meant that there was no formal business planning, and with the lack of experience and capacity of the Aeta tribesmen in their current management, there has been not much change. For any business to succeed, remain sustainable and flourish, the direction and vision of the business should be clearly stated following the business plan and strategies.

In this case, the tribe should decide first on their direction and vision for the PFT. Once the vision is established, market analysis, identification of the product line, marketing and sales, as well as financial projections should all be made. By doing so, the triple bottom line would also be improved, in that the community would be clear about the role of the business in the community, the environment would be properly managed, which means minimized risk of natural hazards such as landslides, and the business would be more profitable leading to increased resiliency of the community.

(2) Management of transition policy

There is no evidence of a transition period taking place of the management of the PFT from the SBMA to the tribe. The role of the Aeta in the days of management under the SBMA were limited as they were not exposed in the management (financial, marketing, promotion) side, which does bring into question the capacity of the Aeta to manage independently. After the transfer, the SBMA was removed from the equation, and the ecotourism business went into decline. The Aeta are aware of the situation, but there is little motivation for improvement since they are able to survive without relying on the profits from the business. These factors may lead to the business deteriorating and even closing down. One explanation for the situation is the lack of necessary written policy and procedure in the business transition. It should be noted that in any future implementations there should be a smooth management transition to ensure sustainability of the business. In this there could be a possible collaboration with the SBMA and DOT to walk and train the new management during a set transition period.

(3) General supervision (standard setting and accreditation of DOT)

The Tourism Department of SBMA aims to provide quality service to visitors and tourists of the Subic Bay Freeport through its rigorous marketing practices, promotional efforts, as well as its continuous monitoring and regulation of all tourism related establishments and events inside the Freeport. Fundamentally, the
tourism Department works with other destinations in the area to encourage, promote, develop, and manage tourism as a major socio-economic activity that will bring in revenues, employment, and other benefits to both public and private sectors within the Subic Bay Freeport area. In working towards this aim, the Department should closely monitor the activities of all tourism operation areas and make sure they follow a certain standard in the operation of their business. The Department should also include PFT with other tourism destinations and include PFT in the tour packages.

(4) Performance Grant

The performance grant can increase the motivation of the community (in this case the Aeta tribe) to develop the area, as well as to increase sustainability and profitability of their ecotourism business. This incentive could be implemented at several levels, one of which would be at a provincial level. The province, through the Department of Tourism, could create a performance grant system. Incentives on receiving the grant could be a sum of money to be used by the business for further development, or perhaps a grant for infrastructure development or livelihood options.

Description: Provincial Performance provides a grant for community based ecotourism activities. The Department of tourism (DOT) will be producing indicators for evaluating the performance of the business. Indicators will also be developed by the DOT with the help of the local government unit, the National Commission on Indigenous People (NCIP), the Department of Environment and Natural Resources (DENR) and the Department of Trade and Industry (DTI). The Bureau of Internal Revenue (BIR) and/or the Treasury Department could also be included. All the ecotourism will be evaluated once every three years by the DOT and the highest performing business would be awarded a performance grant that could be in the form of money for the development of the business and the PR.

This performance grant could be a source of motivation for the business and would be able to help in the marketing of the PR of the business. Furthermore, the conditions of the business would be improved and customer satisfaction would be higher. This could also be done on a smaller (SBMA) or on a national scale (DOT-main).

(5) Establishment of the voluntary agreements

It is common to have donations from other private entities, NGOs, and even private individuals. In most cases, the donations are welcomed and accepted without agreements. In the case of the PFT, a number of facilities are provided voluntarily by private individuals. The management is grateful for these donations,
but no agreement has been made with the donors. The management sees the donations as a form of “utang na loob” which in Filipino culture signifies a personal level of gratitude. Consequently, the management doesn’t charge the donors and their guests when they visit. However, a complication arises when donors return to the site multiple times with a number of guests, causing the facility to lose revenue. It would therefore be better to have a more concrete and written understanding of what it means to be a donor.

Reference: