Sustainable Tourism at Singha Park

An Interactive Qualifying Project and Interactive Science and Social Project submitted to the faculty of Chulalongkorn University and Worcester Polytechnic Institute

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Abstract

This report addresses Singha Park's goal to achieve financial sustainability and a positive relationship with the local community. This project recommended strategies to the sponsor company, Boon Rawd Brewery, to promote business within Singha Park, engage the local communities, and make the park more sustainable. To address the project goal, the team used surveys, personal observation, interviews, and a design thinking session. The team proposed improvements to Singha Park's farm tour, product innovation to utilize underused resources, and engagement with local communities.

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Executive Summary

The Problem

Tourism plays a major role in stimulating the economy of Thailand since consumer spending provides an alternative source of income to the people and local business. Singha Park is one of the tourist attractions in Chiang Rai, the northernmost province of Thailand. It is developed under the concept of Social Enterprise that aims to uplift the local communities of Chiang Rai through the employment of local people and income distribution effect.

Singha Park was established in 2012 and over the past eight years, it has attracted more than 100,000 visitors annually. Consequently, the GDP of Chiang Rai has improved. However, Singha Park does not have as strong of a presence in Chiang Rai as it would like. A stronger presence of Singha Park in the community would allow the park to strengthen its current community initiatives and donations, as well as provide more opportunity for community engagement at the park.

Goal & Objectives

This project investigates ways to benefit the community while utilizing sustainable tourism practices to improve tourism in Singha Park. Our project goals are broken down into three categories relating to the business, community, and sustainable aspect. The three project goals are: (1) improve the visitor experience at Singha Park for revenue generation, (2) promote economic growth and engage the local community, and (3) utilize sustainable practices.

We developed three main objectives: (1) evaluate the current situation and relationship between Singha Park with local people in regards to the satisfaction of the local community, (2) evaluate current sustainable practices at Singha Park and determine areas for improvement, and (3) recommend and design a possible business strategy or new products to develop a business model that Singha Park Could implement.

Methodology

To achieve the three objectives mentioned, the team collected qualitative and quantitative data from various sources. The team conducted an observation of Singha Park itself and the surrounding community, interviewed the internal staff of Singha Park (e.g. Manager Director, General Manager, Agricultural manager, Marketing and sales manager, etc.), surveyed the tourists, and conducted a design thinking session with Singha Park employees. In addition, we also researched two successful case studies to learn and find strategies that could be implemented within Singha Park.

Findings

<u>Findings 1: Evaluation of the Relationship Between Singha Park and Visitors and local community</u>

Finding 1.1: Need for a visitor experience at Singha Park

The main tourist attraction of Singha Park is its Farm Tour. The farm tour at Singha Park consists of 6 stops featuring different aspects of Singha Park: Swan lake with fish feeding, Tea Plantation, Mushroom Nursery, Blueberry and Herbs, Zoo, and the Recreational Zone. However, engaging activities for visitors are only available at some stops. For example, visitors can put on a local hill tribes costume at the Tea plantation and feed animals at the zoo. According to the survey data, the most popular stops are the tea plantation and the zoo. This demonstrates that visitors prefer the stops that provide engaging activities.

Finding 1.2: Opportunity for increased involvement with the local community

According to the observations and interviews of the hill tribes in Chiang Rai, most of the hill tribes have positive attitudes towards Singha Park. The hill tribes appreciate Singha Park for providing the space for them to disseminate their culture and generate income. Furthermore, if there's an opportunity, the hill tribe people are willing to sell their product during the weekdays and interact with the tourists. This information shows that Singha Park has an opportunity to increase the involvement with the local hill tribe communities.

<u>Findings 2: Identification of Sustainable Practices</u>

Finding 2.1: Opportunities for increased sustainability identified in similar cases

We researched the Amphawa Chaipattananurak Project and Choui Fong Tea plantation as our case studies. From our observation of the Amphawa project and interview with the director of the foundation, we learned about sustainable business models and how to achieve a positive relationship with the local community. These case studies led us to the conclusion that Singha Park could focus on better utilizing the resources that it already has in abundance. This model is sustainable, and contributes to a visitor's experience if he or she can understand and appreciate the connection of this resource to the park and the local community. The team visited Choui Fong Tea Plantation to observe and compare the strengths and weaknesses with Singha Park. The key finding of the analysis is that Singha Park tea plantation has an advantage over Choui Fong in terms of resources and scale of production.

Finding 2.2: Potential for applied sustainable practices

Based on the observation we conducted, we found that each station on the farm tour has underutilized resources and the ability to efficiently utilize these resources will be beneficial to

the overall success of the park as it will make the park more financially and environmentally sustainable. According to the survey data, tourists would like to see more opportunities for participation on the farm tour since the current activities on the farm tour are not engaging enough. Furthermore, the farm tour is available only in Thai and Mandarin. Thus, the English speaking visitors are unable to understand what is being said on the tour and unable to read the informational signs placed at each stop. This leads to a lack of interest in participating on the farm tour.

Finding 2.3: Fully utilizing Singha Park's current resources (Design Thinking Session)

During the Design Thinking Session, Singha Park employees were asked to brainstorm ideas for better utilization of resources in other areas of Singha Park. They suggested that Singha Park could introduce extreme sports into the park, improve upon the park's tea products, and create activities for tourists to plant trees. These results highlighted how a majority of the employees that participated in the session believed that bringing new activities into the park would have a high impact, thus the direction we will be taking in our recommendations will be to actively engage tourists when they visit the park.

Findings 3: Evaluation of Singha Park's Business Model

Finding 3.1: Difficulties in planning and communication at Singha Park

From our interviews with Singha Park department managers, we discovered that there is no distinct goal for all departments to work toward, and a major lack of communication between departments at the park, and between Singha Park and Singha Corporation headquarters in Bangkok. Additionally, we discovered miscommunication regarding the definition of Social Enterprise from Singha Park's perspective and each department's role in social enterprise.

Recommendations

Business Goal
Recommendation 1: Utilizing Natural Resources for Revenue Generation Using Tea Leaves Tempura

Due to the fact that there are 210 tons of tea leaves being stocked within the warehouse, the team came up with the idea of "Tea Leaf Tempura" or "Deep-Fried Tea Leaves" to develop and sell as a new product at Singha Park. The inspiration for this idea was derived from the signature menu at the well-known restaurant at Singha Park called Bhu Bhirom. When searching "fried tea leaves" in Thai, the google search algorithm shows the Bhu Bhirom restaurant as one of the top results which show that the fried tea leaves dish is a unique and popular dish at the restaurant. In order to capitalise on the popularity of the fried tea leaves dish, we saw an

opportunity to mass-produce the fried tea leaves and sell them as packaged and processed goods. In addition to helping reduce the stockpile, the Tea Leaf Tempura could help in creating a meaningful and engaging activity at the tea plantation stop within the farm tour. For instance, we could allow the tourist to pick the tea leaves and see how the tea leaf tempura is made. This will generate value for the tea and in the meantime create a unique experience for the tourist.

Recommendation 2: Increase Communication to Improve the Business Model and Unify the Vision on Social Enterprise

The difficulties in planning and communication at Singha Park could be solved if Singha Corporation implements a plan that encourages interdepartmental communication. From the interview, we realized that each department was working very separately from other departments and all with unique visions and ideas of social enterprise. We proposed a yearly workshop based on the basics of Singha Park's goals within the social enterprise. This would help to unify the offices in Bangkok with the management at Singha Park. A clear goal would drive the organization to be more productive.

Recommendation 3: Improve the Farm Tour by Offering More Activities and Languages, and Training the Staff

Increasing the levels of engagement within the farm tour will result in increased consumer spending and product sales, consumer satisfaction, and recognition on Social Media. In order to increase participation within the farm tour, Singha Park could incorporate more activities at each stop of the farm tour to create a memorable experience, provide an English tour because many of the visitors are not Thai speakers, and train the staff and tour-guides to educate visitors about social enterprise and philanthropic goals of Singha Park. This will improve the public relations of Singha Park and raise the awareness of the local community.

Community Goal
Recommendation 4: Raise Awareness of Hill Tribes Communities Through Direct Involvement

Singha Park dedicates a space for the hill tribe people to sell their handmade products during the weekend. The park aims to apply community-based tourism to the hill tribes village area, however, there's a lack of engaging activities between hill tribe people and the tourists. Consequently, we proposed the creation of a workshop that allows tourists to learn about the culture and lifestyle of the hill tribe people. The interaction between the tourist and the hill tribe people will educate and create a unique experience for the tourists and generate more income to the hill tribe people.

Sustainable Goal

Recommendation 5: Promote Ecotourism Through Additions of Environmentally Sustainable Practices

In addition to generating a new product by utilizing the resource, one way that Singha Park could satisfy sustainable goals is to promote eco-tourism by introducing a tree-planting activity into the park. This will touch on the environmental aspect of sustainable development. The idea could be implemented at a stop on the farm tour. A long term sustainable goal would be implementing electric farm tour buses. This initiative could be marketed to the tourists to involve more ecotourism factors into Singha Park.

Table of Authorship

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3.3	Investigation of Current Business Practices in Singha Park	Jenna, Rakesh	Khim, Pooh
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4	Conclusion		
4.1	Recommendation 1	Vinay, Khim	Jenna, PunPun
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Introduction to Our Project at Singha Park

Singha Park was established by Boon Rawd Brewery in Chiang Rai in 2012 as a leisure and agricultural park featuring a variety of attractions, including cycling trails, picking farms, petting zoos, and restaurants. The main goal of Singha Park, as stated by park's managing director Mr. Luangthamrongcharoen is, "... giving; giving to the local community. Let the community have the chance to benefit from Singha group's business success" (Singha Park, 2016). Singha Park has a philanthropic mission to benefit the local community economically and through community initiatives. This is a priority for the Singha Corporation within Chiang Rai as they want to act upon their Corporate Social Responsibility (CSR). Therefore, in order to work in accordance with Singha Park's goal to practice good CSR, we want to make recommendations to the Park that will positively impact the local community. The community has played a large role in the history of Singha Park and a main priority of the Singha Park management is to continue working to engage and uplift the local community. In order to achieve these goals, Boon Rawd Brewery has invested 500 million baht annually and has employed over 1200 individuals from the Chiang Rai region (Singha Park, 2016).

In our project, we were presented with the opportunity to investigate ways to benefit the community while utilizing sustainable tourism practices within Singha Park. We developed three project objectives:

1. Evaluate the current situation and relationship between Singha Park with local people in regards to the satisfaction of the local community
2. Evaluate current sustainable practices at Singha Park and determine areas for improvement
3. Recommend and design a possible business strategy or new products to develop a business model that Singha Park could implement

To achieve these objectives we sought to understand the role that Singha Park plays in the community, and how changes to the park may affect the community.

Singha Park uses agritourism which focuses on agricultural farms used for the enjoyment of visitors. Many of the attractions at Singha Park, including cycling trails, picking farms, petting zoos, and restaurants, are components of agritourism.

Our project used information collected from surveys, interviews, a design thinking session, case study research, and site visits to analyze the current business model at Singha Park. We identified key stakeholders and changes that could be proposed to the Park. Our recommendations address key social issues including community engagement, and improving the local economy while utilizing sustainable tourism practices.

Conceptual Context of the Project at Singha Park

Thailand is the tenth-most visited country worldwide by tourists (Tourism Statistics Thailand 2000-2019, 2019). The land of Boon Rawd Farm was originally used to grow the barley for the beer products of Boon Rawd Brewery, however, when this barley was found to be unsuitable for beverages, the land was converted into Singha Park to continue to provide employment opportunities to the community (Singha Corporation, 2018). The primary goal of the park is to benefit the local community, and a stronger presence of Singha Park in the community would allow the park to strengthen its current community initiatives and donations, as well as provide more opportunity for community engagement at the park. In this chapter, we discuss the components necessary to shape recommendations for Singha Park to make its business model strong, and as a result, have a stronger presence in the Chiang Rai community.

2.1 Tourism in Thailand

Tourism is one of the largest contributors to the Thai economy and is Thailand's top foreign currency generator (Chon, 2013). Tourism was formally recognised as an emergent industry in Thailand in 1959 when the Tourist organization of Thailand was established, and in 1976 renamed as the Tourism Authority of Thailand (TAT). In 1977, tourism was included in the National Economic and Social Development Plan (NESDP) (Chon, 2013). Tourism played the leading economic role for the first time in 1982 after it generated the highest amount of revenue among all economic sectors, earning 23.798 million Baht (approximately 720,000 U.S. Dollars), overcoming rice exports as Thailand's main source of revenue.

Historically, tourism has played a vital role in enabling economic improvement in Thailand, however, it is also important to consider the negative impacts of tourism seen within Thailand such as pollution, the influx of drugs, and social/cultural degradation. In 1992, the Earth Summit in Rio De Janeiro pushed Thailand to develop more sustainable tourism practices (Chon, 2013).

The concept of sustainable development was first introduced to Thailand during the era of King Rama 9. In 1974, the sufficiency economy philosophy project was introduced by His Majesty, the late King Bhumibol Adulyadej. It is an approach for sustainable development that espouses moderation, reasonableness, and prudence as a development framework based on knowledge and virtue. The philosophy creates human development at all levels and emphasizes the need to strengthen the community's capacity to ensure a balanced way of life with full respect to the environment (Thailand International Cooperation Agency, 2017). One of the most significant principles of the sufficiency economy philosophy project is to encourage people to be self-sufficient by producing and using local resources. The King believed that sustainable

development would lead to long-term benefits for the people and economy of the country (Nantichas, 2017).

2.1.1 Types of Sustainable Tourism

Sustainable tourism is defined by the United Nations World Tourism Organization (UNWTO) as "tourism that takes full account of its current and future economic, social, and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities.". The UNWTO (2005) states that sustainable tourism should take into account three key factors:

1. It should ensure feasible long term economic operations which grant all stakeholders a multitude of socio-economic benefits. These benefits should be equally distributed in the form of stable employment, fair income-earning opportunities and help alleviate poverty within the community.
2. It should make optimal use of environmental resources that are a major aspect of tourism development by maintaining vital ecological processes and contributing to conserving biodiversity and natural heritage.
3. It should respect the socio-cultural authenticity of host communities, preserve living cultural heritage and traditional values and promote tolerance within intercultural understanding

Three commonly implemented forms of sustainable tourism that are relevant to our project are agritourism, ecotourism, and community-based tourism.

Agritourism

According to Monetfrio and Sin (2019), agritourism was defined as a rural enterprise that incorporates both a working farm environment and a commercial tourism component. It has been described as a tool that will sustainably uplift the livelihood of small farms. While there is some disagreement among previous works including those of Barbieri (2013), it is largely accepted in recent articles including those of Montefrio and Sin as well as those cited by Montefrio and Sin (e.g. Deville 2016, Kline 2016, Lupi, Giaccio, Mastronardi, Giannelli, & Scardera 2017), that the value of agritourism's contribution to sustainable development is positive. Agritourism has been promoted as a way to improve the rural economy and address the issues of decreasing small farm incomes as well as erosion of rural cultures brought about by agricultural modernization. The list below includes socio-cultural aims and advantages of agritourism on a rural community as agreed upon by Montefrio and Sin (2019) and Srisomyong (2010).

1. Enhanced rural infrastructure and product development.
2. Training and skilling of rural populations including farmers.

3. Keeping farmers on the land and encouraging cooperation between farmers.
4. Protection of rural landscape.
5. Generate additional income for individual farmers and communities.
6. Using public education development on a farm destination to become a learning centre for agriculture and other activities.

In Table 1, Blackstock, Hunter, and Phillip (2010) identified five categories that different agritourism businesses could fall under. Three questions, termed "discriminators", are used as pivotal indicators for defining and determining the type of agritourism that a region is using.

Table 1: A Typology for Defining Agritourism (Blackstock, Hunter, & Phillip, 2010)

1. Is the tourist activity based on a working farm?	2. What is the nature of tourists contact with agricultural activity?	3. Does the tourist experience authentic agricultural activity?	Conclusion
✖	N/A	N/A	Non-working farm agritourism
✔	Passive	N/A	Working farm, passive contact agritourism
✔	Indirect	N/A	Working farm, indirect contact agritourism
✔	Direct	✖	Working farm, direct contact, staged agritourism
✔	Direct	✔	Working farm, direct contact, authentic agritourism

The contact between the tourist and the agricultural activity can be separated into three main categories: passive, indirect, and direct. Passive contact with agricultural activity indicates that tourism and agriculture are independent of one another and the farm location is the only commonality (e.g. outdoor activities). Indirect contact implies a secondary connection between the tourist and agricultural activity, potentially through contact with agricultural produce (e.g. crop maze, food processing, sale of or consumption of meals). Direct contact with agricultural activity implies that agricultural activities are a physical part of the tourist experience (e.g. milking a cow; harvesting a crop). An authentic experience of agriculture exists when activities are practiced exactly as they normally would be and usually involves physical participation in

farm tasks, however most agritourism experiences involve some form of staging or displaying the agricultural activity in a way that is not purely authentic.

Ecotourism

One of the main goals of ecotourism is "striving to respect and benefit protected areas as well as the people living around or on these lands" (Honey, 1999). A definition of ecotourism is "responsible travel to natural areas which conserves the environment and improves the welfare of the local people" (Hvenegaard & Dearden, 1998). The common theme among ecotourism definitions is the focus on protecting natural areas.

Table 2: Three Principles of Ecotourism (Pornprasit & Rurkkhum, 2019)

The International Ecotourism Society (1990):	Björk (2000):	Donohoe and Needham (2006):
1. Minimize impact	1. Non-consumptive	1. Nature-based destination
2. Build environmental and cultural awareness and respect	2. Influence the behavior of the tourism actors respect	2. Preservation/ Conservation
3. Provide positive experiences for both visitors and hosts	3. Influence of local development	3. Education
4. Provide direct financial benefits for conservation	4. Focus of long-term planning	4. Sustainability
5. Provide financial benefits and empowerment for local people	5. Support the local economy	5. Distribution of benefits
6. Raise sensitivity to host countries' political, environmental, and social climate	6. Support the local development	6. Ethics/ responsibility/ awareness
	7. Dynamic	
	8. focus on moral and ethical aspects	
	9. consider the needs of the visitors	
	10. Enlightened experience of authentic	
	11. Educative	
	12. Not destroy other industries	

Table 2 and Table 3 provide different analyses of ecotourism. Table 2 provides an introductory understanding of differing opinions and viewpoints regarding principles of ecotourism. A major consideration is the consumer experience, in order to ensure the continued influx of more tourists to the attraction.

Table 3: Best Practices of Ecotourism (Agarwal, Bhatt, Kapoor, Moutinho, VanHerwarde, & Walker, 2013)

Best practices of ecotourism
- Minimize negative impacts on nature and culture
- Use of baseline studies and long-term monitoring programs for market analysis and environmental impact
- Educate tourists on environmental conservation and cultural awareness
- Stress sustainable business management
- Direct revenue to the conservation of natural and protected areas
- Maximize economic, environmental, and cultural benefit for the local community
- Ensure that tourism development does not exceed the social and environmental limits
- Design plans for regional tourism zoning and visitor management
- Rely on infrastructure that has been developed in harmony with the environment

Community-Based Tourism

According to Goodwin & Santilli (2009), community-based tourism is development where the social, environmental and economic needs of local communities are met through offering a tourism product. Similarly, Richards & Hall (2003) describes community-based tourism as tourism that incorporates sustainability and conservation methods in order to protect the local environment and culture. Both definitions touch on the protection of the environment and culture of the involved community. In order for community-based tourism to be effective, the industry for tourism and the community involved must collaborate effectively. Community-based tourism is effective if it emphasizes the economic development of residents as opposed to large tourism agencies and travel companies within the industry (Wiegman, Merrill, Freed, & Hickey, 2013).

Summarizing and Comparing Tourism Types

Table 4 provides an overview of the three different forms of sustainable tourism discussed in this section.

Table 4: Types of Sustainable Tourism

	Eco-tourism	Agritourism	Community-based tourism
Main points of focus:	- Nature based destination - Respect environment - Respect community of tourism attraction	- Agriculturally based destination - Supporting farmers - Unique attractions	- Community based destination - Support the community - Protecting culture
Considerations /Disagreements	- Pleasing the consumer vs. environmental considerations	- Ethical considerations - Economic sustainability	- Collaboration between organization and community

2.1.2 Economics of Tourism in Thailand

According to TAT News in 2018, 38.27 million tourists visited Thailand, generating over 2 trillion Baht in revenue for that year. The Gross National Product for Thailand in 2019 was 523,771 USD (millions) (Thailand gross national product, 2019). Furthermore, TAT predicts that in 2019 there will be an influx of 41.1 million tourists, an increase of 7.5% from the previous year, resulting in an estimated revenue of 2.21 trillion baht. One of the tourist destinations in Thailand is the city of Chiang Rai. Data in Chiang Rai shows that there is an influx of 3 million tourists who generate 11 billion baht in revenue for the year of 2019 (CTN News, 2019). This rising trend in tourism has generated revenue all across Thailand, and presents an important opportunity for economic growth and strengthening of communities. Figure 1 displays the yearly tourist arrivals in Thailand from 2003 until 2018 and shows an overall upward trend.
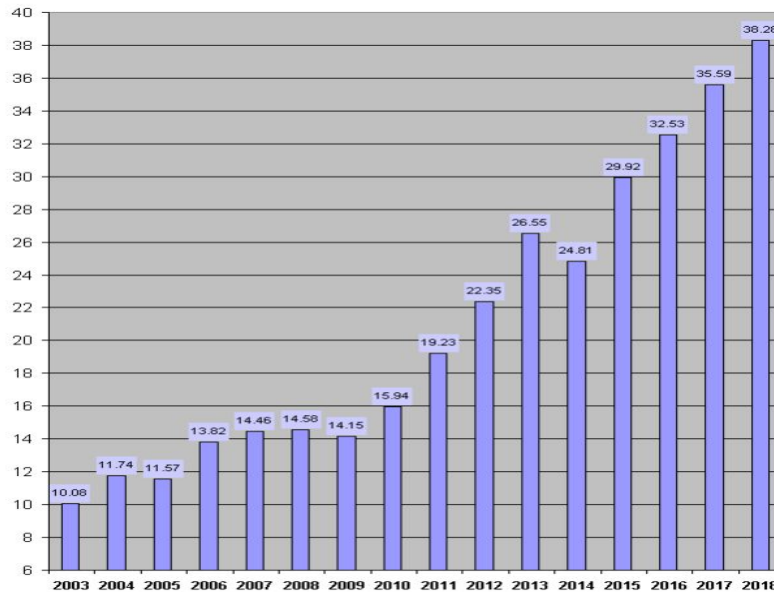
Figure 1: Yearly Tourist Arrivals in Thailand 2003-2018 (Thailand Tourism Statistics, 2019)

Historically, there has been a general upward trend to yearly tourist arrivals in Thailand since 2003 continuing through 2018 where there were approximately 38.28 million tourists who visited Thailand. The World Travel and Tourism Council also claims that 31 million jobs (9.9% of total employment in 2017 in Thailand) were due to tourism (Khidhir, 2018).

2.1.3 Demographics of Tourism in Thailand

According to Khidhir (2018), Barrow (2017), and Thailand Tourism Statistics (2019), the largest contributor to the tourism economy in Thailand are Chinese tourists and they have consistently been so since 2012. This number has increased from 2.7 million tourists in 2012 to over 10.5 million in 2018, making up 27.5% of the total number of tourists visiting Thailand (Thailand tourism statistics, 2019). Table 5 is a representation of the top 10 nationalities that visited Thailand in 2017.

Table 5: Top 10 Nationalities Visiting Thailand in 2017 (Barrow, 2017)

Country	Number of Tourists (Million)	% change from 2016
China	9.92	+13.23
Malaysia	3.30	-5.5
Korea	1.71	+16.49
Laos	1.61	+16.17

Japan	1.57	+9.08
India	1.41	+18.11
Russia	1.34	+22.95
USA	1.06	+8.35
Singapore	1.01	+4.73
UK	1.01	+0.08

2.1.4 Chiang Rai Tourism

Chiang Rai is a mountainous province located in the northernmost part of Thailand with beautiful scenery, along with a unique history and variety of cultures. Chiang Rai culture is influenced from abroad by the shared borders with Myanmar and Laos as well as the presence of the Lanna civilization and various ethnic groups, such as the hill tribes (Ministry of Tourism and Sports, 2019). Many people travel to Chiang Rai each year during the first quarter of the year to experience and absorb the enchantment of cultures (Ministry of Tourism and Sports, 2019).
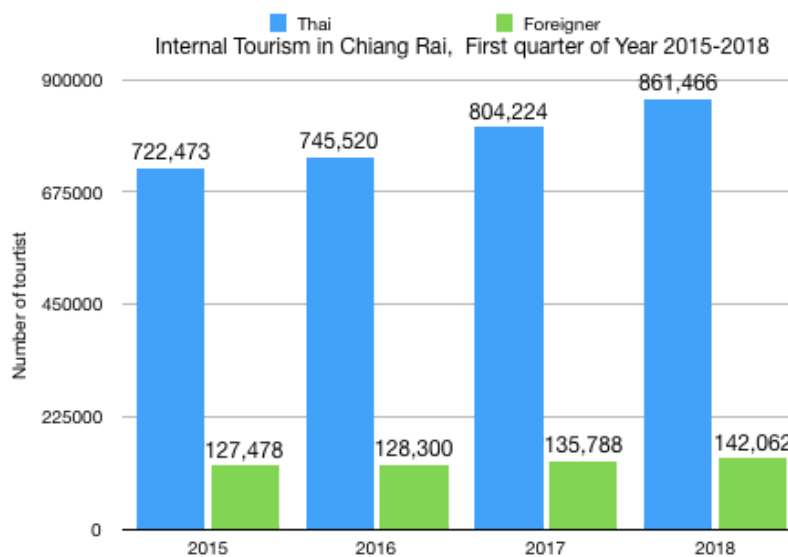
Figure 2: Tourism Graph

According to the report of the domestic tourism statistics by the ministry of tourism and sports, the number of Thai and foreign tourists in Chiang Rai has been steadily increasing from 2015 to 2018 as shown by Figure 2. The overall trends that can be recognized from the graph are that the number of both Thai and foreign tourists have been increasing each year, and the number of Thai tourists is much greater than foreign tourists (Ministry of Tourism and Sports, 2019). As

tourism in Chiang Rai continues to grow, there is greater potential for income gain for tourism-related businesses in Chiang Rai.

2.2 An Initial Analysis of Singha Park

Our project was located at Singha Park in the province of Chiang Rai, Thailand. In the years of 2018 and 2019, Singha Park averaged 182,000 visitors.

2.2.1 History of Singha Park

Our sponsor company, Boon Rawd Brewery Company Limited is Thailand's first brewery and was founded in 1933 by Phraya Bhirom Bhakdi. The company is a beverage business and is responsible for the management and marketing of beer, soda, drinking water, mineral water, etc. (Singha Corporation, 2018). Singha Corporation Company Limited is a major subsidiary of Boon Rawd Brewery Company Limited. Singha Corporation opened Singha Park to the general public in December 2012. The 12.8 million square meters of land that Singha Park occupies was previously Boon Rawd Farm. The fertile soil in the area was ideal for Boon Rawd Farm as it was used to grow barley for the production of beer, which is Boon Rawd's main source of income. The Boon Rawd Farm was initially off-limits to the general public and was considered private land for the company to grow the resources needed for their product. A goal of Boon Rawd Brewery was to provide employment to community members of Chiang Rai who were primarily making money through the drug trade between Thailand, Myanmar, and Laos ([Interview with Managing Director of Singha Park, 2020](#)). When the barley grown at Boon Rawd Farm was deemed unsuitable for Boon Rawd Brewery's products, the land was converted from a private farm into a tourism attraction with the opening of Singha Park. This ensured that Singha Corporation could still provide employment and stability to the community in Chiang Rai. Since 2012, Singha Park has been growing and developing with the production of goods branded with "Singha Park" and the addition of activities and attractions.

2.2.2 Singha Park- Attractions, Products, and the Farm Tour

The remnants of Boon Rawd Farm are seen throughout Singha Park as the majority of the park is still farmland. Singha Park's large area of working farms is now used as orchards and tea plantations as well as a portion being retained for the original barley fields. Many of Singha Park's attractions are centered around the scenery of the remaining farmland and the tea plantation. Singha Park has evolved from Boon Rawd Farm to incorporate trails, lakes, and meadows. This family friendly park also contains a variety of features including:

1. Ziplines
2. Rock-Climbing walls

3. Petting zoos
4. Singha statue
5. Cycling trails
6. Picking farms (visitors can pick fruits and vegetables)
7. Restaurants, bars and cafes
8. Various events (eg. Concerts and Hot Air Balloon festivals)

In addition to its many attractions, there are also many local products sold at Singha Park. The products sold include jams, melons, high-quality oolong tea, juice, mushroom soy sauce, etc.

Through the implementation of the farm tour, Singha Park offers visitors a view of the park by stopping at six stops along the tour. At each stop, visitors are offered the chance to purchase Singha Park products, and experience a unique component of the park.

Stop 1: Swan lake with koi fish- This stop offers the opportunity to buy fish feed and feed the koi fish at the pond. It also offers a scenic view of the lake filled with swans, and the farmland around the lake.

Stop 2: Tea plantation- At the tea plantation, visitors can take pictures with the scenic fields of tea, and try free samples of tea. Tea products are also on sale at this stop.

Stop 3: Mushroom Nursery- The mushroom nursery offers informational boards about the mushrooms grown and sold at Singha Park, and offers samples of the mushroom tea.

Stop 4: Blueberry farm- At this stop, visitors can walk through the blueberry bushes and purchase the signature blueberry ice cream.

Stop 5: Petting zoo- Visitors have the opportunity to purchase food for the animals at the petting zoo, as well as take time to pet and observe the animals.

Stop 6: Recreational zone- The final stop of the farm tour brings visitors to the recreational zone where they can enjoy visit the Baan Daeng cafe, ride on the zipline, and visit the hill tribes center where the local hill tribes of Chiang Rai come together to sell their products and share their unique culture.

2.2.3 Community Outreach around Singha Park

In 2018, the total population in Chiang Rai is 1,287,615 in which approximately 87% of the total population is the ethnic Thai who speak northern dialect and 12.5% are hill tribes people (Chiang Rai Provincial Statistical Office, 2019).

There are two communities located close to Singha Park known as the Maekon community and the Hmong hill tribe. According to the official website of the Maekon hill tribe, the total population, in 2019, of the Maekon community is 7146 (Chiang Rai Provincial Statistical Office, 2019) . The geographical landscape in which the Maekon community lives is rural in nature consisting of mountains ranges and deserted land. Therefore, the main occupation of the Maekon people is predominantly within the agricultural fields. The Hmong hill tribe are a widespread minority group in East and Southeast Asia. Their population in Northern Thailand is 153,955 which is 16.67% of the population of all the hill tribes located in Thailand. The Hmong hill tribe grow rice and corn as their main source of nutrition and income. Singha Park has been able to employ individuals from these communities and this has resulted in Singha Park providing jobs for up to 90% of the local population. Singha Park has also helped these hill tribe communities to stop growing and selling opium by providing them legal means to generate income and revenue.

Figure 3: Local People of Chiang Rai

Figure 4: Chiang Rai Community Area

Singha Corporation employs its vast management skills to focus on various community and social enterprises, including Singha Park, to help the local Chiang Rai community. Singha Park now employs a workforce of 1200 people from the local community, and Singha Corporation has invested 500 million Baht (14 million U.S. Dollars) annually to boost tourism and the multitude of agricultural projects to benefit the Chiang Rai province (Singha Park, 2016).

Singha Park's managing director Pongrat Luangthamrongcharoen has stated that the main goal of Singha Park is to benefit and support local communities. Mr. Luangthamrongcharoen said to Cision news that "Our goal is giving; giving to the local community. Let the community have the chance to benefit from Singha group's business success." (Singha Park, 2016).

Singha Park has launched projects to grow a variety of fruit produce, such as strawberries, raspberries and passion fruit. These are grown among a multitude of other produce such as a plantation of rubber tea trees. Singha Corporation is responsible for the investment, development, revenue flows, marketing, and logistics of the goods produced. Singha Corporation doesn't take any of the revenue that is generated by the sales of the produce from the park. According to Mr. Luangthamrongcharoen, "We have to share what we have with those who have not had the opportunities." Once again, this reiterates the true philanthropic nature and intentions of Singha Corporation. The community benefits from the efforts that they put into the farms at Singha Park and are able to use the farms as resources and opportunities that they may not have been able to access.

An example of how the community stands to benefit from Singha Park is through the statements made by agricultural worker, Ms. Meesae Mayer, who earns higher wages working in Singha Park than she would at her village. Thus far, "It has helped me (Ms. Meesae Mayer). Without the job I would not know how to help my family." (Singha Park, 2016). The employees of the park earn higher wages than other members of the local community and are able to afford a better standard of living.

Singha Park's social enterprise work is able to sustain economic support for the local community and also adds to its diversity. The province where Singha Park is located, Chiang

Rai, borders Myanmar and Laos, which enables the Chiang Rai community to experience a rich and ethnic diversity. Many of the employees that work at Singha Park are currently of different nationalities including Akha, Lahu, Burmese and Thai. This diversity enriches the local community and promotes harmonious and peaceful relations with neighboring countries.

Another way in which Singha Park involves the community is utilizing educational programs. Singha Park works closely with colleges and schools within Thailand to teach Thai students the benefits of the park as well as providing a nice outing. Thai students comprise a large percentage of visitors that come to Singha Park during the week and the local community is more involved during the weekend.

Figure 5: Students Preparing for the Farm Tour

Initially, Mr. Santi Bhirombhakdi, the president and CEO of Boon Rawd Brewery CO.,LTD aimed to make Singha Park a role model of social enterprise in Thailand. The main objective of Singha Park is not the profitable returns, but to educate the community about agricultural farming and participate in sustainable tourism. The company wants to grow sustainably with the local communities.

Nowadays, many businesses are interested in developing their corporate social responsibility (CSR), including Singha Park. CSR is a concept whereby business organizations consider the interest of society by taking responsibility for the impact of their activities on customers, suppliers, employees, shareholders, communities and the environment (Ismail, 2009). CSR helps create a stronger bond between the employee and the corporation. The reason that many businesses are interested in working on CSR is because it provides benefits to the business in the long term. CSR creates a positive brand image and increases brand recognition to the public.

Boon Rawd Brewery has participated in CSR for many years. Before beginning the project of Singha Park, the company donated money to many universities in Chiang Rai for

nutrition and to elevate the education of the local community. According to the interview, Boon Rawd Brewery was primarily emphasizing on developing the education system in Thailand because they believe that a good education will lead to an increased standard of living and therefore rapid economic development.

Project Methods and Analysis
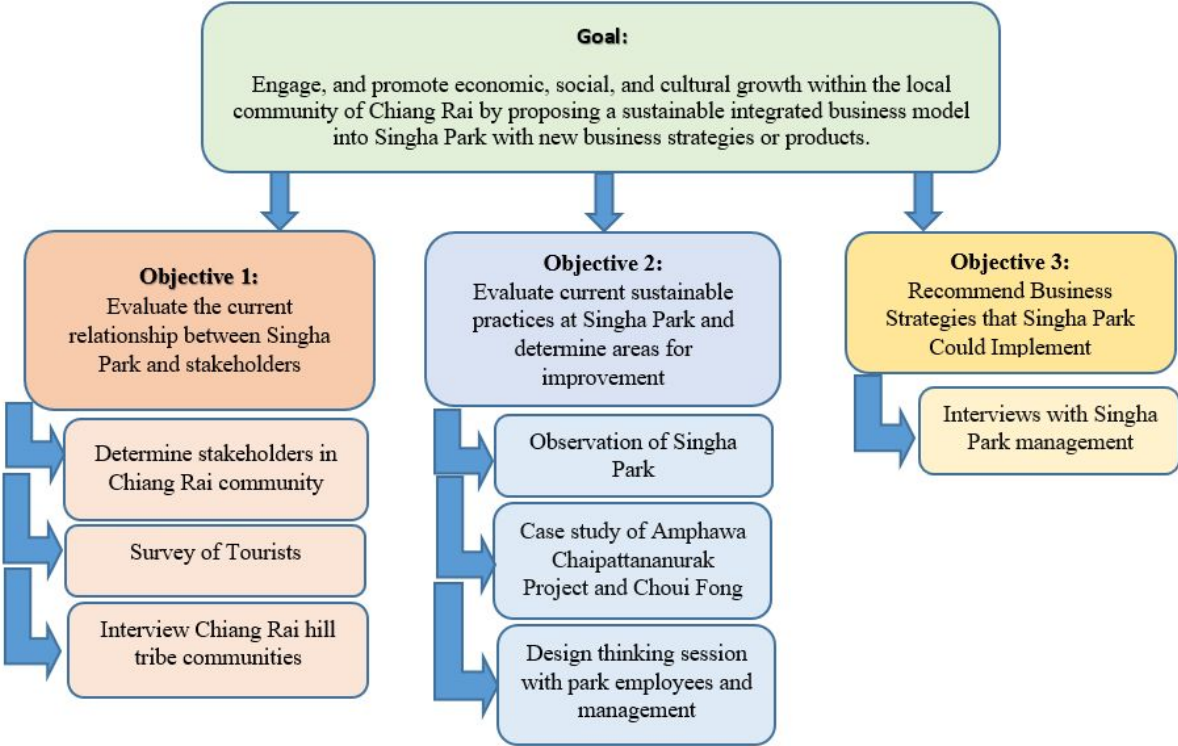
Figure 6: Data Collection Methods

Over the course of our project, we collected data from Singha Park in the province of Chiang Rai and at the Singha corporation headquarters in Bangkok, Thailand. We observed the park itself and the surrounding community. Figure 6 provides a comprehensive breakdown of all of our methods of data collection and how they align with our project goal.

3.1 Evaluate the Community's Relationship with Singha Park

The first project objective was focused on learning more about the tourists to Singha Park, and the community around Singha Park and evaluating the nature of its relationship with Singha Park. We wanted to find out who may be affected by any changes to the park and how this may affect the current relationship between the local community and Singha Park. To gain a preliminary understanding of the relevant stakeholders, we conducted a stakeholder analysis, found in Appendix G.

Conducting the Tourist Survey

To understand the current relationship between Singha Park and its visitors, we distributed a survey to the tourists visiting Singha Park during our two site visits. This helped us gauge the tourist's satisfaction with the park and determine areas for improvement. This survey was distributed to the visitors by placing a card with a QR code inside of popular shops, restaurants, and cafes at the park to attract participants to take the survey. The questions for this survey, the results, and a picture of the survey card can be found in Appendix C. These surveys were conducted during the balloon festival time and non-festival time via online google forms. To boost the number of responses and to place more emphasis on the farm tour, we also provided a paper copy of the survey to tourists who had participated in the Singha Park farm tour. We received 300 total responses- 50 responses during non-festival and 250 during the festival time. According to the results seen in Figure 7, 63.1% of 122 respondents who visited Singha Park during the balloon festival never experienced the farm tour and 50% of respondents were visiting Singha Park for the first time. This shows that the festival successfully attracts the new tourists better than the farm tour.
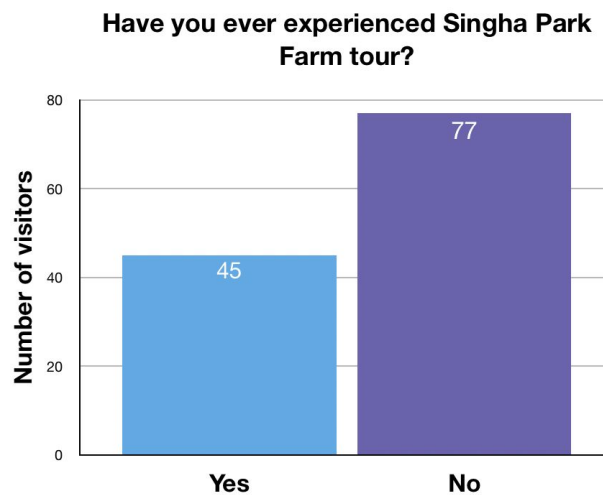
Figure 7: Tourist Responses- Participation on Farm Tour

The farm tour at Singha Park consists of 6 stops: Swan lake/Fish feeding, Tea plantation, Mushroom Nursery, Blueberry and Herbs, Zoo, and the Recreational Zone. The activities engaging with visitors are only available at some stops. For example, visitors can feed the fish at the swan lake, put on local hill tribes costume at Tea plantation, and feed animals at the zoo. There are 213 people in total who participated in the farm tour from the online survey responses during non-festival and festival time. According to the results shown in Figure 8, the most popular stops are tea plantation (39.4%) and the zoo (29%) of 213 farm tour visitors. This demonstrates that visitors prefer the stops that provide activities. From unstructured interviews

of the farm tour participants, they mentioned that the tea plantation had good scenery and atmosphere, but the activities were not interesting or engaging. They suggested having more activities at this stop such as allowing visitors to pick tea leaves, and tea making demonstration. Furthermore, at stop 5, the zoo, the visitors mentioned that animals in the zoo were too few. They would like to see more variety of animals and more activities engaging with animals such as horse riding.

Visitors' favourite stop on the farm tour
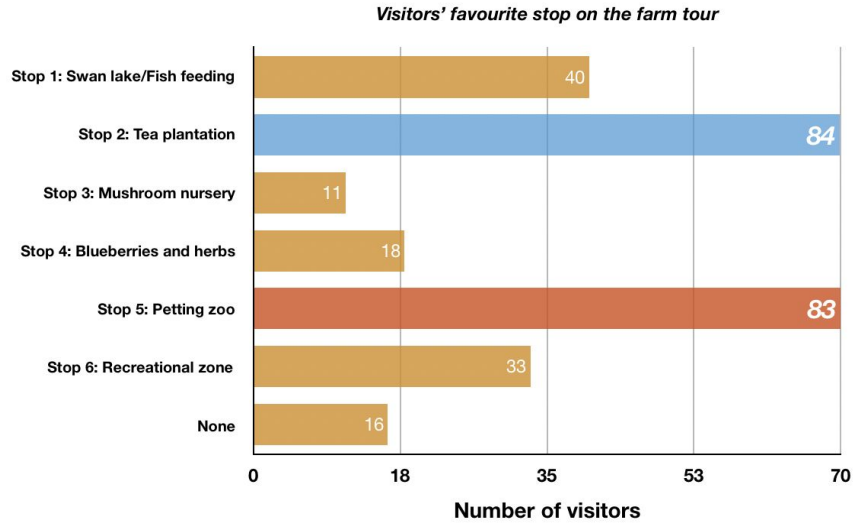
Figure 8: Tourist Responses- Favorite Stop on the Farm Tour

Figure 9 shows that 156 visitors out of the total 205 respondents to this question (81%) would like to see more participatory activities on the farm tour. This survey question was relevant to our findings because it suggests that there is potential for a better tourist to Park relationship if more engaging activities are offered for visitors.

Would you like to see more opportunities for participation on the farm tour?
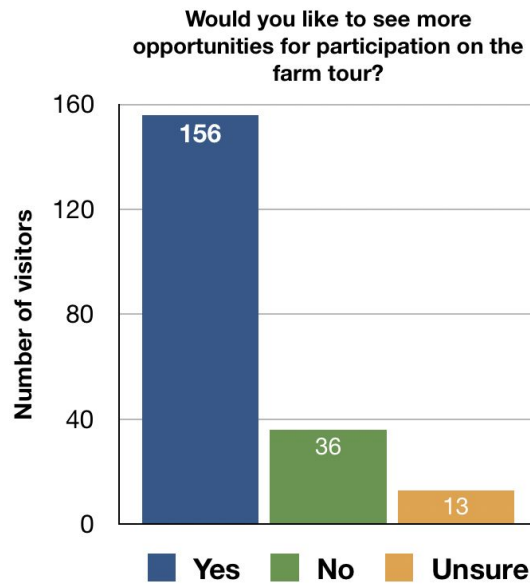
Figure 9: Tourist Responses- Participation on the Farm Tour

There were 32 total suggestions for improvement on the Singha Park farm tour, and 41% of the respondents suggested that the farm tour be available in both Thai and English (Figure 10).

Suggestions on Farm tour
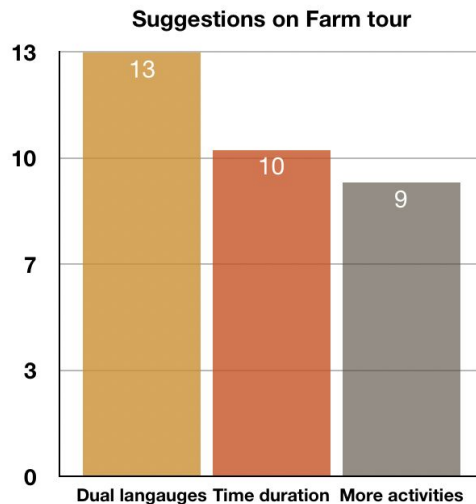
Figure 10: Tourist Suggestions for the Farm Tour

The average satisfaction of visitors on the farm tour is 7.59 out of 10 (Figure 11), indicating that the visitors are generally satisfied with the farm tour service. Nonetheless, visitors are looking forward to getting new experiences while participating on a farm tour in the future. Thus, creating more of a visitor experience on the farm tour would help increase the satisfaction of visitors and increase the number of visitors coming to Singha Park.

Visitors' satisfaction on farm tour
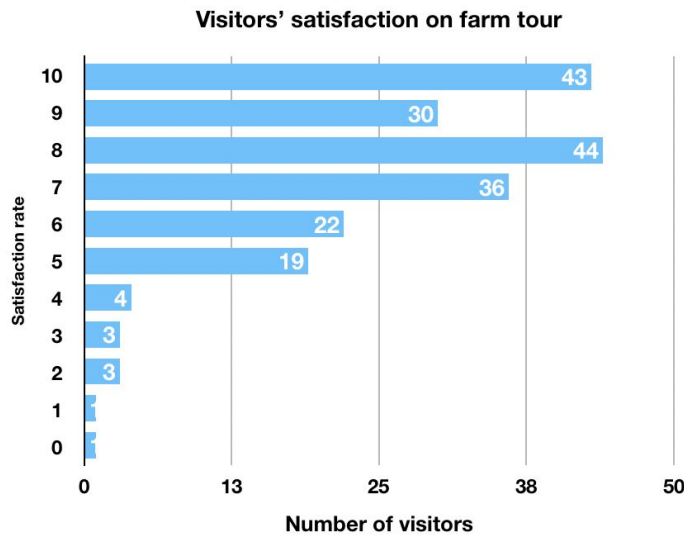
Figure 11: Tourist Satisfaction on the Farm Tour

Singha Park's Relationship with the Local Hill Tribes

From our observation of, and interviews with the hill tribes of Chiang Rai, Appendix N, we found that Singha Park and the Hill Tribes currently have a positive working relationship. They all thank Singha Park for providing the space for them to share their culture and generate income. For example, a woman from Hmong said "I like Singha Park because it allows me to generate more income. I can sell my product quite well.". Furthermore, the Akha, Lisu, and Hmong hill tribes are willing to participate if Singha Park allows them to sell their product during the weekdays and provide activities for them to interact with the tourists. This information resulted in our second finding relating to Singha Park and its stakeholders: that there are opportunities for increased involvement between Singha Park and the hill tribe communities that are in Chiang Rai, and that increasing involvement would allow for increased revenue for the hill tribe communities and raise awareness of their unique culture.

3.2 Evaluation of Singha Park's Current Sustainable Practices

In order to evaluate the current sustainability practices that take place at Singha Park, the project group conducted a site visit, analyzed the Amphawa Chaipattananurak project and Choi Fong tea plantation business models, and facilitated a design thinking session. Comparison of visitor data, sources of income, and weak areas in the business models of these case studies will help us to analyze the current sustainability of Singha Park.

Observation of Singha Park

In order to evaluate Singha Park's current sustainable practices we conducted an observation of Singha Park focusing primarily on the farm tour program.

[The farm tour](#) is a program that currently includes 6 stops that showcase unique aspects of Singha Park. Based on the observations we conducted, we found that each station on the farm tour has underutilized resources and the ability to efficiently utilize these resources will be beneficial to the overall success of the park as it will make the park more financially and environmentally sustainable. Throughout the entire farm tour, we noticed a few key issues regarding the customer behavior, including their lack of engagement in the activities being offered, as well as their lack of willingness to spend money on the products being sold at each station. One potential reason for the lack of participation among tourists is the fact that the farm tour is only conducted in Thai and Mandarin and many tourists are unable to understand what is being said on the tour and unable to read the informational signs placed at each stop.

The first stop on the farm tour is the swan lake where the main activity for the tourists is feeding the fish in the pond.. On the ride to the next station, various types of fruits and vegetables are presented along the path of the tour bus however, none of them are being used for sale or consumption and their purpose is simply for agritourism to make the roads more aesthetically pleasing, while also eventually creating large masses of waste. The second stop is the tea plantation where the tourists can take pictures with traditional clothing and baskets in the tea fields. This stop includes a small shop where tea is sold and free samples of the tea is offered to tourists. However, the tea station could be used more effectively. The products and activities are not advertised in any way and during our observation, we noticed large groups of people quickly becoming uninterested in the activities that are offered. Additionally, we heard tourists speaking amongst themselves saying they wish they had the opportunity to pick the tea leaves themselves. The third stop is the mushroom nursery, which gives tourists the opportunity to learn about Chong Cao. There are information boards around the perimeter of this stop but again, all of the descriptions are written in Thai and many visitors are unable to read them, and therefore, they are underutilized. This stop also allows the tourist to try the Chong Cao mushroom, but does not advertise the sale of Chong Cao mushroom products. Another stop that is underutilized is Stop 6- the recreation zone. This stop includes a rock climbing wall, zipline, and cafe available for the use of the visitors, however, throughout all of our observation we saw the zipline being used only once (by someone on a private tour) and never saw the rock climbing wall being used. Again, this entire stop is an underutilized resource because the existence of these activities is not advertised so tourists do not participate.

Through the analysis of this data, we concluded that there is still potential for increased revenue generation, which can be accomplished through improving the lack of sales on products sold in Singha Park through better engaging the tourists that participate in the farm tour.

Case Studies- Amphawa Chaipatananurak Foundation, and Choui Fong Tea Plantation

Amphawa Chaipattananurak Foundation:

The team interviewed the director of the Amphawa Chaipattananurak Project. By observing the Amphawa project and interviewing the director, we learned about the sustainable business model,, and success in creating opportunities and generating income for the local community of the MaeKlong basin. The complete case study of the Amphawa Chaipattananurak Foundation can be found in Appendix D. The director of the foundation, said the biggest strength of the project was the utilization of the coconut. The coconut is a resource that is in abundance in the Maeklong community, so the project found ways to create value from this abundant resource. We observed how this was put into practice when we visited the project and saw the many products that are based on coconut in the shops, and the use of coconut as decoration around the site. From this example, we were able to conclude that Singha Park could focus on better utilizing the resources that it already has in abundance. This model is sustainable, and contributes to a visitor's experience if they appreciate the connection of this resource to the park and the local community.

Choui Fong Tea Plantation:

The team visited Choui Fong tea plantation to observe as a case study for our project since Choui Fong is considered as a primary competitor of Singha Park. The total area of the tea plantation is 1.92 square kilometers. Choui Fong is famous for its high quality of tea, beautiful scenery, and variety food and dessert menu that has tea as the main ingredient. Furthermore, there are many products generated from the tea at Choui Fong including, tea bags, soap, shampoo, conditioner, etc. Aside from taking pictures with beautiful scenery, tasting new styles of food, and buying tea products, the tourists visit Choui Fong for tea experience.

Table 6: Comparison: Choui Fong and Singha Park Tea Plantation

	Choui Fong	**Singha Park (Tea plantation)**
	Various tea product line	The tea production can be operated all the year due to plenty of resources
	Iconic photo spot for tourist	Singha Park is located near

		the city
Strengths	Free entrance	Large area
	Tea experience	High quality of tea
	Unique dessert menu	
	High quality of tea	
Weaknesses	The location of Choui Fong tea plantation is far from the city	No iconic photo spot to attract new generation tourist
	The tea production can't be operated all the year	Lack of activities for tourist to participate
		Limited tea product line

Table 6 is an analysis of the strengths and weaknesses of Choui Fong Tea Plantation in comparison to Singha Park. The team compared the strengths and weaknesses of Choui Fong and Singha Park from the tourist's perspective. From this comparison, we can conclude that Singha Park tea plantation has an advantage over Choui Fong in terms of resources and scale of production. However, the tea products of Singha Park are not as well-known as Choui Fong due to narrower product line and branding strategy. Based on this assessment, we concluded that due to Singha Park's abundant resources in terms of tea crop, and ability to harvest tea year round, that there is opportunity for increased financial sustainability in Singha Park through increased sales if planned out correctly.

Design Thinking Session

The team conducted a Design Thinking Session (DTS) which helped us to identify key issues and plausible solutions quickly and effectively. This enabled us to find innovative and viable solutions for a new and revised business model by utilizing the ideas of the park employees. The DTS found in Appendix E, was conducted with a group of eight Singha Park employees and management from various departments. We began by asking each person to identify which effectively utilized resources generate the most value at Singha Park. Through a process of personal brainstorming and subsequent voting, the top four responses from the group were:

1. Singha statue

2. Petting zoo
3. Tea plantation
4. The scenery of Singha Park

We began the DTS with this question to have the focus group think about the positive things Singha Park has to offer, along with the resources that it already has at its disposal. Each participant was given 2 minutes to brainstorm for this question, and 3 minutes to vote.

A common theme between the four top responses was a factor of visitor participation, and branding for Singha Park. Regarding the branding of Singha Park, the Singha statue is a very clear brand symbol of Singha Corporation, and the tea plantation connects to one of Singha Park's strongest products for sale- tea. All of these attractions are popular for tourists to stop at and take photos, and the petting zoo and tea plantation have opportunities for tourists to participate in activities.

The next step of the DTS was to have the participants brainstorm ideas for better utilization of resources in other areas of the park. After giving the participants in the session 5 minutes to think of their ideas and write them down, we collected all of the sticky notes they used and posted them on a board. Every employee in the session was then given a marker to vote 5 times on the notes posted on the board, and were given 3 minutes to do so. This process can be seen in Figure 12.

Figure 12: Employee Voting of Suggestions to Singha Park

To conclude the DTS, the three ideas with the most votes would be judged based on an impact/effort graph. The recommendations voted on the most were:

1. Introduce extreme sports into the park - 8 votes
2. Improve upon the park's tea products - 5 votes
3. Creating activities for tourists to plant trees - 4 votes

When these ideas were brought to the impact/effort graph, the general consensus was that creating an activity for tourists to plant trees could have a high impact and would be low effort, the extreme sports idea would be high impact, but also high effort, and the idea to improve on tea products would have a moderate impact, and high effort implementation. The final placement of these ideas is shown in Figure 13.
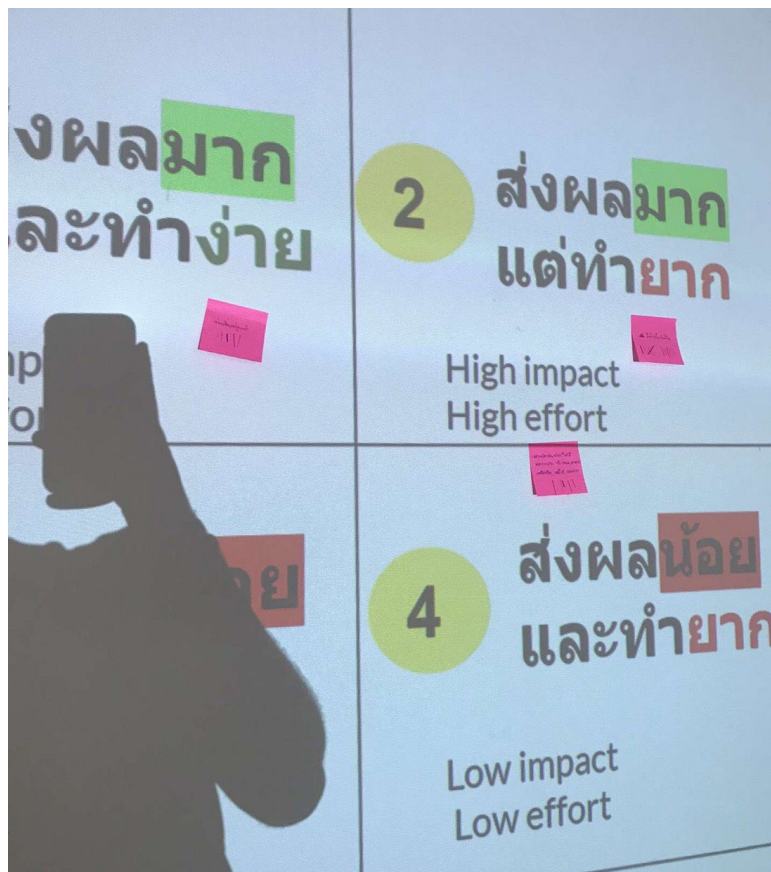

Figure 13: Impact/Effort Graph of Top Employee Suggestions

These results highlighted that a majority of the employees that participated in the session believed that bringing new activities into the park would have a high impact. This can be concluded because two out of the three most voted on ideas introduced activities into the park and were classified as high impact.

3.3 Investigation of Current Business Practices in Singha Park

Interviews With Park Management

From our interviews with Singha Park management, we discovered a major lack of communication between departments at the park, and between Singha Park and Singha Corporation headquarters in Bangkok. The agricultural manager of Singha Park stated that the marketing department sends instructions and business plans over to the agricultural department that do not line up with logical agricultural practices. This interview can be found in Appendix J. For example, currently, Singha Park produces 20% of organic tea products, and 80% with the help of chemicals/pesticides. This is because the organic products are less feasible to grow in large quantities due to shorter shelf life and less attractive appearance on shelves. The marketing department may ask the agricultural department to produce more organic products, however, the organic products had not been successfully sold in the previous harvest. This likely shows a lack of communication between marketing, who formulates plans for products, agriculture, who produces said products, and sales, who keeps the numbers and data on the products in the market. The other interviews conducted that day were with the director of Quality Control (QC) and Research & Development (R&D) (Appendix K), and the manager of marketing and sales (Appendix L). These interviews revealed frustrations with different departments other than their own.

In one interview, we asked what this individual thought was the most prevalent problem regarding implementation of a plan at Singha Park. The response was that there was a large disconnect in communication and vision between the executives of Singha Park in Bangkok and the managers and employees who actually work at the park. This individual believed that the executives did not have enough applicable knowledge of Singha Park in order to provide useful plans and instructions. In one interview with the agricultural manager, this individual stated that Singha Park never had a strong or even adequate business model, and that now, management was continually scrambling to put business models together to solve temporary problems. From this information, we concluded that in order to formulate an adequate and strong business model for Singha Park, it would involve a major effort in collaboration between every department at Singha Park and executives of the park. Such collaboration would require more open communication than is currently executed at the park because many of the departments place blame on different departments and there is a severe lack in communication between these different departments.

The lack of a business model was also observed in interviews with the marketing department and QC and R&D. In an interview with the manager of marketing and sales, this person informed us that many of the fresh products that are grown at Singha Park must be sold within two days or else the value severely diminishes. Additionally, there are many different

kinds of products that Singha Park is trying to profit from, however, there is no strong plan for marketing these products and that is shown because these products are not selling. In the interview with the manager of QC and R&D, this individual revealed to us that there is not much innovation really occurring within this department, despite the fact that one major portion of it is research and development. This individual revealed that they wait for all instructions and plans directly from the marketing department. One conclusion from these interviews was that there is not one larger plan or goal that all the departments at Singha Park are working towards. Each department seems to be moving along its own trajectory, and not all of them follow one agreed upon business model.

Additionally, we discovered miscommunication regarding each department's role in social enterprise and Corporate Social Responsibility (CSR). Each interviewee was asked about what their view was on social enterprise and CSR within their own role, and the role that Singha Park takes on as a whole. One individual stated "Business should be moved by the local community. Right now, Singha runs everything. I don't think it's a true social enterprise.". Another interviewee stated that Singha Park does well with CSR because of the many jobs created for the local community, and the behind the scenes donations to the local community in times of need. One solution to this issue that we discussed in one interview and amongst the team was a lack of Public Relations (PR) regarding Singha Park's role in the community. Not many community members, or even employees at Singha Park understand that much of the money made by Singha Park goes back into the community in the form of donations and scholarships for local schools.

3.4 Research Ethics

A primary consideration that we kept in mind as a team throughout the time spent on our project was to continually be aware of any changes that we were proposing and how those changes might have ramifications on various groups of people. Our primary goal in this project was to support and uplift the Chiang Rai community, which includes people in and around the park. We were primarily focused on completing our research in a way that continually analyzed all possible effects on any stakeholders.

One consideration that the team made when formulating questions and prompts for interviews, focus groups, and surveys was the ethics of the questions, the data collection methods, and the analysis of the data. When deciding on our questions and prompts, we took into consideration aspects such as Thai culture, Chiang Rai demographics, and how to ask our questions with respect and professionalism. Each question was intended to come across to the recipient as straightforward and relevant to that individual's knowledge and experience.

One way that we worked to ensure ethical data collection was by beginning every interview, survey, and focus group with an introduction of who we are as a team, the intent of the

activity, assurance of confidentiality, and a verbal request for consent to the activity. A template of this introduction can be found in Appendix A.

For our interviews, we were granted IRB permission (see Appendix Q).

Conclusion

As a result of our research, data collection, and data analysis, we have formulated five recommendations for Singha Corporation in regards to Singha Park. These recommendations are based on analysis of the data collected throughout the course of the project, and work in direct correlation to the key findings discussed in Chapter 4, Data Analysis.

4.1 Recommendation 1: Utilizing Natural Resources for Revenue Generation Using Tea Leaves Tempura

According to findings 3, 4, and 5, Singha Park has not fully utilized resources to generate maximal value from the tea plantation. Currently, there are 210 tons of tea leaves being stocked within a warehouse. Therefore, in order to utilize this surplus effectively, we came up with the idea of "Tea Leaf Tempura" or "Deep-Fried Tea Leaves" being developed and sold as a new product. The inspiration for this idea was derived from the signature menu at the Bhu Bhirom restaurant, a well-known restaurant at Singha Park, where fried tea leaves are served as an appetiser. When searching "fried tea leaves" the google search algorithm shows the Bhu Bhirom restaurant as one of the top results which shows that the fried tea leaves dish is a unique and popular dish at the restaurant. In order to capitalise on the popularity of the fried tea leaves dish, we saw an opportunity to mass produce the fried tea leaves and sell them as a packaged and processed good. Alongside helping to reduce the stockpile, the Tea Leaf Tempura could help in creating a meaningful and engaging activity at the tea plantation stop within the farm tour. By advertising this product we could create a fun activity centred around picking the tea leaves and watching how the tea leaf tempura is made. The only current drawbacks of this product is the R&D that is necessary to ensure that the Tea Leaf Tempura has a long shelf life. Currently the fried tea leaves turn bitter in flavour after a few days. Therefore, it is necessary to conduct R&D to achieve a longer shelf life. Furthermore, an additional input to this product is the ability to cross sell it with By Todd sauce (a sauce created by the CEO of Singha Corporation) and this will help boost the sales of both goods and increase the revenue coming into Singha Park, which benefits the community as a whole.

4.2 Recommendation 2: Increase Communication to Improve the Business Model and Unify the Vision on Social Enterprise

In order to address Finding 6, difficulties in planning and communication at Singha Park, we proposed that Singha Corporation implement a plan that encourages interdepartmental communication.

According to the interviews that we conducted with five employees of different departments, it was clear that each department was working very separately from other departments and all with unique visions and ideas of social enterprise. In order to first establish a business model that takes into account the needs and visions of every department, we proposed a yearly retreat for the managers of each department. At this retreat, each department would discuss their vision for the year within their respective department. For example, the agriculture department could bring up that they hope to plant and harvest 20 acres of organic tea in the upcoming year, and the marketing and sales department might bring up that they plan to focus on selling the excess non-organic tea stock from the previous year. This information would spark discussion and subsequently move into a problem-solving portion where all of the departments find an agreed upon vision and formulate a plan to address this vision for the year ahead. The result of this yearly retreat would be a complete business model that takes into account the needs of every department at Singha Park and an updated, agreed upon vision.

In the interviews with Singha Park management, we asked the manager of every department what social enterprise meant to him or her within the respective department. As discussed in section 4.3, each interviewee provided a different answer. Different opinions are not necessarily a negative sign and are a reflection of individual opinions. However, in an interview with upper management of Singha Park, (the Knowledge Management Strategy Manager and the Product Management Office Manager, Appendix M) we were informed that agreement on the basics of Singha Park's social enterprise vision is necessary to the success of carrying it out. In our recommendation of a corporate retreat at the beginning of each year, we would propose that a section of time be dedicated to discussion and workshop based on the basics of Singha Park's goals within social enterprise. This information could be updated from the upper level management located in Bangkok, and this would also help to unify the offices in Bangkok with the management at Singha Park. We propose that upper level management agree upon a definition of Singha Park as a social enterprise, and at least three main points that embody the goals of carrying out this social enterprise. This definition and three main points would be communicated to the group of managers at the retreat, and then the managers should discuss how these points can be carried out within their own departments, and how they have seen these goals already be met.

4.3 Recommendation 3: Raise Awareness of Hill Tribes Communities Through Direct Involvement

In accordance with Finding 2 it is recommended that Singha Park should raise awareness of hill tribe communities to the visitor through more direct involvement. Although Singha Park applied the model of community-based tourism to the hill tribes village area, there's a lack of engaging activities between hill tribes people and the tourists. Consequently, we believe the strategy that would raise awareness of the hill tribes people is the creation of a workshop that

allows tourists to learn about the culture and lifestyle of the hill tribes people. The interaction between the tourist and the hill tribes people will create a unique experience for the tourists that visit the area. Since the village is located at the last stop of the farm tour, Singha Park could make the village more noticeable by asking the tour guide to introduce the village to the tourist and changing the bus stop to be at the front or somewhere closer to the village.

4.4 Recommendation 4: Improve the Farm Tour by Offering More Activities and Languages, and Training the Staff

From Finding 1, Singha Park has room to improve within the farm tour. According to the surveys done on tourists it can be seen that 81% of tourists would like to see more opportunities for participation within the farm tour. Increasing the levels of engagement within the farm tour will result in increased:

- Consumer Spending and Product Sales
- Consumer Satisfaction, Social Media Presence, and Education
- Increased Tourism and Revenue Generation for Chiang Rai

Consumer Spending and Product Sales

Consumer spending will increase from incorporating more activities within the farm. This trend can be seen within Singha Park as 36.3% of visitors did not spend any money at any of the farm tour stops, and the most popular stop for consumer spending saw 14% of tourists spending money at stop 5, the petting zoo. This is due to the interactive nature of the stop as tourists are able to buy food to feed the giraffes and zebras and this interactive experience promotes consumer spending. The tourists on the farm tour are usually foreign tourists (not people from the local Chiang Rai community) and they are usually financially more well off. This enables them to utilize their disposable income at Singha Park and buy various products at each stop. Therefore, through the addition of activities at each stop in the farm tour creating an interactive experience will enable these foreign tourists to buy various products.

Consumer Satisfaction, Social Media, and Education

Offering more activities and a more interactive experience for the consumer on the farm tour will effectively increase the overall consumer satisfaction at Singha Park. Based on the results of our survey, the average overall consumer satisfaction with the activities at Singha Park was 7.7/10 and the average satisfaction with the farm tour was even lower at 7.5/10. An improvement of the activities available on the farm tour would improve both of these numbers.

Improving the individual consumer satisfaction at Singha Park will also likely increase Singha Park's social media presence, which will further spread awareness of the park because if a consumer enjoys their experience they are more likely to post about their experience on various social media platforms and recommend the park to their friends and families. Increased awareness of the park could lead to an increase in the number of visitors at the park and improve its overall success. This increase in social media presence can be accomplished through the use of tagged locations and photos on Instagram, hashtags on Twitter, posts on Facebook, etc. which are already available. To further Singha Park's social media presence to increase awareness of the park, a Snapchat geofilter (special overlays of attractive graphics for Snapchats that can only be accessed in certain locations) could be designed and implemented, which would put Singha Park on another social media platform.

Another way to improve the consumer satisfaction at Singha Park through the farm tour will be through the education of the the consumer as well as the park employees. If the customer is educated about each stop when they arrive, it will provide a more cohesive customer experience and they will have a better understanding of where they are and what they are doing. Additionally, the consumer should be educated on the Corporate Social Responsibility of Singha Park and their philanthropic goals within the community of Chiang Rai. This information could potentially influence them to spend money on more products as now they will be aware that their purchases are supporting the local community. In order to implement this education of the consumer, the park employees must not only be educated on the information they will teach the consumer, but also need to have the necessary language skills to provide the information. From the results of our survey, 48 respondents were able to give recommendations for the farm tour, and the idea repeated the most was including an English tour with 13 people suggesting it would make the tour better. There should be employees trained in giving the farm tour in English because many tourists participating in the farm tour do not understand Thai.

Increased Tourism and Revenue Generation for Chiang Rai

Improving the farm tour of Singha Park will increase tourism in both Singha Park and Chiang Rai. This recommendation responds to the original objective of Mr. Santi Bhirombhakdi, the CEO of Singha Corporation, that aims to make Chiang Rai become the main city for tourist attraction in Northern Thailand to elevate the quality of life of Chiang Rai people. "Singha Park must elevate the quality of life of Chiang Rai people" (Santi, 2020). Mr. Santi believes that the economy of Chiang Rai will be improved if the number of tourists increases because tourism will drive income distribution effect. This will generate more income to local people and enhance their standard of living (Admin, 2020).

4.5 Recommendation 5: Promote Ecotourism Through Additions of Environmentally Sustainable Practices

One way that the park could engage visiting tourists with an environmentally sustainable method is to introduce a tree-planting activity into the park. This idea directly came from a design thinking session held with different members of management in Singha Park, and it is mentioned along with a description of the session in key finding 3 of Section 4.2. The idea could be implemented at a stop on the farm tour, the entrance to the park, or a location near the recreation center. The goal of this suggestion is to give the visitor an experience to remember the park by, while also having a positive environmental impact and providing some education about how to participate in the activity. Additionally, a long term goal would be implementing electric farm tour buses which would further promote ecotourism as it would limit the negative environmental impacts of the farm tour. This initiative could be marketed to the tourists to involve more ecotourism factors into Singha Park, and would also increase Singha Park's ability to grow more organic crops. Currently, the farm tour buses and other vehicles that travel through the park contaminate the fields with the exhaust and electric vehicles would negate this negative impact. Because it may be difficult to implement this change in the short term, this recommendation could be modified to provide the option for a different, more environmentally friendly mode of transportation for the tour such as offering it as a bicycle farm tour or an electric scooter farm tour.

References

Admin, K. (2020, February 16). Mr.Santi, the honorable citizen of Chiang Rai. Retrieved from
    http://www.kaokrai.com/160220-2/

    This article was created by Kaokrai Admin on February 16, 2020. The article reports that Mr. Santi Bhirombhakdi, the CEO of Singha corporation is promoted to be the honorable citizen of Chiang Rai because Singha Park improves the economy of the province by attracting tourists which create income distribution effect. It also describes the original objective of Mr. Santi toward Singha Park. This information is important to our project because it helps us understand the mechanism of income distribution effect and the original objective of Singha Park. This knowledge will be useful for us when designing the final idea for our project that will keep us on the right track.

Agarwal, S., Bhatt, A., Kapoor, N., Moutinho, T., VanHerwarde, G., & Walker, K. (2013).
    Promoting ecotourism in Himachal Pradesh. Retrieved from
    https://web.wpi.edu/Pubs/E-project/Available/E-project-102113-185849/unrestricted/Eco
    tourism_India_IQP_Report.pdf

    This source is a previous IQP report that also focuses on sustainable tourism. The group defines ecotourism as sustainable, nature-based tourism, that is environmentally conservative while maintaining local culture and contributing to the well-being of the host community. This is what we will attempt to do in Chiang Rai at Singha Park. Singha Park already implements sustainable tourism in their attractions and for this reason, it is important that we understand what that means. One extremely beneficial portion of this IQP is the list of best practices and recommendations for sustainable tourism. Because this is an IQP report published by WPI we can assume it is a credible source.

Barbieri, C., (2013). Agricultural landscape preferences: Implications for agritourism
    development. Journal of Travel Research, 53(3), 366–379.
    https://doi.org/10.1177/0047287513496471

    This fairly recent source provides data and insight into a consumer experience regarding agritourism. The source re-defines the basics of agritourism which is important to have an understanding of in our project since Singha Park's primary method of tourism is agritourism, and interpreting data from tourists in similar situations was helpful to making our recommendations of how to improve agritourism at Singha Park. The source was published in an academic journal and we deemed it reliable based on the relative recent nature of its publishing.

Barone, A. (2019). Social Enterprise. *Investopedia*. Retrieved from
https://www.investopedia.com/terms/s/social-enterprise.asp

This source provides valuable information regarding what a social enterprise is, how to understand them, while providing key takeaways and considerations for social enterprises. They define social enterprise as a business that has specific social objectives that serve its primary purpose. Social enterprises seek to maximize profits while maximizing benefits to society and the environment.

Barrow, R. (2017, December 26). Top 10 nationalities to visit Thailand during 2017. [Weblog]. Retrieved from
https://www.thaitravelblogs.com/2017/12/top-10-foreign-tourists-to-visit-thailand-during-2017/

This source presents the top 10 nationalities that visited Thailand in 2017. It also includes information regarding how much the number for each nationality has increased (or decreased) since 2016. It makes it clear that tourism in Thailand is growing quickly in Thailand seeing as of the top 10 nationalities, the number for 9 of them had increased. This source is helpful because it provides us with insight into the size of the market for tourism in Thailand and shows us that the market is growing. One downside to this article is that it examines tourism in all of thailand rather than just in Chiang Rai where we will be working and may not be specific enough for our purposes. Additionally the credibility of this source may be questionable due to the fact that it comes from a travel blog.

Behera, M. (2017). Relevance of business model innovation for sustainable entrepreneurship: A perspective. IUP Journal of Entrepreneurship Development, 14(3), 7–30.
http://search.ebscohost.com.ezproxy.wpi.edu/login.aspx?direct=true&db=bsh&AN=125779242&site=ehost-live

This article discusses how the rapid globalization and technological shifts that are happening in our world are significantly shortening the life span of business models for some organizations. It then introduces the concept of business model innovation (BMI) which occurs when a company sells the same product or service to the same market, but they do so in a way that involves a new business model which in turn, enhances the value of the services provided. They also go into detail describing what a business model is, what it needs and what it does, highlighting that it outlines the modes through which costs and revenues can be balanced to achieve sustainable profits.

Berry, T. (2017). How to do a SWOT analysis for better strategic planning.[Weblog]. Retrieved
    from https://articles.bplans.com/how-to-perform-swot-analysis/

    This source provides details of how to perform a SWOT analysis for business strategy
analysis. SWOT is an acronym standing for Strengths, Weaknesses, Opportunities, and Threats.
The article gives tips and suggestions on how to analyze your business from the perspectives of
each of these areas. The analysis begins with examining the internal aspects of the company
(strengths and weaknesses) and then moves on to external aspects (opportunities and threats). All
of this analysis and information comes together and is interpreted to develop a business strategy.
This source will be useful to the team because it will provide us with a tool of how to evaluate
Singha Park's current business strategy, and begin to brainstorm new directions for the Park's
business strategy.

Bhatia, M. (2018, September). Your guide to qualitative and qualitative data analysis methods.
    Humans of Data. Retrieved January 31, 2019, from
    https://humansofdata.atlan.com/2018/09/qualitative-quantitative-data-analysis-methods/

    This article provides a detailed walk-through of preparing, analyzing, and interpreting
both qualitative and quantitative data sets. It discusses the different approaches that a researcher
must take when looking at a large data set. This source, while not purely an academic,
peer-reviewed source, is still being considered as trustworthy and valuable to our project because
of the academic nature of the writing, and the fact that the author's approach is very practical and
mathematical in nature. In addition, this is a recently published article by a trusted institution.
We will use this information to help us with our data analysis and this will eventually lead to us
forming proposals for our sponsor.

Blackstock, K., Hunter, C., & Phillip,S. (2010). A typology for defining agritourism. *Tourism
    Management, 31*(6), 754-758. https://doi.org/10.1016/j.tourman.2009.08.001

    This journal article gives a formal definition of agritourism and breaks it down into
multiple categories in the form of a typology. There are five categories that the authors break
agritourism into, and there are three questions that they believe accurately depict the types of
agritourism that exist. For our project in Singha Park, we need to have a proper understanding of
agritourism as its the most prevalent form of tourism in the park. The article also highlights other
avenues of agritourism that we could explore implementing in our recommendations for Singha
Park.

Brown, T. (2018). Design thinking defined. *IDEO Design Thinking*. Retrieved from
    https://designthinking.ideo.com/

   This is a strong and reliable source created by Tim Brown, executive chair of IDEO. It delves into the nature of design thinking and its various components such as the 5 stages of design thinking and the main appeal of design thinking which is its human-centric nature to identifying solutions to complex issues. It also shows why and how design thinking fits into a broad global society within today's day and age as well as the history and origins of how the design thinking process was founded. The 5 stages of design thinking are critical to ideating plausible solutions and some of these stages are highly useful such as empathize, define and ideate. We believe this source is strong as it is recently posted however, due to its nature of being a website, this is a slight weakness of the source as it isn't a journal or a scholarly article. This relevant and recent source would allow us to empathize with the social issues present in Chiang Rai, and define clear cut problems that arise within the community and ideate solutions rapidly.

Chiang Rai—Population statistics, charts, map and location. (2019). Retrieved
    from https://www.citypopulation.de/php/thailand-prov-admin.php?adm2id=57

   This source is a government based website that shows the current population and statistics of the Chiang Rai province within Thailand. The website highlights the populations of the hill tribe communities in Chiang Rai and shows a plethora of statistics on the current demographics. The team has deemed this information relevant and trustworthy since it is from a government organization and is constantly updated. The information was useful to our project to give us some context of how populated different areas of Thailand are, and how numbers of tourists to different areas compare to the general populations.

Chon, K. (2013). *Tourism in Southeast Asia: A New Direction*. Retrieved from
    https://doi.org/10.4324/9780203047989

   This source is a book about tourism in southeast Asia. More specifically, chapter five of the book is titled "The Impacts of Tourism on a Local Community: A Case Study of Chiang Mai". This chapter of the book addresses both the positive and negative effects that tourism can have on a community. Additionally, the chapter provides information about the history of tourism in Thailand, including information about the Tourism Authority of Thailand (TAT). Furthermore, the chapter provides a large sum of background information on Chiang Mai, including its location, weather and seasons, population and demographics, its history, cuisine, dress, housing, and traditional ceremonies

Clark, J. (2007). *Bale Mountains National Park general management plan*. Retrieved from
https://docplayer.net/1973228-Bale-mountains-national-park-general-management-plan.h
tml

This source is the ten-year management plan created for Bale Mountains National Park in 2007. It highlights the main principles that the plan should always consider and the five different sections of the park that require changes to how they're being managed. Of the five management programmes that they are establishing in the entire management plan, tourism, park operations, and outreach sections are the most applicable and useful for our project in Singha Park. The structure of the management plan is also something that we can use when making recommendations in our own project because it shows that we should build our list of recommendations based off of a set of factors we believe are the most important to Singha Park.

CTN News. (2019). About Chiang Rai. *Chiang Rai Times*. Retrieved from
https://www.chiangraitimes.com/about-chiangrai/

This article from the Chiang Rai Times, while not an academic source, was helpful to our project because it provided us with information about tourism in Chiang Rai from the perspective of a Thai new outlet, and the Thai people. We were able to begin our research about Chiang Rai and Singha Park from gaining this preliminary understanding of the growing popularity of Chiang Rai among tourists within Thailand, and internationally. Additionally, the source is very recently published and so we knew that we had the most up to date information.

Eagles, P. (2002) Trends in park tourism: Economics, finance and management. *Journal of Sustainable Tourism, 10*(2), 132-153. https://doi.org/10.1080/09669580208667158

This article emphasizes the relationships between the growing numbers of parks throughout the globe, the rise in tourism to those parks and its economic impacts, and finance and management policies used within the parks. This journal outlines that the success of a tourism site is dependent upon two fundamental components including appropriate levels of environmental quality, in combination with suitable levels of consumer service. Tourism activity occurring at many nature-based sites have created a self-perpetuating phenomenon of visitation, education, and desire for more parks, visitation and education. Nature tourism is becoming even more important these days because sustainable development can positively contribute to local economic development. The following table was included in this report and outlines the sources of revenue for a park in Canada. This table gives us further potential ideas for increasing revenue in Singha Park.

Fertel, C., Bahn, O., Vaillancourt, K., & Waaub, J. (2013). Canadian energy and climate policies: SWOT analysis in search of federal/provincial coherence. *Energy Policy, 63*, 1139-1150. https://doi.org/10.1016/j.enpol.2013.09.057

This source evaluates specific themes of Canadian energy and climate policies using a SWOT analysis for the purpose of examining the current policies that are in place and eventually forming proposals for future strategies. This source will be useful to the project team because it is a good example of a SWOT analysis put into use, and focuses specifically on sustainable practices and good environmental practices.

Goodwin, H., & Santilli, R. (2009). Community-based tourism: A success?. *International Centre for Responsible Tourism*. Retrieved from https://www.haroldgoodwin.info/uploads/CBTaSuccessPubpdf.pdf

This article discusses the fact that Community-based tourism (CBT) is promoted as a means of development where the social, environmental and economic needs of local communities are met through the offering of a tourism product. However, while many projects have been funded in developing countries, whether they are successful or not has not been monitored and, therefore, the benefits remain unquantified. Additionally, the article outlines what expert's criteria for success entail. Although this may differ from what is the specific success of our project, the general principles will be able to be applied. The report also provides four examples of CBT's that proved to be successful around the world. We will also be able to use these examples as a resource when thinking about community-based tourism with relation to our project more specifically. One thing that I found surprising about this journal was that it was stated that only 34% of the manager respondents mentioned conservation or positive environmental impacts as a factor leading to the success of their projects. This means that there is no apparent correlation between CBT success and conservation. Although this was the case for the respondents in this study, this will not be the case for us. Positive environmental impacts may not directly lead to the success of a given CBT, however, sustainability and conservation are still important and relevant aspects of our overall project goals and must be incorporated into our approach to our project.

Ho, J. (2014). Formulation of systemic PEST analysis for strategic analysis. *European Academic Research, 2*(5). Retrieved from https://docplayer.net/28070352-Formulation-of-a-systemic-pest-analysis-for-strategic-analysis.html

This article is a good example of the utilization of PEST (an abbreviated form of PESTLE) analysis to observe the current strategies of a business. This form of analysis is useful

to identify strengths and weaknesses within a corporation, as well as identifying outside factors that influence the corporation. All of this information is applied to a timeline to evaluate changes and applications of the strategies over time. This information will be useful to the project group because it provides a good example of how to use a PEST analysis and we could apply that to our analysis of the Singha Park business model, and to make recommendations for the future. Additionally, it will be useful because it provides an example of how to apply all of this information and interpret it with a timeline in mind.

Honey, M. (1999). *Ecotourism and sustainable development: Who owns paradise?*. Retrieved from
https://web.b.ebscohost.com/ehost/ebookviewer/ebook/bmxlYmtfXzM5OTIwN19fQU41
?sid=8a7c6fe4-d745-46f5-8789-679235a7a9b0@sessionmgr103&vid=0&format=EB&lp
id=lp_1&rid=0

This source is a book that focuses on sustainable development and ecotourism. Honey defines ecotourism as "striving to respect and benefit protected areas as well as the people living around or on these lands". Throughout this book, Honey presents an overview of the ecotourism industry all around the world, including projects and studies conducted in Costa Rica, Cuba, South Africa and many other areas. Honey also writes that while ecotourism is often grouped in with nature, wildlife and adventure tourism, it should actually be viewed as distinct from these other categories. One tour operator that honey writes about named Kurt Kutay says, "real ecotourism is more than travel to enjoy or appreciate nature," it also includes minimizing environmental and cultural consequences.

Hvenegaard, G. & Dearden, P. (1998). Ecotourism versus tourism in a Thai national park. *Annals of Tourism Research*, *25*(3),700-720.
https://doi.org/10.1016/S0160-7383(98)00020-6

This journal article discusses ecotourism in Thailand and more specifically, it compares the types of activities and people that participate in these activities that differ between tourism and ecotourism in Thailand. Hvenegaard defines ecotourism as "responsible travel to natural areas which conserves the environment and improves the welfare of the local people". This article also includes many statistics regarding tourism in Thailand, however many of them are outdated (from the mid-90s) so we will find statistics in other sources.

Ismail, M. (2009). Corporate social responsibility and its role in community development: an
    international perspective. The Journal of International Social Research, 2(9), 199–207.
    http://www.sosyalarastirmalar.com/cilt2/sayi9pdf/ismail_maimunah.pdf

       This article is written by Maimunah Ismail, a professor of the Department of Professional
Development and Continuing Education, Faculty of Educational Studies of Universiti Putra
Malaysia. It was published in 2009. The information related to our research begins on page 199
to 207. Even though the publication date of this article is not recent, it acknowledges how
corporate social responsibility (CSR) can be used as a strategy to strengthen the business and
ethically sustain the community in the meantime. It also explains the role of CSR and how to
determine the success of CSR. This information makes us realize the reason behind Singha
Park's development goal and.

Khidhir, S. (2018). Tourism's influence on Thai politics. *The Asean Post*. Retrieved from
    https://theaseanpost.com/article/tourisms-influence-thai-politics

       This is a news article that discusses the influence that tourism has on Thai politics. It
highlights that tourism is one of the most important contributors to the Thai economy. This
article also talks about how the largest contributor to tourism in Thailand has consistently been
Chinese tourist from 2012. This article will be helpful to our projects because it, first of all,
introduced me to two new organizations that could be added to our concept map, those being the
tourism and sports ministry and the world travel and tourism council. Second of all this article
gives us good, fairly recent number about the impact of tourism on Thailand as a whole, which
we will eventually be able to relate to the impact it has on Chiang rai more specifically. It also
gives us an idea of where a large portion of the tourists may come from (China) which begins to
help us develop a better understanding of the demographics involved in tourism in Thailand.

Ministry of Tourism and Sports. (2018). Samut Songkram Tourism Statistics . Retrieved from
    https://samutsongkhram.mots.go.th/ewt_dl_link.php?nid=426

       This source contains Samut Songkram tourism statistics, published by the Ministry of
Tourism and Sports in 2018. The statistics include the number of total visitors, Thai visitors,
foreigner visitors, and income generated from tourism. This information is useful for our project
because it provides quantitative data that can be used to measure the successfulness of Amphawa
Chaipattananurak project.

Ministry of Tourism and Sports. (2019). Thailand Tourism Statistics. Retrieved from
www.mots.go.th/allcont.php?cid=411

This article contains Thailand tourism statistics, which were published by the Ministry of Tourism and Sports. The data will always be updated every quarter. There are the statistics of the domestic tourism classify by regions and provinces, international tourist arrivals to Thailand at both of Bangkok international airport, and etc. These statistics indicate the number of tourists in northern Thailand and Chiang Rai annually, which is useful for our marketing research because we can analyze the trend to predict the opportunity for the park expansion in the future.

Montefrio, M., & Sin, H. (2019). Elite governance of agri-tourism in the Philippines. *Journal of Sustainable Tourism, 27*(9), 1338–1354. https://doi.org/10.1080/09669582.2019.1621327

This source discusses agri-tourism which is one of the main focuses of tourism in Singha Park. These authors define agri-tourism as a rural enterprise which incorporates both a working farm environment and a commercial tourism component. This article also states that rural tourism has been promoted as a way to address the issues of declining incomes of small farms, erosion of rural cultures from agricultural modernization, and to diversify the rural economy. A few sections of this report that would be relevant to our project would include; 3.3.1 Agritourism as a form of rural development and reproduction, 4.5 Research methods and data collection processes (for our methods chapter), 5.3 Tourism development in Thailand, 6.2 Rural areas in Thailand: past and present, 6.7 livelihood opportunities for agritourism operators and villagers, and 7.3.1.2 agritourism initiatives and their purposes.

Nantichas. (2017). Philosophy of sufficiency economy. Retrieved from
https://www.chaipat.or.th/eng/concepts-theories/sufficiency-economy-new-theory.html

This source is an online article published in the Chaipattana Foundation official website. It was written by Nantichas in 2017. This article provides information about the principle of sufficiency economy philosophy project and how it can be applied in real life step by step. The author gives many examples about the application of sufficiency economy philosophy that allows people to be self-sufficient. The source also contains the quote of His Majesty the late King Bhumibol Adulyadej, the founder of this project. The information obtained from this article is very helpful to our project because it allows us to understand the background of sustainable development in Thailand and it will be useful for us when creating a sustainable model of Singha Park.

Neal, P. (2013). Rethinking parks: New business models for parks in the 21st
   century. Retrieved from https://media.nesta.org.uk/documents/rethinking_parks.pdf

This source will probably be one of the most beneficial containing information that will have a significant positive impact on our project. This report talks about creating new business models for parks that will increase the number of visitors and how and why the visitation will increase. It includes new visions of how parks can be managed and maintained, how they can generate income and use resources differently, and how they can empower and integrate communities. The goal of the study was to find sustainable and impactful models for funding, management, and using parks. One extremely beneficial part of this report is that they suggest the most effective income generation models. These include generating income through concessions and events, taxation, ecosystem development, and commercial developments. Not only do they suggest most effective methods to generate income but they suggest the most promising areas for innovation. Simply put, these include:

- Supporting changes in park management and maintenance systems, restructuring contracts and maximizing the productivity of landscapes.
- Encouraging new organizational structures partnerships that can adopt more locally-focused and collaborative approaches to the long–term care of parks.
- Identifying more diverse sources of funding to increase the variety of uses and activities that parks may be used for
- Exploring new uses and activities within parks

Pornprasit, P., & Rurkkhum, S. (2019). Performance evaluation of community-based ecotourism:
   A case study in Satun province, Thailand. *Journal of ecotourism*, *18*(1), 42–59. Retrieved
   from https://doi.org/10.1080/14724049.2017.1379529

The objective of the study reported in this paper was to assess the performance of community-based ecotourism (CBET) management at tourist destinations in Thailand. The study was conducted using a questionnaire that was distributed to a sample of 530 visitors and the results were analyzed. This source highlights the importance of tourism for the Thai economy and states that the World Travel and Tourism Council reported that 19.3% of GDP in Thailand was from tourism. It also recognizes that there are negative effects of tourism and that is why it is necessary to develop a sustainable tourism model that is concerned with the negative impacts of mass tourism to preserve the environment, community, and culture. The study goes into a large amount of detail about how they collected demographics and information from the locals and visitors that they interviewed. A large majority of these information collection methods will be applicable to our project. Additionally, the overall concept of community-based ecotourism will be beneficial to our background information and introduction to our project

Purpose of the GMP. (2019). *Bale Mountains National Park Ethiopia*. Retrieved from
https://balemountains.org/bmnp-gmp/purpose/

This portion of the website for Bale Mountains National Park in Ethiopia details the overall purpose of their general management plan (GMP) that they would follow for the next ten years after 2007. Looking at the deciding factors for the plan they implemented is useful when trying to understand the most important factors to consider in Singha Park. The webpage also discusses how the national park divided up park management into different departments, and the leaders of each department would be given the responsibility to oversee their respective areas. This type of philosophy is something that could also be applicable to our project in Singha Park.

Rattima, R. (n.d.). Amphawa Chaipattananurak Foundation. Retrieved from
https://www.chaipat.or.th/royal-projects-in-various-regions/central-west/10227-2011-03-18-07-03-47.html

This is the official website of the Chaipattana Foundation which is involved in the Amphawa Chaipattananurak Project. It provides information and data regarding the foundation as a whole, and specifics of the Amphawa project. We were able to understand the mission and basic functions of the Amphawa project before going to the project to observe it for ourselves. This helped us to prepare our data collection methods and have a better understanding of the project for our case study. We regarded it as a very trustworthy source since it comes directly from members of the project. The source has no date because the source refers to an entire website, but it is updated regularly.

Rosala (2019). How to analyze qualitative data from UX research: Thematic analysis. *Nielsen Norman Group*. Retrieved from https://www.nngroup.com/articles/thematic-analysis/

This article discusses different methods that can be used to analyze qualitative data as well as some of the challenges associated with analyzing qualitative data. One approach presented by Rosala to analyzing qualitative data is through coding and thematic analysis. Thematic analysis is a systematic method of breaking down and organizing data from qualitative research by tagging individual observations and quotations with appropriate codes, to facilitate the discovery of significant themes. Because this source is not from an academic journal and is simply from a website, the team wanted to ensure that it would still be a reliable source. The team decided it would still be a good source to use because it is very recent (September 2019) and is simply being used as a reference to assist in data analysis. This source that will be helpful for our project when it comes to analyzing the data collected in our interviews, observation of Singha Park, as well as any other qualitative data that is collected by our group.

Richards, G., & Hall, D. (2003). *Tourism and Sustainable Community Development.* Retrieved from
https://books.google.co.th/books?hl=en&lr=&id=gWpeoeQ4Pn8C&oi=fnd&pg=PR8&dq=Richards,+Greg.+(2000).+Tourism+and+Sustainable+Community+Development.&ots=1SjDXaowBF&sig=DJwxVQORILNhpv5u-2CEX8k0trc&redir_esc=y#v=onepage&q&f=false

This source examines aspects of tourism within communities. It discusses the growing importance of the tourism industry to many different communities, and from this viewpoint, discusses how future implementation of other tourism practices can be put into place in a sustainable manner. This source will be useful to our project because it will help us understand first, the importance of the tourism that Singha Park brings to the Chiang Rai community, and secondly, the importance and methods of implementation of sustainable practices in the tourism industry.

Shoesmith, G. (2015). "Survey methods, questionnaires and interviews." In *Psychology: A new complete GCSE course, for AQA specification 4180*. Retrieved from
www.jstor.org/stable/j.ctt1cg4mcd.48

This scholarly chapter shows the different survey methods that could be used and the benefits and disadvantages of the various types of surveys. This was useful as it enabled us to identify which type of survey would be useful for the type of data that we would collect. The same can be stated for the various interview methods as it is broken down into structured and unstructured interviews which result in quantitative and qualitative based data respectively. The chapter also states the pros and cons of interviews and surveys as a way to collect data and helps us achieve a critical view on our methods of data collection. We considered this to be a stronger source as it was recently published , and is a scholarly source that contains reliable and trustworthy information. Although the source is written for the context of standardized testing, we found it very helpful as we wish to have scholarly and standardized surveys and questionnaires, and that the information found in this source can be applied to a wide variety of situations, including our project at Singha Park. We believe that this source will be helpful to us as we form our surveys and questionnaires that we will be distributing to individuals over the course of our project.

Siang, T. (2019). Design thinking. *Interaction Design Foundation*. Retrieved from
https://www.interaction-design.org/literature/topics/design-thinking

This article is created by the Interaction Design Foundation. It explains design thinking and is used in conjunction with the IDEO source to further understand the design thinking

process and what it entails. This source highlights why design thinking should be chosen as it is the perfect combination of feasibility, desirability and viability that in turn creates innovation. It allows the team to understand the design thinking approach and highlights the importance of each stage and why it helps create innovative solutions. Possible limitations to the design thinking process includes getting limited information based on the individuals that make up the focus group, and possibly fear of offending a superior, or not wanting to think outside the box. However, this is a limitation in many different settings, and we believe that design thinking helps to mitigate some of these larger issues. This is a good source as it is reliable and accurate due to the fact that it was written in 2019 and from a reliable foundation on the subject.

Singha Corporation. (2018). Boon Rawd Brewery Co., Ltd.- Home. Retrieved from
http://www.boonrawd.co.th/

This source of information is the official website of Boon Rawd Brewery company limited. It is a primary resource. This information source is important to the project as the website contains a lot of company data. For instance, it has the company profile, history, products, partnerships, and corporate social responsibility, which helps us comprehend more about the company. The information is reliable since it was created by Boon Rawd Brewery Co., Ltd, meaning all of the information is impartial.

Singha Park. (2016). Singha Park, a social enterprise to help farmers in Thailand's North. *Cision PR Newswire*. Retrieved from
https://www.prnewswire.com/news-releases/singha-park-a-social-enterprise-to-help-farmers-in-thailands-north-300205083.html

This source from Cision News provided the team with valuable information about Singha Park including the number of individuals it employs from the community, how large the park is, and its mission regarding social enterprise. This information was valuable to us because we were able to understand more of what Singha Park is attempting to accomplish and to aim the focus of our project. Additionally, having numbers to work with to understand the context of the problem and goal was helpful. The source is pretty recently published and by a Thai news agency so we treated the source as very trustworthy since it is from the point of view of the Thai people and from a well respected news agency.

Srisomyong, N. (2010). Agritourism, rural development and related policy initiatives in Thailand. Retrieved from http://shura.shu.ac.uk/20397/1/10701043.pdf

This source examines aspects of agritourism and rural development in Thailand. It discusses the important role that the agritourism industry plays in local communities and how it plays a role in the general development of communities in relation to different policies and

initiatives that currently exist in Thailand. This source will be helpful to the project team because it discusses aspects of agritourism and policies surrounding it specifically for Thailand, which is where the project will be carried out. Additionally, agritourism is a major part of the tourism in Singha Park, and gaining an understanding of agritourism and how it can be implemented will help us to make recommendations regarding Singha Park.

TAT Newsroom. (2018). Tourism revenue grows in Thailand's emerging destinations in
      Jan-June 2019. Retrieved from
      https://www.tatnews.org/2019/09/tourism-revenue-grows-in-thailands-emerging-destinati
      ons-in-jan-june-2019/

This source from the Tourism Authority of Thailand (TAT), examines different areas of Thailand that have been growing in tourist popularity and the respective revenue that the area sees as a result of this increased tourist activity. This source was helpful to our research to begin to understand how the Chiang Rai region of Thailand has experienced a change in their economy, and culture based on rising numbers of tourists, and how we might capitalize upon this trend with our project. The source is recent and from an official government organization of Thailand, therefore, we deemed this source very reliable to our research.

Thailand gross national product. (2019). CEIC Data. Retrieved from
      https://www.ceicdata.com/en/indicator/thailand/gross-national-product

This source from the Census and Economic Information Center provides a reliable and number-based source for us to reference to look at Thailand's yearly gross national product. This information was relevant to our project research because it provided us with some context of just how influential the tourism industry is to the Thai economy, and to get a baseline idea of income of the Thai people.

Thailand International Cooperation Agency. (2017). Theme: Sufficiency
      economy philosophy. Retrieved from
      http://tica.thaigov.net/main/en/relation/77569-Theme:-Sufficiency-Economy-Philosophy.
      html

This source is an article published by Thailand International Cooperation Agency (TICA) in May 9, 2017. It explains the definition and concept of sufficiency economy philosophy and how it connects to the 17 Sustainable Development Goals (SDGs). The source describes the true objective of the project; to eradicate poverty and create sustainable economic growth for

Thailand. This information is beneficial to our project because it helps us understand the goal of the project and visualise the relation of sufficiency economy philosophy project and SDGs.

Thailand Population 2020. (2020). World Population Review. Retrieved from
http://worldpopulationreview.com/countries/thailand-population

Tourism Statistics Thailand 2000-2019. (2019). *Thaiwebsites*. Retrieved from
http://www.thaiwebsites.com/tourism.asp

This shows basic tourism statistics such as the number of tourists coming to Thailand each year as well as the demographics of these tourists. It shows a long term view of tourism in Thailand and states the reasons why tourism has dipped or increased over the years due to external influences such as the environment or social/political issues. It also goes into depth to explain the tourism industry in Thailand and the economic role this plays in terms of GDP and the revenue influx to Thailand. The source also delves into more information in the 2019 time period and breaks each year from 2011-2019 into quarterly reports on tourism.

Vorley, T. (2017). Business Models and Innovation [PowerPoint slides]. Retrieved from
https://ec.europa.eu/jrc/sites/jrcsh/files/2017052324-thessaloniki-vorley-en.pdf

This source is a presentation given by Professor Tim Vorley from the University of Sheffield. He clearly defines how a business model should be structured, and delves into the different aspects of business model innovation that every business should consider. He argues that most businesses only think of innovation as improving a business's product or service, while there are two other forms that can also improve the value of the business. The information that Vorley has in this PowerPoint is applicable and useful for our project in Singha Park because it shows us that there are different ways we can innovate solutions without trying to improve upon and product or service that Singha Park offers.

Wiegman, E., Merrill, L., Freed, M., & Hickey, T. (2013). Community-based tourism at Pellumbas Village, Albania. Retrieved from
https://web.wpi.edu/Pubs/E-project/Available/E-project-121913-122433/unrestricted/APC13_Pellumbas_FINAL_12-19.pdf

This source is a previous IQP report that had the goal of recommending community-based tourism initiatives to develop tourism in Pellumbas, Albania. Our group is attempting to engage the local community around Singha Park in Chiang Rai through new products, and business strategies and therefore has a very similar goal. According to this report, community-based tourism is an attempt to balance the interests of the local community, the

interests of tourists, and the conservation of the environment. The methods for data collection this group used will also be similar to what we use.

Wilson K., & Wauson, J. (2011). "Business Plan." in *The AMA handbook of business documents: Guidelines and sample documents that make business writing easy*. Retrieved from www.jstor.org/stable/j.ctt1d2dqdc

This source was found on JSTOR and is relevant to our project as it shows an in-depth analysis of how to create a business model/strategy specifically on a park. The handbook is written by Kevin Wilson and Jennifer Wauson and is a guide on how to develop a business plan and proposal. The main case study shown in this handbook is also highly relatable towards our project as it is centred around Stewart Lake State Park in Wisconsin. The initial pages in this handbook show steps on how to build a business plan which is essential for our project as we will need to produce a business plan for Boon Rawd brewery. It states the organization and format of the paper such as the cover sheet, statement of purpose, operational purposes and so forth. These are vital topics to research and delve into for the near future as we will need to create templates of a variety of business plans that we can pitch to our sponsor. Our project goal should be shown in our mission statement where we would show our vision and the value addition of our plan to Singha Park. We need to conduct market analysis (such as Market Trends, Demographics, Market Demands) in order to create clear cut objectives that will be feasible given the short time frame of ID 2050. We would also need to create a financial analysis and a way to monitor the success of our product to Singha Park. The case study of Stewart Lake State Park is highly useful to our project as it shows how to use these business methods upon a park.

Wu, Y. (1967). The research interview and its measurement. *Social Work*, *12*(3), 79-87. Retrieved from www.jstor.org/stable/23710372

These pages from Wu's book are relevant and useful to our project as it states the definition of a research interview. There are various types of interviews and the research interview format and type is the most useful in relation to our IQP paper. The research interview is defined as "a pattern of verbal interactions between two or more individuals initiated by the interviewer for a specific purpose and focused on some specific content areas in order to gather data and test hypotheses." While the source is quite old, we as a team believe that the information is still relevant to the project because it is a discussion of interview techniques from a social perspective, and the given information is still relevant in this day and age. The source is in a very highly trusted journal and contains strong academic arguments and information. We

believe that this source will be very helpful to the scope of our project as it gives us tools and strategies to use as we go into the field and begin to conduct our own interviews.

#14 Santi Bhirombhakdi & family. (2019). *Forbes*. Retrieved from
    https://www.forbes.com/profile/santi-bhirombhakdi/#69961b6f6ecb

This article was published on July 5, 2019. It was created by Forbes shows facts and figures about Santi Bhirombhakdi, the founder of Singha company, and his family as well as historical facts on their wealth and family goals. It states when Boon Rawd was formed as a company and shows the amalgamation of wealth over time within the family.

Appendices

Appendix A: **Template for Introduction to Interviews/Focus Groups**

"Hello, we are _____ and _____. We are from Worcester Polytechnic Institute and Chulalongkorn University. We are working with Singha Park for 7 weeks to help develop a sustainable business model that will maximize benefits to the local community. In this **interview/focus group** we will be asking questions that will help us develop this business model. We would like you to know that your names will not be included in our records to maintain confidentiality. At any time during the **interview/focus group** you are free to not respond to the questions. At any time during the **interview/focus group**, you are free to end your participation. We would like to record this session so that we can refer back to it, however, if this makes you uncomfortable, we will take notes instead.

- Do you consent to participate in this **interview/focus group**?
- Are you comfortable with us using a recording device?
- Do you have any questions about how we are going to proceed?"

We aim to interview 12 adults from positions internal to Singha Park. These interviews will be conducted both in Chiang Rai at Singha Park as well as in Bangkok at the Singha Corporation Headquarters. Our current goal is to interview 12 individuals because of the time constraint that we will face, however, if time allows we would aim to interview additional employees. The purpose of these interviews will be to analyze how any changes to Singha Park may affect the park itself, its employees and its surrounding community. The interviews are expected to last approximately 60 minutes.

Appendix B: **Singha Park Employee Interview Questions**

Part 1:

1. What is your name?

2. Where are you from?

3. How old are you?

4. How long have you lived in Thailand/Chiang Rai?

5. How long have you been an employee at Singha Park?

Part 2:

6. What is your current job at Singha Park?

7. What is your day to day schedule like at Singha Park?

8. How often do you interact with the local community?

9. How often do you interact with tourists?

10. What activities and products are most popular among tourists?

11. What are the attributes of your job that you enjoy?

12. Are there any aspects of your job that you would like to change or improve upon?

Part 3:

13. What do you think about the relationship between the community and Singha Park?

14. What initiatives does Singha Park use to engage the community?

15. Do you think that these community initiatives are well-executed?

16. What initiatives does Singha Park use to attract tourists?

17. Are there any attractions that you'd like to see improved or added to the park?

18. What are some ways (if any) that you can identify that will help with further community engagement of Singha Park?

19. What are underutilized resources at Singha Park that could help increase community involvement?

20. Do you have any other thoughts or ideas of how to engage the community using the park?

Appendix C: **Survey Forms for Tourists to Singha Park**

The purpose of this survey is to collect data from tourists visiting Singha Park. We would like to collect data regarding tourist satisfaction with Singha Park, and begin to better understand areas for improvement within the park. This information will also help us to understand the relations between Singha Park, its visitors, and the local community. The survey will be distributed to a shop within the park and an incentive will be provided to encourage visitors to participate in the survey.

1.   The survey form link : https://forms.gle/aQRuppm9HK4R2VwK6

2.   The survey form QR code to be scanned :

Figure 14: QR Code Card for Tourist Survey at Singha Park

Appendix D: Amphawa Chaipattananurak Foundation

Background information: Amphawa Chaipattananurak Foundation

The objective of Amphawa Chaipattananurak foundation is to create sustainable development within the MaeKlong community by encouraging people to be self-sufficient and providing the land and space for the local communities to do agricultural practice and sell their local products. The project encourages connecting various communities in the MaeKlong area to come together and sell products at a weekend market. In 2018, this market brings more than 150,000 tourists per month to the area to experience the floating market and to purchase the many different products that are brought in by the different communities (Ministry of Tourism and Sports, 2018). One of the best known products of the MaeKlong community is coconut sugar. The tourists that visit Amphawa Chaipattananurak foundation will see the production process and experience scooping fresh coconut sugar from the stove. The tourist can instantly taste the fresh coconut sugar or buy them at Patpat shop (The store that sells local products). Apart from making the coconut sugar, MaeKlong people fully utilize the coconut tree by constructing the cottage roof from the coconut tree stem, and modifying the unused coconut shell to be the flower pot. This shows that the community reduces waste by utilizing the remaining resources. The use of the coconut as a major product and the production of many coconut by-products is incredibly sustainable to the project because the community has coconuts as a very abundant natural resource. The project simply chose to utilize a product that was already present, and convert it into something valuable for tourists.

There are many similarities between the Amphawa project and Singha Park- both projects give a space for the local people to sell their product and help with the marketing for them. Amphawa Chaipattananurak sells local products at the Patpat shop at the project, and Singha Park sells local products at Singha Café and other shops around the park. Both Amphawa and Singha Park also sell products at shops and stores outside of their respective locations. Moreover, both projects provide opportunities for the local people to become involved in the project, and generate income.

There are major differences between Singha Park and Amphawa Chaipattananurak that must be considered. One major difference is the project models. Singha Park was developed under the concept of social enterpriseSocial Enterprise, which is more business related if compared to Amphawa Chaipattananurat foundation that is community-based. Additionally, the area of Singha Park is 13.93 square kilometer while the area of Amphawa Chaipattananurak project is only 0.0336 square kilometer (Rattima, n.d.). Therefore, some of the strategies that make the Amphawa Chaipattananurak foundation successful could not be applied to Singha Park.

Interview questions for the director of the Amphawa Chaipattananurak Foundation:
1. How would you describe the main objective of this project?

2. How long have you been directing this project?

3. What is your favorite aspect of the Amphawa community?

4. How do you come up with the ideas to integrate the local community?

5. What aspects of your project are successful?

6. What aspects of your project would you like to see improvement?

7. Did your revenue increase from selling local products?

8. How do you communicate/persuade the local people to work with you?

9. Do you regulate the products sold by the locals in any way?

10. If you are willing to share, how much higher is the average wage of locals that work in the project, versus community members who do not?

11. What are the future plans for the Amphawa project?

Meeting Notes for Amphawa Chaipattananurak Foundation Interview 14/01/20

Members present: Director of the Amphawa Chaipattananurak Foundation, Jenna Erb, Khim, Lilly Nardelli, Lin Lin, Pooh, Pun Pun, Rakesh Veetekat, Vinay Nair
Members on video call: none
Members late/absent: none

Start time: 10:35 AM
End time: 11:24 AM

Chair: Pooh
Note-taker: Khim

Agenda:
- Greetings and introductions
- Team description of our project
- Questions:
    1. How would you describe the main objective for this project?

a. Community-based and aiming to make the Amphawa community completely self-sufficient.

b. Uplift the quality of life of the local communities and improve their economic situation.

c. "The project will be a success when the Amphawa community no longer needs us."

d. Applying sufficiency thinking- instituted by King Rama the 9th. Specifically sufficiency of water.

e. Taking into account the local culture, wisdom, and resources and building off of that to add value.

f. Focused on preservation of the environment, and the community's current way of life. This includes promoting biodiversity in the surrounding areas.

2. How do you come up with the ideas to integrate the local community?

a. Using products and resources that are abundant in the community.

b. With a focus to involve and draw back the younger generations. They are particularly helpful with marketing for the project.

c. Using ideals of community enterprise and social enterprise.

d. Using the local lifestyle to promote ecotourism.

3. What aspects of your project are successful?

a. Connection between various communities around the Amphawa district. Accomplished by providing "linking spaces" such as the spaces to sell products. Also accomplished by physically going to each community to speak with them about opportunities. Show the communities that the products and goods that they already have in abundance can increase value for their community.

b. Bringing in "experts" to discuss ways to increase value in the community. Example: bringing in experts of salt harvesting to the communities that have salt in abundance in the water. This way they can be taught and enabled to provide for themselves.

c. Bring in researchers and support from local universities.

d. The community and Amphawa Chaipattananurak Foundation also receive help from outside foundations.

4. What aspects of your project would you like to see improvement?

a. Communication between the local people, the community leaders, and the government is sometimes strained. For example, some community members started using motorboats to bring tourists out on the water at night to see the fireflies. This brought in a lot of good business, but the local farmers didn't like it because the motorboats destroy the land. The local people went to the government, but they did not have jurisdiction to take any action.

b. Management aspects of the project could use some work. Training managers.

5. How do you communicate/persuade the local people to work with you?

a. Staff of the project invest their time to go out and visit with the local people, and convince them that this is something that could bring value to their lives.

b. Convince them that each specific area has its own unique value that it can bring to the project.

6. What are future plans for the Amphawa project?

a. Aiming for the Amphawa community to be completely self sufficient in the future. The foundation hopes to stay connected with the community just in terms of offering support as a partner, but plans on stepping out of the picture for the most part.

7. How large is the reach of the project?

a. The project covers much more than just the Amphawa community.

i. Mae-Klong basin which covers Petchburi

ii. Samutsongkram

iii. Ratchaburi

b. Works to link all the communities in the area through a network.

- Observation of the "Pat Pat" store with the products from the various projects involved with the Amphawa Chaipattananurak Foundation.
    - Major local products that are sold include coconut products, ice cream, soap, and other beauty and cosmetic products.

Appendix E: **Focus Group - Design Thinking Sessions:**

We conducted a focus group with internal stakeholders in Singha Part to study Singha Park's current business model with regards to sustainable practices. The members of the focus group were internal stakeholders including employees, staff, managers etc. We made an effort to build a focus group composed of individuals with diverse cognitive and cultural backgrounds, however, we did not have much control over the individuals selected for the focus group due to time constraints, and limitations due to language barriers.

The lightning decision jam design thinking session was used to generate large amounts of data on the current problems that Singha Park faces and the solutions that can be identified. The design thinking session incorporated 8 department managers of Singha Park. We used our team as facilitators to drive the design thinking session.

As shown in Figure 15 below, the lightning decision jam is a simple process in which problems can be identified and solutions are quickly innovated. The first step for our lightning decision jam was to pose a generic question such as "What are potential areas that Singha Park could improve on in terms of environmental and financial sustainability?". Using this prompt, members of our team facilitated the discussion within each group and once 15 minutes of discussion was over, each participating member worked individually to express their issue, whether it be verbally or pictorially on a sticky note. Then, the problems noted by each team member were placed on a white board and repeated problems were stacked upon each other. Each team's problems were read out to all of the participants. However, since each team member was working individually, there was a level of confidentiality that remained even though what they wrote was shared with everyone. Once this process was repeated for each team, sticky note circles were distributed and each team member individually decided which problem they thought was the most relevant to the issue of sustainability at Singha Park. Once each of the 20 participants voted, we counted up all the votes and identified the two problems with the most votes. The next stage was very similar to the previous stage of identifying problems and democratically voting on them, but instead, it focused on solutions. The top 2 problems that were selected from the previous stage were then phrased in a positive manner, which incited innovation within the participants. Again, this was a very similar process to problem identification and hierarchy, but it focused on creating solutions and then identifying the best 5-7 solutions. After this was done, the participants voted to determine where the best 5-7 solutions fall within the solutioning table.

The data analysis that we used for the design thinking session is purely quantitative. An example of data that can be gathered in terms of problems and solutions from a lightning decision jam is shown in Figures 15 and 16 respectively.

Figure 15: Problems Identified during a Lightning Decision Jam

	Pre-Arrival	Votes	Initial Consultation	Votes
Patients	It's difficult and takes too long to book appointments.	4	Patient has to return again if unable to improve.	0
	The doctors aren't always available.	0	Language barrier is an issue for non english speakers.	0
	Hospital visits take multiple trips.	5	Communicating effectively with patients is difficult.	0
	Lack of pre-knowledge on wait times leads to frustration	0	Registration is confusing and cumbersome for patients.	0
	Can't get an after hours appointment.	1	Cannot effectively communicate symptoms with doctor.	1
	Doctor's availability during the week is limited.	0	The initial visit has a long waiting time.	0
	Patients have problems getting appointment slots.	5	Patients don't get enough time with the doctor.	1
	No after office consultation hours.	0	Paitents can't understand the clarity of the tests.	0
	Patients forget about instructions from previous appt.	4	Patients can't understand the doctors jargon.	2
	Unsure on where to look for information before visits.	0	Nobody to talk to regarding the symptoms	0
	Can't change the appointment time easily.	4	Lack of time to comprehend the infromation from dr.	0
	No after office consultation hours.	0		
	Lack of knoweldge on tasks involved in medical visits.	0		
	Unsure on how long the clinic visit will take.	0		
	Skeptical about the doctor's abilities.	0		

	Pre-Arrival	Votes	Initial Consultation	Votes
Nurses	Pre-hospital documents are unable to register.	2	Overcrowding of areas difficult to organise.	0
	Repetitive sightings of the same patient.	0	Long wait time and process before consultation.	4
			Unable to receive a patient summary.	0

Figure 16: Solutions Identified during a Lightning Decision Jam

Design Thinking Solution Table — How Might We = HMW — AM Session HMWs — PM Session HMWs

HMW: Reduce wait time inefficiences?	Votes	HMW: reduce the number of hospital visits?	Votes	HMW: Monitor patients more effectively?	Votes	HMW: efficiently restock patient's medication?	Votes
Online appointment booking system for patients.	13	Empower the caregiver.	7	Tele-health machine to link to hospital system.	1	Uber medicine towards patients.	2
Technology to update patient on when consult is ready	17	Identify communication with community caretaker.	9	Tele-medical electronic monitoring.	1	Remote monitoring of pill using RFID.	4
Gamification education app for waiting patients.	1	Communiate with telemedia/technology solutions.	16	Telemedicine.	1	Hotline for patient's to update the pharmacist.	2
Waiting does not need to be in the waiting room.	19	Care of patients with Iot sensors.	11	Device that detects changes in patient's health.	14	Online community of patients supported by medical sta	3
Triage SOP during wait time.	8	Patient empowerment to improve self care.	8	Tele-health/triage and consult and outreach program.	8	Portal for ordering medicine to deliever at home.	23
Solutions to HMW		Step down agency to handle post hospital care.	3	Leverage community partners to monitor at home.	11	Ability to contact doctor and pharmacist online.	32
				Virtual patient consult using digital human.	40		

As shown in Figure 15 and Figure 16, data can be generated with mathematically quantifiable values.

Prompting questions used during the design thinking session:

1. What are any sustainable practices that Singha Park currently uses?
2. How do you play a part in promoting/utilizing sustainable practices at Singha Park?
3. Where are areas within the park that you think sustainable practices should be incorporated?
4. How effective are the current sustainable practices at Singha Park?

Appendix F: **Types of Data Collection**

Interviews

An interview used in research can be defined as "a pattern of verbal interactions between two or more individuals initiated by the interviewer for a specific purpose and focused on some specific content areas in order to gather data and test hypotheses." (Wu, 1967). Typically, there are 2 main forms of interviews- structured and unstructured, also known as standardized or unstandardized. In a structured interview, the interviewer will ask a list of predetermined questions in a predetermined sequence and this script is strictly followed (Shoesmith, 2015). An unstructured interview consists of main topics or key areas of focus given to the interviewer who is then at liberty to ask any questions concerning that topic. The main differences between the two interview types and their advantages and disadvantages are listed below in Table 7.

Table 7: Structured versus Unstructured Interviews

Type of Interview	Advantages	Disadvantages
Structured Interview	• Collect only the information required. • Interview has a strong focus which allows for quantitative data collection. • Minimises ethical risk to both the interviewer and interviewee	• At times the natural flow of conversation maybe affected. • Doesn't allow for the collection of qualitative data.
Unstructured Interview	• Respondent led due to their informal nature. • Highly adaptable as interviewer can ask questions based on interviewee's responses. • Good for ethics due to comfort for sensitive topics.	• Could have interviewer bias as there is no script. • Data generated is highly varied. • Hard to replicate. • Doesn't allow for the collection of quantitative data.

As seen in Table 7, both interview types have various advantages and disadvantages and therefore, depending on the type of data we wanted to collect, we selected a particular type of interview. For interviews where we need quantitative data, our team conducted structured interviews and for qualitative data collection, we used unstructured interviews.

Surveys

There are three main types of surveys: cross-sectional/snapshot survey, longitudinal survey, and cohort survey. A cross-sectional survey is one where a target population is sampled to derive a concise understanding of a key focus area. A longitudinal survey tracks participants over a span of time to understand trends or changes in perception on a topic. The data is collected from the same group participant at intervals over a period of time. In a cohort survey, we survey a group of people that share a certain characteristic such as age or occupation (Shoesmith, 2015). Each of these survey types utilizes various sampling methods and the survey questions themselves can be distinguished into two main sectors closed and open questionnaires. Closed questions have clear answers such as "yes" and "no" and are easily quantifiable. These questions are close-ended and could involve tick boxes. Open questions allow respondents to answer in short paragraphs without any clear or strict guidelines. This enables the survey to collect qualitative data and elicit emotional responses (Shoesmith, 2015). Table 8 discusses the advantages and disadvantages of closed and open questions that could be asked during one of the three types of surveys listed.

Table 8: Closed versus Open Questions

Type of Question	Advantages	Disadvantages
Closed Questionnaires	• Easy and time efficient for respondents as they only have to choose between options for answers. • Can be quantified mathematically.	• The actual answer the respondents wish to give may not be present as an option. • The question may not have clear cut answers. Not all questions can have a closed nature.
Open Questionnaires	• Allows the respondent to put in their full and accurate responses. • Creates a wide range of responses for us to analyze. • Enables respondent to say how strongly they feel about their answer.	• More time consuming process as respondents have to write out their answers. • More effort based as respondents have to put in more effort to answer. • Harder to analyze these across answers due to the open ended nature of questions.

Table 8 highlights the advantages and disadvantages of closed and open questions. Therefore to complete the project, the team needed to understand the key goal of our surveys and how the types of surveys and the questions utilized would affect data collection.

In order to generate data in a time-efficient manner, the team utilized a design thinking workshop that uses a lightning decision jam methodology. The purpose of design thinking is to use a more human-centric manner when it comes to solving complex and interconnected problems (Siang, T., 2019). Design thinking was founded in 1978 by David M. Kelley who founded the design consultancy company known as IDEO in 1991 (Brown, 2018). It has reached a wide global audience and is currently being used to help quickly ideate and innovate solutions.

The lightning decision jam methodology is used to identify key issues faced by consumers or employees and then an ideation process takes place to ensure an innovative solution is found. The process has a democratic and confidential nature which is in the best interest of each participant. Figure 17 outlines the steps taken within a lightning decision jam design thinking session.
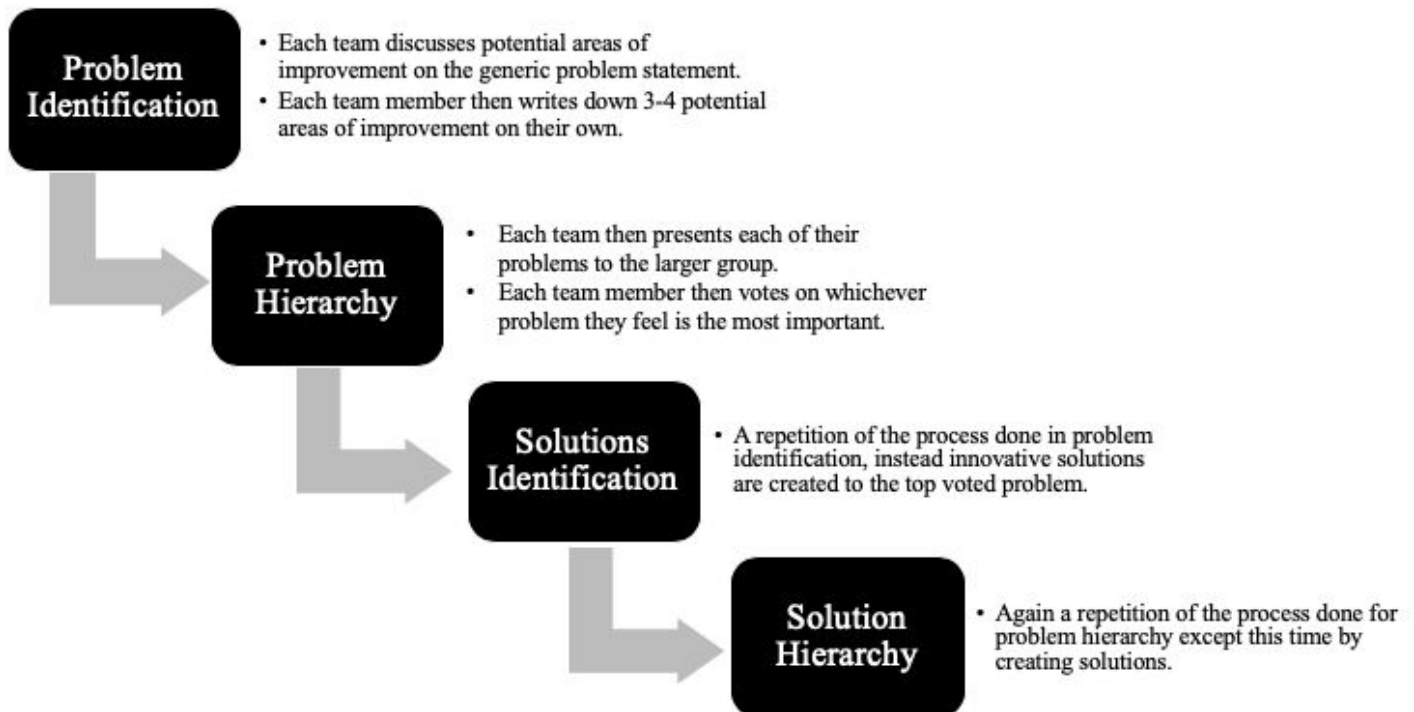

Figure 17: Flowchart of a Lightning Jam Design Thinking Session

Figure 17 shows the generic flow of a lightning jam design thinking session and the end product of a session would be taking the top 5-7 voted solutions and placing them onto an impact versus effort graph as shown in Figure 18.
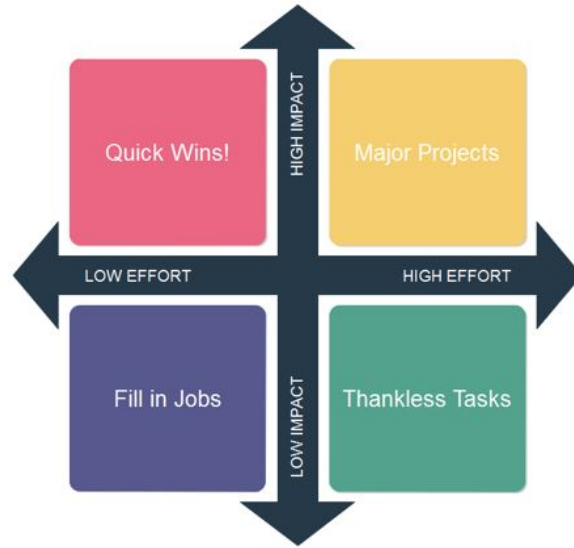
Figure 18: Solutioning - Impact vs Effort

The ultimate goal of this process is to identify a solution that fits within the upper left-hand corner of quick wins as it is a high impact, low effort solution. These are solutions that would involve minimum expenditure in time, effort and costs but generate a large positive impact on the company. The upper right-hand corner of major projects is where high effort and high impact solutions would fit and these are solutions that require time, effort and finances but would also have a high impact on the company. The worst category for a solution to fall under is the lower right-hand corner of thankless tasks, these are arduous tasks that require high levels of effort for the minimum outcome. The bottom right-hand corner is just quick and easy tasks that can be implemented for marginal levels of improvement within the company or towards the consumer.

Observation

The primary goal of the site visit the team conducted was to gather as much qualitative (observational) data as possible as well as data from the key stakeholders (employees and visitors) of Singha Park. Observational data that was collected throughout the site visit was exclusively qualitative and was analyzed as such. One approach to analyzing qualitative data is through coding and thematic analysis. Thematic analysis is a systematic method of breaking down and organizing rich data from qualitative research by tagging individual observations and quotations with appropriate codes, to facilitate the discovery of significant themes (Rosala, 2019).

Appendix G: Stakeholder Analysis

To begin the research for this project, we identified all of the stakeholders that may be affected by any changes to the park. The first step we took in compiling this information was conducting background research about the park and the surrounding community. Data was collected regarding the demographics of visitors to the park, the community's involvement in the park, the park's involvement in the community, and tourism trends to the Chiang Rai area. We set a radial distance of 5 Kilometers around the "center" of Singha Park as defined by the map in Figure 19. This radius is what we will consider encompassing the "direct community" of Singha Park. Once we arrived on-site in Chiang Rai, we re-evaluated and determined if there was a more appropriate radius.
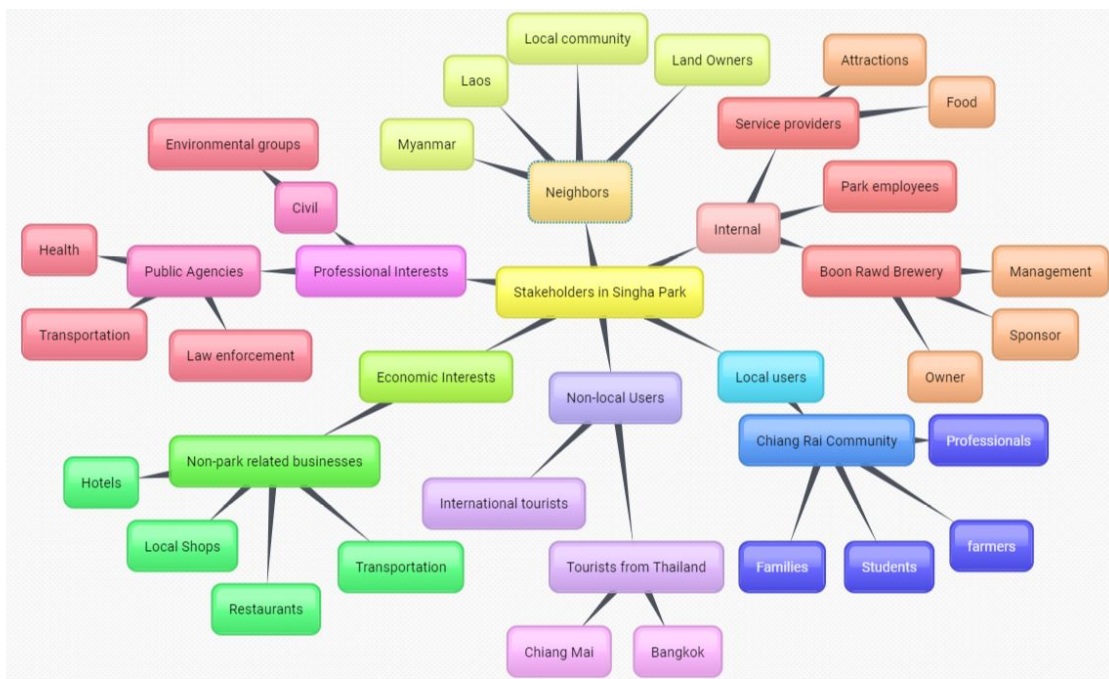
Figure 19: Primary Stakeholder Analysis of Singha Park

Figure 19 displays the initial brainstorming process when determining the stakeholders of Singha Park. In the center of the map is the broadest classification of individuals that are connected to the park. As the bubbles get farther away from the center, the groupings get more specific. The groups from our original brainstorming process that proved to be most relevant to the project were the local users, internal, and economic interests. Local users and economic interests are relevant because these are the businesses and individuals that make up the Chiang

Rai community. These individuals were the participants in the external interviews that we conducted and were the people to whom we distributed surveys to gather information about their attitudes towards tourism as well as their opinions and involvement in Singha Park. The internal stakeholders are relevant because we conducted interviews and surveys with some of them to determine how their lives may be affected by alterations to Singha Park.

Appendix H: **Business Models**

Two objectives the project team addressed are the assessment of the current business model of Singha Park, and recommendations to enhance the model so that it engages more communities surrounding the park and aids in their initiatives for sustainability within the park. To accomplish both of these goals, there needs to be an understanding of the expectations of a successful and unsuccessful business model, as well as the necessary steps to make an existing business model more successful.

Defining a Small to Medium Business Model

The idea behind developing a business model stays the same across every marketplace, while only the goals for the business in each will differ. These differences in goals will be largely affected by the size of the business and the location and community in which it resides. At its core, a business model should be a plan that addresses how the business will profit in its specific market. It should address basic necessities that every business requires, including sources of financing, the target customer base, marketing strategies and more. While a model will look at each of these areas, it should not be confused with a business plan, which highlights the strategies that the company could use to implement the ideas laid out in the model.

For a business model to be sound, analysts look to see if there are any flaws in the calculations laid out for the costs and profits within the model. If anything is inaccurate at this step, the model becomes unreliable, and it shows a lack of attention to detail by the company. The next statistic that both analysts and investors look at is the company's gross profit because it highlights how effective their budgeting for costs was towards generating revenue. In the end, the success of each business model is determined by how the companies manipulate the costs to run the business and prices of their services to maximize their profit, and comparisons with other businesses in the same market.

Small to medium-sized businesses, such as Singha Park, must take into consideration the aforementioned components of their business model: sources of financing, target customer base, marketing strategies, etc. with relevant applications to the size and culture of the target demographics. Many small to medium-sized businesses are successful due to a business model focused on collaboration and co-investment with other small to medium-sized businesses (Vorley, 2017). It would be unreasonable for Singha Park to cater the business plan to account for millions of visitors to the park because this would allocate resources to a goal that is highly unlikely and will result in a waste of resources. Having an understanding of the different considerations a small to medium-sized business will take into account while forming and analyzing their business plan will help the project team to carry out the project of analyzing the current business model. Additionally, such background information will help the team to propose

suggestions based on the goal of Boon Rawd Brewery and Singha Park. The primary goal of Singha Park is for philanthropic purposes, which results in a different business model than if its primary purpose was to generate revenue.

Similar Business Models from Other Parks/Tourist Destinations

There are plenty of strategies that can be applied to business models across various markets, but each market will dictate how the business profits differently, and therefore, result in a unique model. The business models of other park-related companies should be examined to provide a comparison to the business model of Singha Park, and possibly even provide preliminary suggestions to Singha Park's model. This should be done with the consideration that every model is unique based on the market in which the company exists.

Stewart Lake Park Business Model

A similar business model to one that Singha Park may use comes from Stewart Lake park in Wisconsin, USA. This business model has been taken from the American Management Association (AMA) handbook of business documents which was designed to showcase how to create and write about business models and plans. The AMA handbook showcases how to create a "business plan for a proposal for new business strategies for expanding an existing business" (Wilson & Wauson, 2011).

A business model should include the following key areas of focus:
1. Introduction
2. Mission, Vision, Values, and Objectives
3. Park Description (Strengths, Weaknesses, Opportunities, and Threats)
4. Market Analysis/Trends/Demographics/Needs and Demands
5. Financial Analysis
6. Success Monitoring Metrics

The introduction to Stewart Lake Park's business model discusses the purpose and focus of the proposed plan and how this will affect the various stakeholders within the park. The next section on the mission, vision, values and objectives for the park showcases the current direction that Stewart Lake Park aims for. Identifying and understanding these four sections and how they are present in Singha Park will indicate the current direction that Boon Rawd Brewery envisions for the park's future. The Stewart Lake Park description includes a brief history and some facts regarding its location and geographical facts.

An important section within a business model is the market analysis, trends, demographics, and needs and demands because they are the key components affecting the success of the business. Boon Rawd Brewery's main goal is to successfully give back to the

community, and in order to do this, Singha Park needs to have a complete understanding of their market. These are essential areas of focus that will require gathering data points concerning both foreign and local tourists. A thorough financial analysis is required to understand the inner workings of the park. Finally, success monitoring metrics are useful as Singha Park would need these to assess the impact of the newly proposed products or additions to the park.

Bale Mountains National Park Business Model

Another park that embodies similar goals to that of Singha Park is Bale Mountains National Park in Ethiopia. Due to stagnating business by 2006, management for the park wrote up a plan that would direct the development and management of the park for the next ten years. The website for Bale Mountains National Park (Purpose of the GMP, 2019) calls the plan the General Management Plan (GMP) and highlights the multiple purposes and sections included in the plan.

The fundamental principles laid out in the GMP for Bale Mountains National Park could be applied to the business model that is used for Singha Park. According to the GMP, (Clark, 2007) the principles that the park has for implementing the plan are:

1. Conservation of resources in the park is the highest priority.
2. Holding partnerships with stakeholders, especially park-associated communities, to a high standard.
3. Minimizing the effect of any future changes they make to the environment and the surrounding sociocultural system.
4. Creating management systems that will be responsive and adaptive to changing circumstances in the future.

Each of the points listed in the GMP will be applicable when recommending additions to the business model of Singha Park. After indicating the four most important factors to consider when making additions to the national park, the GMP discusses the five areas in the park's business that need to change in order to help the park succeed. Of the topics that are discussed in the GMP, the tourism, park operations, and outreach sections will prove to be the most relevant when making proposals to the current business model of Singha Park.

Business Model Analysis

In the case of companies that employ functioning business models, it is important to continue to analyze this model over time as the company itself changes, and to see where it is

succeeding and/or lacking. A discussion is included below of relevant business model analysis tools for Singha Park.

Product Roadmaps

Product roadmaps track the development of a product being sold or used by a business. They map out the direction of the product, as well as detail the work that will be required to move the product in the intended direction. It is necessary to consider the stakeholders involved (the product roadmap customer and market-driven), and the overarching goals of the business. The product roadmap is broken down into sections of information: product, goals, initiatives, releases, epics (a larger story that involves the entire lifetime of the product), features, user stories, time, and status. Utilizing this product map strategy to analyze an existing business model will be useful to the scope of the project with Singha Park by having a method to relate the products that the park offers to the sponsor's goals within the community and sustainability. It will also provide the project team with a method to analyze the success and usefulness of the product in question. By utilizing this information, the team will be able to propose new products or alterations to the business model based around the products that are currently offered at Singha Park.

SWOT Analysis

SWOT analysis is a tool for analyzing a model based off of the strengths, weaknesses, opportunities, and threats of the business in its current state (Berry, 2019). This method provides a way for businesses of any size to methodically analyze where the company is strong, and where there is room for growth. The examination of the strengths and weaknesses provides insight into the internal state of the business, whereas the opportunities and threats focus on the external aspects. This analysis can lead to the formation of a strategy for improvement and is overall a comprehensive layout of the business model. "The SWOT methodology is a strategic analysis tool that combines the study of the strengths and weaknesses of an organization, territory, or sector with the study of opportunities and threats in its environment. The goal is to help define a development strategy." (Fertel, Bahn, Vaillancourt, & Waaub, 2013). Performing this analysis will factor into the recommendations for Singha Park and provide a segway into analysis specifically for improvement based on the weaknesses and threats.

PESTLE Analysis

PESTLE analysis is a business analysis tool that analyzes the following components: political, economic, technological, environmental, legal, and sociological areas. Experts agree that this tool " offers a superior way to examine the general environment facing a company." (Ho, 2014). Each component is relevant to the performance of the business and exploring these components provides a deeper understanding of how the business model functions. The purpose of this analysis is to determine the effect of all the possible factors in each category of the

business. This tool may be relevant to examine the business model at Singha Park and propose additions/alterations that are informed and relevant.

Business Model Innovation

Business model innovation (BMI) occurs when a company sells the same product or service to the same market while using a new business model, ultimately enhancing the value of the business's goods or services (Behera, 2017). This is a process that involves transforming a certain aspect of the business to better position itself to make a change within the market or to cope with forthcoming change. This applies to each business in a given market differently based on the business's goal. For example, a potential goal could be to grow quickly with added risk or grow steadily with less risk. A business should also consider whether they are modifying an existing product or service in the market or introducing a new one. All of these components should be considered when making recommendations at Singha Park.

Businesses are always changing, and providing the park management and owners with information regarding BMI will allow them to keep up with the changing demands of their market and allow them to constantly innovate the business model. The innovative business model concept will allow them to steadily improve the park business/number of visitors after the completion of this project and could potentially have a long term positive impact on the park.

While business model innovation can be applicable to a wide range of businesses, it will be beneficial to address BMI specifically for parks. Parks are not uniform and have a broad range of attractions, all of which must be managed differently with a business model that will highlight their own unique characteristics. There are four main characteristics that differ from park to park: the type of park, the park's source of funding, the connection to the local geography, and the organizational structure and staffing (Neal, 2013). These characteristics must be taken into consideration when innovating Singha Park's business model because the project will want to ensure that the proposed business model is effective in engaging the local community in a sustainable way and that it highlights the unique aspects of the park. Evaluating these four characteristics of Singha Park will help the project team do so. Additionally, there are four main categories that would provide the largest potential for positive change and innovation in park business models. These areas include supporting changes in park management and maintenance systems, encouraging the redesign of organizational structures and establishing new partnerships, identifying more diverse sources of funding and resources, and exploring new uses and activities within parks (Neal, 2013). The proposed business model should be one that will engage and include the community of Chiang Rai in Singha Park. To do this, the business model should build partnerships between the park and local authorities and the community. Table 9 presents considerations to be made when forging these relationships with local authorities and the community.

Table 9: Relevant Models for Establishing Partnerships with Local Authorities and Community Sectors (Neal, 2013)

1. Establishing structures that have greater flexibility to meet the needs of local communities

2. Delivering services with more integrated management systems across council departments.

3. Developing community–based trusts and cooperative business structures

4. Creating new management partnerships between public and private organizations

5. Encouraging the development of community enterprises

6. Forming public park foundations and conservancies

It is important to the success of the proposal to the business model to have the ability to create partnerships with the local authorities and community sectors, and the relevant areas of focus presented in Table 9 will help us to do so. Community sectors include local law enforcement, education, local businesses, environment and agriculture, and media. Each of these could be significantly impacted by proposed changes to Singha Park. It is important to establish partnerships with these groups because it will allow for better cooperation between the Singha Park and community which will in turn, likely increase the community's engagement in the park.

Appendix I: **Data Analysis Methods**

The interviews, surveys, case studies, and research of other models in Thailand that we conducted during our project helped to shape the recommendations we proposed to the sponsor. We compiled and analyzed the results of each interview and survey so that the recommendations are the most beneficial to every stakeholder. In order to analyze all the data collected we used a variety of methods depending on whether the data was quantitative or qualitative.

Qualitative Data Analysis

Qualitative data analysis was performed on data collected through the Singha Park employees interview in objective 3.1 and the interview of the Director of the Amphawa Chaipattananurak Foundation in objective 3.2. In order to conduct qualitative data analysis, we followed the steps listed in Figure 20.


Qualitative Data Preparation and Analysis

Get familiar with the data — Start by reading the data several times to get familiar with it and start looking for basic observations or patterns. This also includes transcribing the data.

Revisit research objectives — Revisit the research objective and identify the questions that can be answered through the collected data.

Develop a framework — Identify broad ideas, concepts, behaviors, or phrases and assigns codes to them. This is helpful for structuring and labeling the data.

Identify patterns and connections — Start identifying themes, looking for the most common responses to questions, identifying data or patterns that can answer research questions, and finding areas that can be explored further.

Figure 20: Qualitative Data Preparation and Analysis (Bhatia, 2018)

First, we reviewed the information we collected and then, we developed a framework which we used to help label the data. This, in turn, helped us to identify patterns and connections that we used to present the sponsor with possible improvements or additions to Singha Park. There were multiple different frameworks that were used in analyzing the data such as content and narrative analysis. The content analysis was used on objective 3.1 for the data collected from the Singha Park employees. This involved coding the interviewee's response and identifying themes (Bhatia, 2018). A narrative analysis was conducted on objective 3.2 with the interview of

the Director of the Amphawa Chaipattananurak foundation. A narrative analysis focused on the stories and experiences (Bhatia, 2018) that the Director had with her foundation.

Quantitative Data Analysis

We performed quantitative data analysis for the data gathered in our surveys of the local community around Singha Park and the tourists from objective 3.1 as well as from objective 3.2 through the design thinking session and an observation of Singha Park. In order to conduct a thorough quantitative analysis, we used two main methods known as descriptive analysis and inferential analysis as shown in Figure 21.

Quantitative Data Analysis Methods

Descriptive Analysis

The first level of analysis, this helps researchers find absolute numbers to summarize individual variables and find patterns.

A few examples are...

· **Mean:** numerical average

· **Median:** midpoint

· **Mode:** most common value

· **Percentage:** ratio as a fraction of 100

· **Frequency:** number of occurrences

· **Range:** highest and lowest values

Inferential Analysis

These complex analyses show the relationships between multiple variables to generalize results and make predictions.

A few examples are...

· **Correlation:** describes the relationship between 2 variables

· **Regression:** shows or predicts the relationship between 2 variables

· **Analysis of variance:** tests the extent to which 2+ groups differ

Figure 21: Quantitative Data Analysis Methods (Bhatia, 2018)

Descriptive analysis was used to find the mean, median, mode, percentages, frequency, and range for the data collected through the interviews, surveys, observations and design thinking session. Inferential analysis was used to understand the relationships between the data collected through the design thinking session and the surveys (Bhatia, 2018).

Appendix J: **Interview with the Agricultural Manager of Singha Park**

Interview conducted by: Jenna Erb, Lilly Nardelli, Pun Pun, and Khim

- Boon Rawd Farm was set up about 30 years ago with no strong business model. The finances and accountants were also very weak.
    - Agriculture's business model focuses on two main areas:
        - Exports to Japan- want to see an increase of 16%-20%
        - Domestic sales
            - MTD
            - Commercial
            - Retail (Singha Park Cafe shop, Global Talent)
- Organic planting
    - Must consider the ecosystem- can it support organic planting? There are a lot more needs and specifications involved in organic planting.
    - Organic products at Singha Park: Vegetables, and 20% of tea product
    - Organic planting is a newer business strategy so the model is not as strong as the model for chemically grown products.
    - The cost of planting organically is quite low, however, profit margins on these products are still very low. People don't want to really buy organic products because they are not as attractive on the shelf.
        - The marketing plan for the organic products is weak and they do not make the needed sales
- Overall, administration costs are what drains the most money from agriculture.
- Chemical planting
    - Growing fruits and melons
    - The business model for this is much stronger than that of organic planting.
    - High cost for planting chemically.
    - Net profit is still bad here.
- Different visions between people at Singha in Bangkok versus the workers and community here in Chiang Rai.
- Tea
    - 700 tons produced each year
    - 51% of sales are within Thailand, 49% of sales are exports to Japan.
    - 20% organic, 80% chemical
        - 80 acres chemical- JGAP
        - 80 acres chemical- JGAP and Maruzen

- - - 80 acres organic- USDA and IFOAM approved. Sold to Maruzen, Ichitan, and more. No solid agreements with organic tea so these sales are not sustainable. One big buyer is usually the Chineses, but don't enter into any kind of contracts.
  - The tea plant needs to grow for 4 years to get tall enough and produce as much product as possible.
    - There's premium tea leaves at the top of the plant that must be cut in order to reach the tea leaves used for the mass market. For this reason, there is a surplus of premium tea leaves that are stored and cannot be sold.
    - Solid sales and marketing plan for the bulk tea, but nothing planned for the premium tea
  - There's a niche market of tea buyers- want to know the details of where tea leaves are from (like wine connoisseurs)
  - Singha Park has a tea-growing advantage right now because of good irrigation systems so they can consistently produce tea year round, whereas competitors right now can only produce on Singha Park's level in the rainy season (one season out of three)
- Blueberries
  - "Year crop"
    - Summer- post harvest- pruning of blueberry bushes
    - Rainy Season- pre harvest- fertilizer, soil, and pH adjustments
    - Winter- harvest
  - 80% sold at Singha Park and other retailers in Chiang Rai
  - 20% sold at THG Mall
  - This is currently a sustainable crop- they sell everything they produce
  - Bring in a good profit
- Herbs
  - A random crop
  - Don't make much money off of this- only grow them for the restaurant at Singha Park, and will grow orders if requested by a customer
- Rubber
  - Strongest product- has a guaranteed buyer of however much Singha Park can produce. (Thai Rubber Plantation)
- Revenue:
  - Tea and Rubber: 40 million THB
  - Japanese Melons: 3 million THB
  - Jujubes: 2 million THB
  - Vegetables:

- Collaboration with Japanese- traded knowledge of how to grow Japanese melons at Singha Park for knowledge of how to survive and grow produce in a hot country
  - Partners- Sumitomo and Wismactec
  - Partnership with Japan works efficiently because the Thai and Japanese governments work well together because of trade agreement JETEPA.
  - 49% of tea goods are exported to Japan
- Farm workers:
  - Average salary: 300 THB/day. ~18,000 THB/year if employed full time
  - Employ about 400 freelance farmers
- Social Enterprise/CSR:
  - "Business should be moved by the local community. Right now, Singha runs everything. I don't think it's a true social enterprise."
  - A lot of waste comes from poorly executed social enterprise.
  - Singha Park plays its part in giving donations, accepting business, and providing jobs to the community.

Appendix K: **Interview with the Manager of QC and R&D**

Chair(s): PunPun, Khim
Note-taker(s): Jenna Erb, Lilly Nardelli
6/2/2020

1. (Could you describe what your position involves? What is your job description?)
    a. This department gets orders from the marketing department then innovates the products received from the agricultural department.
2. (How long have you been working in this position?)
3. คุณกำลังพัฒนาสินค้าไหน (Product innovation) what products are you working on?
    a. Trying to create more value from the vegetables grown at Singha Park. Currently only used in the restaurants at the park, but could possibly transition to selling these products at the stores at the park, or even exporting outside of the park.
    b. Chrysanthemums- tea, dried flowers, and more
4. Concept อะไร (in what concept are you developing your products? Who is your target audience?) กลุ่มเป้าหมายคือใคร
5. อยากพัฒนาสินค้าไปทิศทางไหน (in what direction are you moving your products?)
    a. Trying to sell more fresh products at Singha Park. This would mean that the issues of transporting goods and storing them are eliminated. The products would go straight from the farm to the shelf to the consumer.
6. คุณคิดว่า trend การบริโภคของผู้บริโภคจะเป็นแนวทางไหน มีแนวโน้มจะเปลี่ยนแปลงอย่างไร (What are the trends of your consumers? How has it been changing/how is it expected to change?)
7. ในช่วงระยะ 5 ปีที่ผ่านมา คุณได้พัฒนาสินค้าอย่างไรบ้าง (what is your short term plan (next 5 years) for product innovation? Long term?)
    a. Short term innovation is focused on fruit juice. It stays preserved well for a long time and is easily transported and stored.
    b. Long term innovation is focused on tea. Singha Park produces a lot of tea, and has dependable sales of it.
8. (Is there any product innovation that involves the local community?)
9. (Which products are the most popular? Which products sell the best?)
10. (Which product(s) generates the most food waste?)
11. (Which product(s) is the most financially sustainable?)

Appendix L: **Interview with the Manager of Marketing and Sales at Singha Park**

Chair(s): Vinay Nair, LinLin
Note-taker(s): Rakesh Veetekat, Pooh
6/2/2020

Where are you from?
- Born in Chiang Rai, received MBA in Bangkok and came back to work in Boon Rawd Farm

What is your current job at Singha Park? (ตำแหน่งงานที่คุณรับผิดชอบอยู่ในตอนนี้คืออะไร?)
- Works in sales and marketing, agricultural products/finished goods
- Not involved in tourism

What is your day to day schedule like at Singha Park? (ความรับผิดชอบของคุณในแต่ละวันมีอะไรบ้าง?)
- Responsibility for fresh product, manage agricultural products to harvest higher quality(like papaya) and sell, find a way to get rid of lower products too
- Need to sell fresh products by 2 days, otherwise quality will drop significantly
- Sell monkey apples with A grade at first store
- Instead of losing profit with low grade product, they donate it to the community
- Too much product to sell in the park, so a lot of it will be donated
- No way to store the fruits right now because they want it fresh, only tea is being stored
- Main product is rubber, does not come out every day, only every 20 days
- Need to hire local people to get rubber from the trees
- Need to hire freelance farmers during some harvesting periods because regular employees can't come in to work at the times necessary to properly harvest these crops
- Tea is second main product, 3 kinds of tea plantations
- Top selling product is the maruzen green tea
- Products are organic, follow GAP(good agricultural practices) to grow crops
- Use maruzen process to grow tea, cover it from the Sun to turn green(otherwise it's yellow)
- All of the agricultural products are also used for the restaurants/cafes in Singha Park

What do you think that CSR/Social Enterprise are? What is it at Singha Park?
- Create jobs for the local people around Singha Park
- Thinks her knowledge can be used here and can stay with family
- Good opportunity because Chiang Rai and Singha Park is growing
- Do many things behind-the-scenes for the community (donated water while spotlight was on 12 children trapped in cave, donate medicine for children)

- Chiang Rai people don't really know what Singha Park is doing, they think it's really rich and they just put all the money in to make it pretty, don't know about how all the agricultural is being sold

Why isn't Singha Park making more of an effort to let the public know about the good things they're doing for the community?
- PR team isn't capable of adequately writing about the community work that the park is doing
- Sometimes, a team in Bangkok is sent to Chiang Rai to help with PR

What is the product line of Singha Park composed of?
- Powerpoint slides have all the information about the park's product line

What is your short-term marketing plan? For example, for 5 years.
- 5 years - plan to create new products besides tea, to get new interest (boring right now)

What marketing strategies are you using?
- Need to sell on Facebook or through business-to-business(b2b), need to sell to strong brands right now until Singha Park becomes a strong enough brand for the end customer
- Restaurant/cafe use of products is very small compared to the b2b sales of the products
- Main source of income is b2b because it connects the park to the end consumer right now
- Sell tea as premium quality by using the Singha brand

Appendix M: **Interview with the Knowledge Management Strategy Manager and the Product Management Office Manager (Upper Management of Singha Park)**

Chair(s): PunPun, Rakesh Veetekat
Note-taker(s): Jenna Erb, LinLin
6/2/2020

- Project objective: Very open-ended and they don't want to restrain us in any one direction. The team is to go to Singha Park, identify a problem, or area for improvement, then address it.
- Could move in many directions:
    - Product Innovation
    - Cost Reduction
    - Income Generation
    - Process efficiency
- Will be visiting Singha Park twice
    - Regular operations: February 5-8 for observation, beginning to distribute surveys, design thinking session, and conduct interviews
    - Hot Air Balloon Festival: February 13-14 to complete tourist surveys and observe the festival
- Final objective is to present a business pitch to the CEO of Singha Park and Managing Director.

Appendix N: **Hill Tribe Communities of Chiang Rai**

Singha Park collaboratively works with the hill tribes development center of Chiang Rai to build a small village for the hill tribe people to sell their handmade products during the weekend at Singha Park. The village contains eleven different styles of houses to reflect the culture of each hill tribe. This allows the tourist to explore the culture and livelihood of the hill tribes people. The objective of the application community-based tourism (CBT) is to attract tourists and provide an opportunity for the hill tribes people to generate income.

The team conducted interviews with four different hill tribes: Akha, Lisu, Lahu, and Hmong. Each hill tribe has its own unique culture. They have their own style of art, clothing, language, and indigenous knowledge. They travelled more than 30 kilometres to sell their handmade product at Singha Park during the weekend for a year. A woman from Akha said that her family has two sources of income. One is from her husband who works as a farmer, and another source of income is selling handmade products at Singha Park.

Interview with the hill tribes:
Chair(s): PunPun, Khim
Note-taker(s): Pooh, LinLin
Date: February 8, 2020

Akha
- Travel 45 km from their village to Singha Park
- They sell their product quite well
- They like Singha Park
- They sell their product at Singha Park during Sat-Sun for a year
- If Singha Park allows them to sell during the weekday, they are happy to participate. However, if there's not much tourist during the weekday, they might not be interested)
- Price
    - Traditional clothe: 1,000 Baht +

Lisu
- Product = 100% handmade
- They sell their product at Singha Park during Sat-Sun for a year
- Not many people buy their product, but they're fine

Lahu
- Travel 30 km from their village to Singha Park
- They sell their product quite well

- If Singha Park allows them to sell during the weekday, they are happy to participate.
- They like Singha Park

Hmong
- They like Singha Park
- They sell their product quite well
- Price: ~500 baht
- If Singha Park provides more activity for them to interact with the tourist, they would be happy to participate

Appendix O: Choui Fong Tea Plantation

The tea plantation was introduced to Thailand in 1937 in the Chiang Mai province. The tea business slowly expanded throughout northern Thailand and became popular in 1990 when the government encouraged the local farmers in northern Thailand to do a tea plantation by educating and providing areas for growing various types of tea. Since then, there have been many tea plantations in Chiang Rai and other parts of northern Thailand. Choui Fong is one of the most popular tea plantations in Chiang Rai. Figure # demonstrates the beautiful scenery of the Choui Fong tea plantation and some of the products offered for purchase in the shop at the tea plantation.

Figure 22: Choui Fong Tea Plantation

Appendix P: Interview with the Managing Director of Singha Park

Chair(s): Rakesh Veetekat, Pooh
Note-taker(s): Lilly Nardelli, PunPun
20/01/2020

- The MD suggested we experience the park.
    - To see what Singha Park do
    - To see the whole area of Singha Park
    - What Singha Park offer to the tourist
- Beginning of Singha Park
    - 20 years ago, most of the local community planted opium (used for heroine)
    - A lot of smugglers sold heroine around Golden Triangle(Thailand, Myanmar, and Laos)
    - Laos was communist in nature and therefore Thailand mobilised their army to protect the democratic citizens of Thailand from the opium trading and communism.
    - King Rama IX changed the land from opium planting to winter fruits (strawberries, etc.)
    - Winter fruits became popular
    - Unsuccessfully produced fruit juice through winter products that was known as Singha Fresh which failed due to the lack of a fruit juice market.
    - Singha has spacious area in Chiang Rai
    - First, they planted imported barley into Thailand but then decided to produce their own barely Singha Park.
    - For the agricultural section, singha park hired local people with no proper ID such as the hill tribes to work in Park.
- Objective of Singha Park
    - Tourist destination
    - Create value for the local community and singha products
    - Singha park wanted to become strong by sharing the profit generated at the park
    - Differentiate Chinag Rai from Chiang Mai in terms of making Chiang Rai more popular than Chiang Mai
- Singha park was certified by J-GAP
    - Every agricultural product within the park can be exported to Japan.
    - The only business within Southeast Asia to receive this prestigious award.
- Singha park and the local community
    - Buy products from the local farmers and sell these products for a marked up price.
    - Educate local people about agricultural farming and its processes.
    - Donate some of the profit to local schools and grant university scholarships
    - Some of the locals work on the farm to hire members of the local community.
- Current plan
    - Try to grow fruits and vegetables that cannot be grown in hotter regions of Thailand.
    - Plant "Thai Tea" within Singha park
    - Make Thai tea to be well-known as Matcha and Oolong tea

- Export to other countries
- Thai Tea is predicted to be one of the fastest trending beverages of 2020.
  - Singha park is still brainstorming on how to utilise the area efficiently.
  - Create events to make the park more unique in order to attract more tourists
- MD of Singha park's idea
  - Wellness center in singha park
  - Place for relaxation, health retreat ex. Cheeva Som retreat
- They connected with 11 hill tribes making their house model and art show
- Current partnership
  - Maruzen Tea company
  - The mall group (sell local crops)
- We need a plan that will focus on both financial and social sustainability

Appendix Q: **IRB Approval Form**

WORCESTER POLYTECHNIC INSTITUTE

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Institutional Review Board
FWA #00015024 - HHS #00007374

Notification of IRB Approval

Date:	23-Jan-2020
PI:	Servatius, Brigitte
Protocol Number:	IRB-20-0317
Protocol Title:	Signha Park integrated business model
Approved Study Personnel:	Servatius, Brigitte~Boucher, Esther F~Nardelli, Lilly~Erb, Jenna~Nair, Vinay~Veetekat, Rakesh~
Effective Date:	23-Jan-2020
Exemption Category:	2
Sponsor*:	

The WPI Institutional Review Board (IRB) has reviewed the materials submitted with regard to the above-mentioned protocol. We have determined that this research is exempt from further IRB review under 45 CFR § 46.104 (d). For a detailed description of the categories of exempt research, please refer to the IRB website.

The study is approved indefinitely unless terminated sooner (in writing) by yourself or the WPI IRB. Amendments or changes to the research that might alter this specific approval must be submitted to the WPI IRB for review and may require a full IRB application in order for the research to continue. You are also required to report any adverse events with regard to your study subjects or their data.

Changes to the research which might affect its exempt status must be submitted to the WPI IRB for review and approval before such changes are put into practice. A full IRB application may be required in order for the research to continue.

Please contact the IRB at irb@wpi.edu if you have any questions.

*if blank, the IRB has not reviewed any funding proposal for this protocol