

PERSPECTIVES AND CHALLENGES OF GREEN  
HOTEL IN THAILAND



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ธุรกิจที่พักประเภทโรงแรมเป็นธุรกิจที่มีการใช้ทรัพยากรธรรมชาติสูง อาทิ น้ำ พลังงาน และผลิตภัณฑ์ที่มีการใช้งานสิ้นเพื่อการดำเนินงานต่างๆ ในโรงแรม ซึ่งสิ่งเหล่านี้ก่อให้เกิดผลกระทบต่อสิ่งแวดล้อม ในการสังเกตเห็นถึงปัญหาที่เกิดขึ้น การพัฒนาธุรกิจโรงแรมสีเขียว และแนวทางปฏิบัติที่เป็นมิตรต่อสิ่งแวดล้อมเป็นส่วนหนึ่งในการลดผลกระทบที่เกิดจากธุรกิจโรงแรมได้ จุดประสงค์ของวิทยานิพนธ์เล่มนี้ประกอบด้วย 1) เพื่อศึกษาแนวความคิดของผู้ปฏิบัติงานในธุรกิจโรงแรม และผู้ที่เกี่ยวข้องกับธุรกิจนี้ต่อความท้าทาย และอุปสรรคในการพัฒนาโรงแรมสีเขียว 2) เพื่อนำไปสู่ข้อเสนอแนะในดำเนินธุรกิจโรงแรมสีเขียว รวมถึงการรับรองมาตรฐานโรงแรมสีเขียว การศึกษาเกี่ยวกับความท้าทายในการพัฒนาโรงแรมสีเขียวผ่านการเก็บข้อมูลแบบผสมผสาน โดยการสัมภาษณ์เชิงลึกได้ทำควบคู่ไปกับการสำรวจพื้นที่โรงแรม การเก็บข้อมูลโดยการสัมภาษณ์เจ้าของธุรกิจโรงแรม ผู้จัดการและพนักงานโรงแรมจากทั้งโรงแรมสีเขียวทั้งหมด 10 ท่าน ธุรกิจโรงแรมทั่วไป 3 ท่าน และตัวแทนจากหน่วยงานภาครัฐ 1 ท่าน นอกจากนี้ในการศึกษาเกี่ยวกับความสนใจในการเข้าพักโรงแรมสีเขียว และปัจจัยในการเลือกที่พักโดยเก็บข้อมูลจากแบบสอบถามออนไลน์ทั้งชาวไทย และชาวต่างชาติ จำนวน 192 คน ข้อมูลที่เก็บมาวิเคราะห์ผ่านโดยวิธีการวิเคราะห์เนื้อหา สถิติเชิงพรรณนา และวิธีการทดสอบไคสแควร์ ผลการศึกษาจากการสัมภาษณ์เชิงลึกพบว่า ความท้าทายหลักที่ส่งผลกระทบต่อเปลี่ยนแปลงเป็นธุรกิจโรงแรมสีเขียวคือ การลงทุนในระบบการใช้ทรัพยากร และพลังงานอย่างมีประสิทธิภาพ โรงแรม การฝึกอบรมพนักงาน กระบวนการดูแลระบบที่เป็นมิตรต่อสิ่งแวดล้อม และขาดการสนับสนุนจากหน่วยงานรัฐบาล สิ่งทีกล่าวมาข้างต้นเป็นปัจจัยที่สร้างความลังเลให้กับเจ้าของธุรกิจโรงแรมในการพัฒนาเป็นโรงแรมสีเขียว อีกทั้งผลการศึกษาจากแบบสอบถามออนไลน์ พบว่า ผู้ตอบแบบสอบถามส่วนใหญ่ให้ความสำคัญกับราคา และสถานที่ตั้งของโรงแรมมากกว่าการคำนึงถึงการอนุรักษ์สิ่งแวดล้อม จากการศึกษาความสัมพันธ์พบว่า การศึกษาเป็นปัจจัยสำคัญที่มีผลต่อการตัดสินใจในการเข้าพักโรงแรมสีเขียว ดังนั้นในการที่จะสนับสนุน และการเพิ่มจำนวนของโรงแรมสีเขียว การร่วมมือกันระหว่างผู้ที่มีส่วนเกี่ยวข้อง และหน่วยงานภาครัฐในการสนับสนุนในด้านการจัดหาสิ่งกระตุ้นในการสร้างแรงจูงใจในการพัฒนาธุรกิจโรงแรมให้เป็นโรงแรมสีเขียว การช่วยประชาสัมพันธ์ทั้งในประเทศ และต่างประเทศ อีกทั้งการให้ความรู้ที่ถูกต้องเกี่ยวกับโรงแรมสีเขียว สิ่งเหล่านี้สามารถนำไปสู่ความสำเร็จในระยะยาวของธุรกิจโรงแรมสีเขียว

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The hotel business is intense resource consumption such as water, energy, and non-durable products to delight customers, leading to environmental problems. With this regard, the transformation of the green hotel and environmental saving programs can dwindle the hotel property's adverse impacts. The purposes of this paper are 1) to study the perception of hotel practitioners and stakeholders toward the critical challenges of green hotel transformation and 2) to propose the recommendations for green hotel operations and certification scheme in Thailand. The study employed mixed methods to collect the data. The in-depth interviews were along with field observation; the interviews data were conducted with ten persons of green hotel practitioners, three non-green hotel practitioners, and a representative from a governmental agency to identify the obstacles of green hotel development. Besides, the study distributed online questionnaires to 192 Thai and Non - Thai travelers to explore their experiences of green hotel staying and selection decisions. A content analysis, descriptive analysis, and chi-square test were employed. The in-depth interviews results indicated that the critical challenges of green hotel transition were a high investment in resource consumption and energy efficiency systems, staff training, monitoring process, and lack of government upholds that make the hotelier uncertain. Scoping on the online survey found that customers mainly concern about price and hotel location, which is the rationale of green hotel selection cutting off. Besides, an education level was a sole factor that correlates with the green hotel staying decision. To encourage and enlarge the green hotel transition in Thailand and customers decision process in green hotel staying, green hotel stakeholders and the governmental agencies should work closely in providing incentives, establishing promotion campaigns as well as providing educational green hotel information at national and international levels that can lead to long-term success of a green hotel in Thailand.

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# CHAPTER I

## INTRODUCTION

### 1.1 Importance of the Study

The tourism industry is one significant factor that influences the growth of economies around the world for over decades. In 2018, tourism thrived at 3.9% and could be valued as \$8.8 trillion to the global economy. It also is one of five sectors that increases 319 million employments in globally scale (World travel and tourism council, 2019). Currently, tourism sector generates high income identical as oil, automobiles and food businesses. Hence, it is one of the key engines of economic augmentation particularly in the developing countries (UNWTO, 2019).

Similarly, Thai economy is also driven by the tourism sector. Thailand is recognized as the “Land of smiles” and renowned destination among tourists around the world (Fareed et al., 2018). World travel and tourism council (2019) confirmed the prestige of the country through ranking Thailand is in one of the world’s top tourism destinations in 2017.

In 2018, the international arrivals visited Thailand over 32 million people that earned approximately 2.01 trillion Baht (Kasikornbank, 2019).

Owing to the supporting tourism policies, the quantity of guest rooms was inflated from approximately 500,000 rooms in 2012 to almost 700,000 hotel rooms in 2016. The hotels expansion could be estimated at 5.4% hotels growth per year for both of Thai and International hotel chains (Puttachard Lunkam, 2018). The Office of the National Economic and Social Development Council (2019) supported that the hotel business was outstretched estimated 5.3% in previous year to respond the numerous tourists for both inbound and outbound. Puttachard Lunkam (2018) launched that the tendency of hotel business in Thailand has been thrived until 2020 due to the increasing of tourist arrivals. Hence, hotel sector is examined as one of essential factor of Thailand’s economy (Satchapappichit et al., 2013). As the crucial sector of tourism industry, it does not merely plays the significant role to provide the convenience for tourists (Kasim, 2007). Nwokorie and Obiora (2018) stated the hotel

industry also surges the bulk of job creations, local's welfare, economic growth and development in national and regional scales.

Although, the hotel segment can spur growth of economies, in the meantime it demolishes the healthy environment. Hotel industry is considered as “smokestack” sector that operates 24/7 with the large amount of energy, water consuming and waste generating (Jauhari & Manaktola, 2007). According to the UNEP and UNWTO reports, it found that hotel industry generates up to 21% of CO<sub>2</sub> emission to support the tourism and steady growth until the year 2035 (Nimri et al., 2017). Various products and services from hotel properties whether it be large or small hotel sizes generate the downside outcomes on the environment such as creating pollution, waste and gases emission. Additionally, the location of the features is often placed on the beautiful landscape, so it directly contributes the environmental derogatoriness (Rahman et al., 2012). Rahman et al also identify that the “lodging industry is the most environmentally harmful hospitality sector” (Rogerson & Sims, 2012). Therefore, it is a challenge for the hoteliers to manage the businesses in the twenty-first century. Hotel owners cannot solely emphasize the hotel operations, but the owners have to be responsible for the environment. With this regard, the sustainable praxis is embraced into the hotel properties to lessen the negative impacts on the ecological, so it leads to the occurrence of “green hotels” (Nimri et al., 2017).

The incorporation of sustainable program does not merely relieve the environmental issue, but it also generates the positive outcomes to the properties such as cost efficiency, enhancing competitive advantage, establishing brand image and strengthening the organization. Besides, it helps to attract new customers especially eco-consciousness persons (Rahman et al., 2012). Green hotels are considered as the niche accommodation and currently expanded in the market. According to the research from Booking.com, it reveals that around 39% of tourists prefer green tourism and accommodations during their vacations and 48% have the good intention to experience in the green scheme (Tourism Authority of Thailand, 2019). Hence, this proves that the trend of environmental awareness tourism and lodging trends are keep increasing among the worldwide tourists. Khan (2003) supported that green facilities and practices in hotels are the most influential factor for ecotourists to consider a hotel

as green properties that are labeled with the efficient management of waste, water, and energy consumption and purposes to protect the environment.

In the same vein, the transition of green hotels is become significant in Thailand's tourism industry. In 1988, The Green Leaf Certification was launched under the cooperation of various Thai government agencies and UNEP. The aims to heighten the efficiency on the environmental saving program for the hotel members (Green Leaf Foundation, 2009). Consequently, it would seem that Green Leaf credential is the primary driver to provoke the hotel sector to be more concern and participate in environmental preservation activities. Environmentally friendly hotels also relate to the Thailand's 20-year national strategy (From 2017-2036) that is under the slogan of "Stability, Prosperity and Sustainability". In order to promote the healthy environment, Thai government has set the policies "Building sustainable economic growth" that can be accomplished though encouraging and latency establishing in the tourism industry and stakeholders to reach sustainability (The National Economic and Social Development Council, 2018). For this reason, the study's result can be a tool to enhance the capability of green hotels to tally with the sustainable development of United Nations and Thailand development strategy. Thereby, it is the right thing to encourage green hotels development and implement eco-friendly programs to preserve the environment whilst running the business in harmonize ways.

## 1.2 Research Objectives

- To identify the key burdens and challenges of environmental commitment in the business by studying the perception of hotels' practitioners and hotel stakeholders to become permanent green hotels' feature.
- To propose the recommendations for green hotel operations and certification scheme in Thailand

## 1.3 Research Questions

- What are the perceived benefits or incentives of becoming a green hotel?
- What are the experienced obstacles of being a green hotel?

- What are the main factors to drive green transition?
- According to the different green perspectives of the achievement, how would a green hotel characterize their success as a green hotel?
- How sustainable practices in a green hotel can effectively carry on?

#### **1.4 Scope of the Study**

- A green hotel with the acquired eco-labeling, small or medium size and non-chain affiliated property was selected as a study area.
- The non-green hotel selection had to be under the same criteria with the green hotel and the non-green property was not certified by any green hotel certification programs.
- The research studied on the attitudes toward green commitments, identifying key barriers, challenges, and potentials to strengthen green practices of hotel firms.
- The mixed methods were applied to conduct the data. The qualitative approach was used through field observation, and the in-depth interviews with hotels' practitioners of a green hotel and non-green hotel as well as a government agency. The quantitative method utilizes by gathering the data of customers (online self-respond questionnaires)
- Primary data was obtained through the in-depth interview, semi-structured questionnaires and self-respond questionnaires. Secondary data stemmed from desk studies of academic papers and hotel documents.
- Content analysis, descriptive statistics, and Chi-square test were applied for data analysis session.

#### **1.5 Expected Outcomes**

- Conceiving the current situations of green properties development in Thailand.
- Clearly understanding the barriers and challenging to achieve in green business and sustainability.



- Different point of views of hotel practitioners and stakeholders can lead to the advancement of the green hotel lodgings and potential to prolong environmental practices.
- Exploring the appropriately new indicators of Thailand green certification.
- The paper can be utilized as beneficial recommendations for private and government sectors to make supportive policies.

### 1.6 Definition of Terms

- **Green hotels**

Sustainable hospitality operations or “green hotels” can be defined as a feature with green engagement activities to save energy, water use, and waste reduction (Lee & Cheng, 2018). Wolfe and Shanklin explained that the meaning of green could refer to “the actions that reduce the impact on the environment, such as eco-purchasing or recycling” (Han et al., 2011). Green hotels in Thai language is called “โรงแรมสีเขียว” which means an accommodation business aims to minimize the downside impacts on the environment and society (Punsuwan, 2017).

- **Eco-hotels**

Eco-hotels are one kind of enterprise that concern on their operations impacts through implementing green practices such as diminishing waste, saving energy, and reducing water utilization (Fredericks, 2020). Lee and Cheng also indicate that eco-hotels mostly give the significant to “preserving the ecosystems” with “energy saving and carbon reduction measures” whilst providing services (Nilashi et al., 2019). With the definitions by scholars, it would seem that two kinds of hotels resemble, but there is a tiny difference between green and eco-hotels. Green Blogger (2014) implied that eco-hotels follow strictly consolidate in eco-friendly codes of conduct. To illustrate, some eco-hotels invest in smart showers to limit the length of showers for hotels’ guests instead of encouraging a reduction in water usage or reuse towels programs (Fredericks, 2020). Meanwhile, some green hotel properties are 100% of the ecological concern business. Hence, a small gap of green incorporation can split the distinction between green and eco properties.

- **Sustainability**

The catchword of “sustainability” is originate defined as “The development that meets the needs of the present without compromising the ability of future generations to meet their own needs” by the Brundtland Commission in 1987 (United Nations, 1987). Sustainability commonly illustrates with the concept of three joint dimensions that stand for economic, social and environment (Purvis et al., 2019). Leal Filho (2000) described that sustainability has been traditionally referred to the connotation such as “long-term”, “durable”, “sound” or “systematic”. It also means “durable development” in the English context. Besides, there are various meanings of sustainability by these following:

- The development, which is related to socially, justice and equality.
- The development that gives the parallel significant between economic advancement and environmental preservation.
- The progress of countries to balance economic and social sectors without decrease their healthy environment.

B. Brown and others said that the meaning of sustainability is the contexts that based upon the ecological, social and economic. On the contrary, some scholars argued that it can be referred to agriculture, biodiversity and development. Although, sustainability can be interpreted to differ explanations, but it can be various applied with the harmonize context (Shearman, 1990).

- **Green practices**

The scholars defined various explanations of green practices. In the research of Aragon-Correa and Sharma state that it is a “strategy to manage the interface between its business and the natural environment”. They also considered it as the tool for creating competitive advantage of the property (Mak & Chang, 2019). Latan et al. (2018) supported that it is a scheme to lessen the environmental negative impacts from the business though implementing ecological policies and programs such as decreasing water consumption, energy efficiency, waste management and green consumption and production. It would seem that green practices are originated from the simply operations though reduce, reuse and recycle (Diamantis, 1999). With the diverse definitions, current study concludes it as the procedures to represent the organization on environment responsibility by embracement green procedures. Due to the green commitment, it mitigates the emitted pollutions from the business

operations (Mak & Chang, 2019). Axelrod and Lehman support that it can link to the ecological behavior and can be defined as “actions which contribute towards environmental preservation and/or conservation” (Chan et al., 2014).

### **1.7 Limitations of the study**

This study was operated during Covid-19 Pandemic, where hotels are directly affected. Most related data could not be collected on-site, the results may be different if on-site data collection.



## **CHAPTER II**

### **LITERATURE REVIEW**

This chapter intends to address critical issues of the transition of the hotel industry. Its main purposes, the first part of the chapter, is to illustrate the explanations, the praxis of green hotels, drivers of the hotel transformation, and critical obstacles of failure in a green hotel. The second part is about the green certification schemes of the hotel industry, which are analyzed as green indicators for eco-friendly hotels development. Besides, the relevance ecological concepts of the green hotel and the review of previous academic papers under the umbrella of green hotels are raised to mention in this chapter.

#### **2.1 Why go green**

Hotel is the vital primary sector of the tourism industry, which operates 24/7 all year round. It does not merely provide accommodation for tourists but also caters to them with diversified amenities, facilities, and services (Sourvinou & Filimonau, 2018). To provide guests convenience, it consumes a vast amount of resources such as energy, water, and non-durable products. It also leads to the consequences of environmental detriment and wastes generating (Ball & Taleb, 2011; Hu, Huang, Chen, Kuo, & Hsu, 2015; Pérez, Chinarro, Mouhaffel, Martín, & Otín, 2019). The attributes of hotels, it is along with providing a comfortable atmosphere with the proper temperature and humidity, a long period of food and beverage preparation, and the service of towels and linens changing. All of these activities can be raised as an example of the use of resources and stem from environmental impacts. The study of Robinot and Giannelloni supported that the hotel industry generated the adverse outcomes to the ecological up to 75% to "delight the customer" (Reynolds, 2013).

According to the studies of relation between lodging industry and the environment, it would seem that the resources intensive consumption areas are presented in energy, water and non-durable goods which mainly lead to the environmental problems (Ham & Han, 2013; Khan, 2003; Philip et al., 2013; Rahman

et al., 2012; Xuchao et al., 2010). Thereby, the widely green practices are found to mitigate in these consumption areas.

### 2.1.1 Energy consumption in hotels

Regarding to the current world situation, the fountain of power used stems from 85% nonrenewable resources or recognized as fossil fuels, i.e., fossilized plants and animals. The depletion of fossil fuels to generate energy has prolonged to the year 2030 (Philip, Willy, & Chen S. Joseph, 2013).

Kirk addressed whether it be small or large scales of the hotel enterprises, both bond to the energy consumption (Xuchao, Priyadarsini, & Eang, 2010). The evidence suggests that the hotel is classified as a commercial building, and it is ranked in the top five in energy utilization. Owing to the massive consumption of energy, it can emit the CO<sub>2</sub> maximizing to 200 kg per m<sup>2</sup> of room space (Mak & Chang, 2019). Bohdanowicz (2005) research propped that hotel businesses were identified as one of the most intense in fossil fuel for energy consumption in tourism sectors, and the critical sector of the usage is for conditioning objective.

The consumption of the energy in hotel business depends upon varied factors such as types, hotel sizes, classes, room quantities, and property sites. Moreover, the sort of provided services and amenities to hotel customers are considered in energy use. With the 47,000 hotel respondents in the research of the US Environmental Protection Agency, it shows the high expenditure in energy section that stretches to US\$2196 per unoccupied room each year or approximately 6 % of property operation costs (Philip et al., 2013). Bohdanowicz (2005) confirmed that the quantities of energy consumption could reach 39 TWh (Terawatt hours) per year, and half of it was originated from electricity.

In the hotel properties, it can be categorized into three primary servicing areas of energy utilization:

- **Guest rooms** (including bathroom and toilet zones): it considers as the private section for customers that often prop with lighting and diverse appliances.
- **Public spaces** (swimming pool, reception area, bars, restaurants, conference room, or spa): there are high loads in these fields owing to the use of electrical

equipment. The replacement of heat between external and internal areas also leads to extensive energy use.

- **Service zones** (kitchen area, laundry, staff office, and technical rooms): to run the hotel operations, these essential areas also directly consume the energy to back up the services to customers.

Philip et al. (2013) described that energy consumption could breakdown into four critical categories for different purposes.

- The primary consumption of energy is 50% for the conditioning system.
- The illuminating system throughout hotel buildings accounts for 20% of overall energy use.
- Hot water supply system 15%
- The auxiliary appliances are in similar situations.

The areas of energy demand can be further illustrated in the pie chart (Figure 2.1).

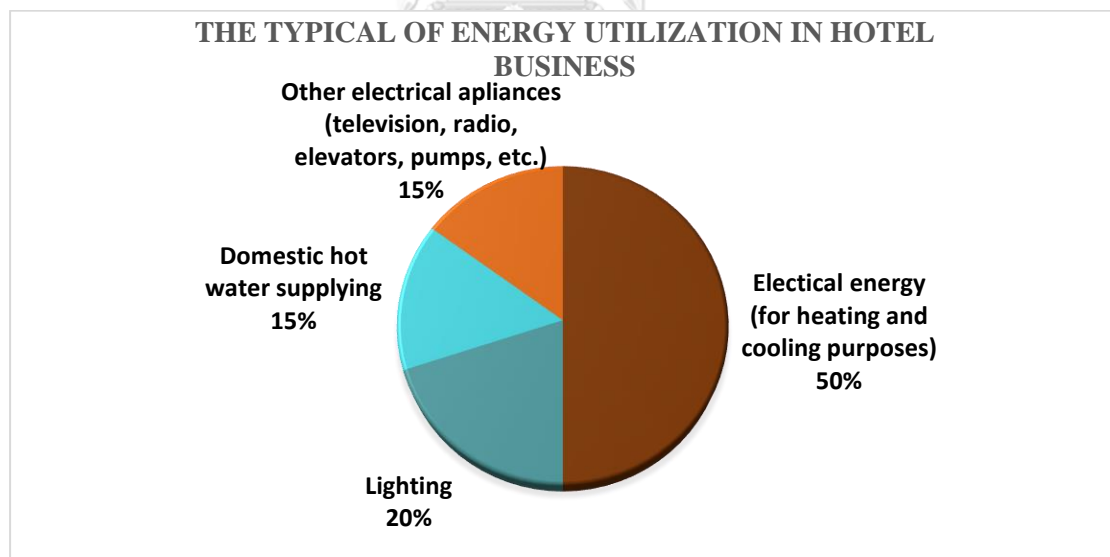


Figure 2.1: The typical of energy utilization in hotel business

Source: Philip et al. (2013)

The source of energy generation is stemmed from fossil fuel-based, so hoteliers cannot be merely emphasized on the energy efficiency program, but the

replacement of energy consumption from renewable sources is also necessary to consider (Philip et al., 2013).

### **2.1.2 Waste generated by hotels**

Waste generation has been a crucial issue since the 1990s that was renowned as a "Waste crisis" in that era (W. Chan & Wong, 2006). In the hospitality business, customer satisfaction is one of the paramount things in the particular hotel business. Bohdanowicz (2005) remarked that waste was delivered over 1 kg per guest each day, so it ensues to the enormous portion in tons of waste per month. Wastes can be classified into various categories (Bohdanowicz, 2005; Philip et al., 2013; Pirani & Arafat, 2014), which are as follow:

- Biodegradable (food waste and animal droppings)
- Non-biodegradable (glass, paper, and steel)
- Biological waste (human matter)
- Hazardous waste (cleaning goods, insecticide or heavy metals)

Wastes are produced from many areas of the hotels that are mostly in the kitchen, guestrooms, offices, laundry, and garden. Bacot et al. said their study collected the data in 23% of hotel properties from the entire commercial business's respondents. It found that hotels could produce waste of nearly 45% of the overall municipal solid waste disposal (Singh, Cranage, & Lee, 2014). Furthermore, the hotel star ratings can affect the distinct waste volume. With inefficiency in waste management in hotel properties, the waste problem is the most concerned, especially in small hotels (Kumar, 2005; Radwan, Jones, & Minoli, 2012). The large portion of waste production, it can result in environmental detriment and GHG emission because of landfill disposal and improper management (Radwan et al., 2012; Singh et al., 2014). The unsuitable waste detracting does not merely lead to an unpleasant environment such as smell, flies, water, and soil contamination, but it also touches the people who live nearby the landfill situation. Therefore, the waste issue creates a noticeable impact on the environment and social from hotels' servicing.

### 2.1.3 The water situation in the hotel business

Water is the precious factor to support life and utilize in human activities, including the agricultural, industrial, and business fields. UNEP reveals the problem of water shortage of the world's dwellers, and it would seem that one-third of them are short of water consumption. Philip et al. (2013) recited that water scarcity leads to various consequences that affect their subsistence, i.e., food providing, health impacts, ecosystem, and economic shrinking.

Whilst the significant number of population struggle in water deficiency, the water situation in the hotel industry is opposed. It would seem that in some counties, the hospitality industry, which accounted for lodging business is the crucial water utilizer. The water consumption by hotel guests is anticipated between 170 to 360 liters per night for the standard hotels (Bohdanowicz, 2005). Comparing to the luxury hotels, the water use is up to 880 liters a day since it is permeated with facilities in guest rooms (Philip et al., 2013). The research of water usage in hotel enterprises, Styles, Schoenberger, and Galvez-Martos (2015) found that the water used in five-star hotels stretched to 1568 Liters per occupied room per night, such as Sofitel properties. Figure 2.2 shows the diverse water usage quantities that start from hostels to the full services hotels in the different geographies. Thus, it can examine that the amount of water steadily increases depending upon the star ratings, services, and locations.



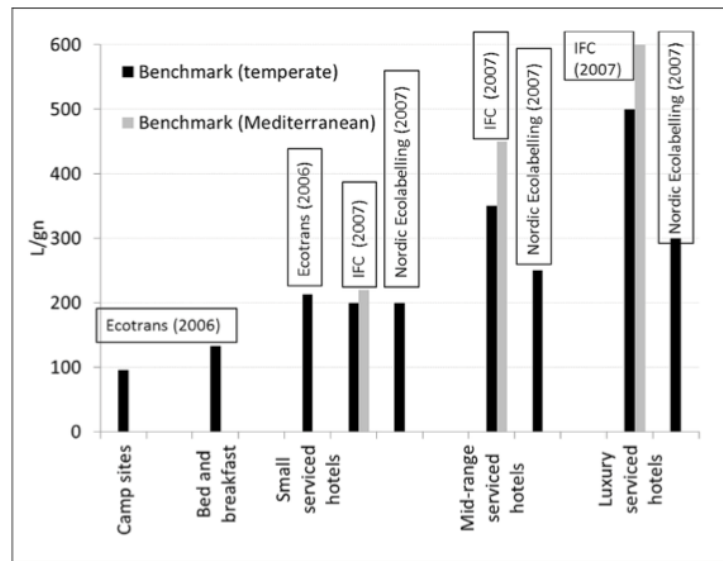


Figure 2.2: The comparison of water consumption in different categories of hotel businesses (Styles et al., 2015).

Segmenting in the water use areas, the most water consumption fields are in the food supplies, laundry processing, and leisure provided activities, i.e., swimming pool, golf course, spa, and gardens (Gabarda-Mallorquí, Garcia, & Ribas, 2017). To illustrate, the laundry service is one of intense water consumption areas which utilize between 30% to 47% of the water quantities usage (International Hotels Environment Initiative, 1993). Furthermore, accommodation landscapes can lead to a water stress situation that can refer to figure 2.2. In coastal tourist destinations which typically have the restrict freshwater resources, the water usage is typically high demand during the peak tourist season. Hence, it leads to the issue of inadequate water allocation and social conflict issues.

Some destinations count on groundwater, Tortella, and Tirado (2011) identified that overconsumption of groundwater in those areas could contribute to land sinking, sanitation, and water contamination. In addition, inefficiency in the water treatment system can reduce the quality of the environment through discharging untreated wastewater.

In tropical countries, to operate the irrigation system in the hotels has to consume much as 50% of entire water usage whilst merely 3% is reported in the Australian continent. In the large-scale hotels and resorts, the golf course requires up

to 13,500  $m^3$  of water per hectare in the warm and dry climate destinations, which counts for ten times over a course in an Atlantic climate. Hence, it is evident that water is not merely utilized to respond to primary human needs, but the vast amount of water is resorted to attract customers' decision and fulfill their interests.

To drive the growth of the tourism economy and the accommodation businesses, it seems that the issues of environmental and resource derogation are intense. Many hotel properties more concern about ecological responsibility to mitigate the riddles and protect the environment. It is considered as a challenge for hoteliers this era, so it leads to a green transition in the hotel business. With the awareness of the environment, various properties involved in green initiatives since the firms are hinged on a healthy environment, and some of them noticed that it is the right thing to do. It would seem a classic case of "killing the goose that lays the golden eggs" if environmental efficiency management is lagged behind.

## **2.2 Green hotel concepts and definitions**

The hotel industry is seen as the most significant business of the travel and tourism fields, which is a crucial factor in the environmental detriment. With the consciousness of environmental depredation, a framework of hotel environmental responsibility is issued in the Travel and Tourism development of Agenda 21. The agenda has also guided the principles for both the public and private sectors in the tourism field to achieve sustainable development. Additionally, there are various organizations such as WTO, WTTC, and PATA to develop the standards of sustainable tourism programs to help tackle environmental impacts from the tourism industry (Kasim, 2007). Thus, a large number of hotel owners participate in environmental response actions. Green hotel definitions are literate though scholars in numerous interpretations.

Starting with the definition by the Brundtland Report defined as “a hospitality operation that manages its resources in such a way that economic, social and environmental benefits are maximized in order to meet the need of the present generation while protecting and enhancing opportunities for future generations” (Philip et al., 2013).

The Green Hotels Association stated as a feature with green engagement activities to save energy, water use, and waste reduction. Besides, environmentally friendly programs contribute cost-effectiveness and benefits to the properties (Lee & Cheng, 2018).

Bohdanowicz and Matinac prop that although many practices, such as overuses of water, energy, and solid waste, of the hotel industry, generally degrade the environment, such practices result in the initiation of the environmental management program. The program involves employee training, eco-friendly activities, green technologies, and local communities' engagement. These activities generate benefits to both the environment preservation and the hotel business itself (Rahman et al., 2012).

Aragon-Correa and Sharma pointed out that it is a "strategy to manage the interface between its business and the natural environment." They also considered it as the tool for creating competitive advantage of the property (Mak & Chang, 2019).

Latan et al. (2018) revealed that it is an environmental campaign to diminish the impacts of the business by adopting green management.

A green hotel can present the intention of hoteliers in eco-friendly ways. The study of Axelrod and Lehman connect green hotels to the ecological behavior and can be illustrated as "actions which contribute towards environmental preservation and/or conservation" (E. S. Chan et al., 2014)

It would seem that the ecological lodgings are stemmed from the awareness of hoteliers, and operators have to incorporate in environmental issues as "the right things to do." With the concern, it drives the eco-friendly measures and scheme are comprised into hotel properties in various procedures depends upon the hotels' geological, investment fund, knowledge and hoteliers' viewpoints (Bohdanowicz, 2006).

Green praxis has been embraced by the hotel enterprise in the 1990s to fulfill customers' demands and enlarge the growth of the economy. In 2008, the initial green hotel was an appearance by the Intercontinental hotel group. It accounts as the world's first ecological concern accommodation that through taking part in eco-friendly activities such as installing the energy efficiency systems, effective in waste management, water-saving program and working for charities (Fukey & Issac, 2014).

Presently, the consciousness in environmental accountability is more give precedence among the hoteliers over the world. Thereby, eco-friendly schemes have extensively employed in the hotel enterprises. Mak and Chang (2019) examined that the most encouragement for being an eco-friendly business is aimed at the properties' benefits in the future.

Table 2.1: The operated eco-friendly practices in hotel enterprises (Mak & Chang, 2019).

Area	Green Strategies	Tactics
(1) Water	1. Reduce water consumption	1.1 Use water-saving toilets (e.g., low-flow toilets, dual flush toilets) 1.2 Reduce washing frequency (e.g., bed sheets, towels) 1.3 Use rainwater harvesting systems 1.4 Adjust tap flow to reach an optimal level of water output (e.g., adjusting tap flow or using tap aerator)
	2. Recycle greywater	2.1 Install wastewater treatment plant to recycle greywater (e.g., for irrigation) 2.2 Recycle swimming pool water (e.g., for flushing toilets)
(2) Energy	3. Reduce HVAC energy consumption	3.1 Use energy efficient heating, ventilating, and air-conditioning (HVAC) systems (e.g., heat pump, solar panel) 3.2 Use of indoor themostatic control systems
	4. Reduce lighting energy consumption	4.1 Use energy efficient lighting (e.g., LED) 4.2 Adjust light intensity depending on time and season (e.g., adjusting manually or using lighting control system)
(3) Transport	5. Use energy efficient transport	5.1 Use of fuel-efficient vehicles 5.2 Use of electric vehicles 5.3 Use of electric boats
(4) Waste	6. Reduce food waste	6.1 Reduce food waste in restaurants 6.2 Recycle food waste as organic compost
	7. Reduce paper waste and other waste	7.1 Create a paperless environment 7.2 Recycle paper 7.3 Reuse scape paper 7.4 Reduce packaging waste (e.g., providing minimal packaging)
(5) Amenities	8. Reduce the use of disposable amenities	8.1 Do not provide certain types of disposable amenities (e.g., bottled shampoo, bottled conditioner) 8.2 Replace bottles amenities with dispensers (e.g., dispensers for shampoo and shower gel) 8.3 Reduce the types of disposable amenities provided (e.g., providing an all-in-one shampoo and shower gel instead of two separate bottles) 8.4 Recycle disposable amenities (e.g., soap recycling) 8.5 Reduce disposable amenities waste (e.g., by choosing appropriate package size)
		9.1 Reduce environmentally harmful substances in daily operations (e.g., laundry detergent)
(6) Harmful substances	9. Reduce environmentally harmful substances	
(7) Guest rooms	10. Recycle guest garbage	10.1 Provide recycle bins in guest rooms 10.2 Provide incentive to housekeeping staff to sort and recycle guest garbage
(8) Building design and materials	11. Adopt green building design and materials	11.1 Adopt green building design to increase natural light (e.g., use full-length windows to increase natural daylight illumination) 11.2 Use heat insulation materials (e.g., heat insulation glass, heat insulation wall material)
<b>Area</b>	<b>Green Strategies</b>	<b>Tactics</b>
(9) Procurement	12. Increase the purchase of green products	12.1 Use green/organic in-room amenities 12.2 Purchase from green suppliers (e.g., office supplies, cleaning supplies)
(10) Food services	13. Increase the use of local food	13.1 Increase the use of local food to reduce food mile 13.2 Design new dishes using local ingredients
(11) Outdoor environment	14. Increase green coverage rate	14.1 Increase green coverage rate (e.g., planting new trees) 14.2 Set up a "gardening team" to look after the plants in the property
(12) Corporate social responsibility	15. Participate in external environmental programmes	15.1 Form strategic partnership with environmental organisations (e.g., Clean the World) 15.2 Participate in environmental donation 15.3 Participate in "green" competition (e.g., National Green Dragon Boat Competition)
		16.1 Participate in hotel chain environmental programmes (e.g., Green Engage) 16.2 Introduce "eco-friendly room package" (e.g., special room rate for rooms without disposable amenities)
(13) Guest information	17. Provide environmental information to guests	17.1 Place environmental cards/signs in guest rooms 17.2 Communicate environmental initiatives to guests and potential guests (e.g., via hotel website)
(14) Management and staff commitment	18. Commit to environmental management by senior management	18.1 Set up green goals and action plans (e.g., using green checklist) 18.2 Set up standard operating procedures (SOPs) 18.3 Set up environmental management systems (EMS)
	19. Cultivate the right attitude among senior management 20. Provide staff education and training 21. Encourage staff involvement	19.1 Cultivate a long-term orientation (LTO) instead of short-term profit orientation 20.1 Provide regular environmental education and training to all levels of staff 21.1 Encourage staff involvement by providing incentives

Ogbeide (2012) remarked that a campaign of reusing towels and linen is not enough to save the environment in the 21st century. Thus, the consumers aim at the more greening activities to reveal the concern in the environment of the hotel

industry. Regarding to table 2.1, Mak and Chang (2019) summarized the green practices that widely employ in distinct classifications of the hotel industry. The table shows a totally 21 green commitments in 14 significant fields such as water, energy, transportation, amenities, staff and training.

Some green strategies can be brought up to illustrate by hotel case studies. For instance, greywater is sourced from showers, baths, kitchens, and toilets, which can be utilized. Greywater recycling is one practice that the Dead Sea Spa Hotel, Jordan. Due to the hotel's feature with the intensity of water consumption, they invest in high technology for the recycling system to treat the water to be reused. It found that the amount of water consumption of the entire property reduced around 17 percent. The owner revealed that it invested in the plant US\$80,000, but the outcome is more than satisfied (Philip et al., 2013).

In terms of a social corporation, the engagement to local communities is one significant issue for sustainable development. Nowadays, many hotels place importance on local activities to improve their well-being. The Ritz Carlton Hotel is one of them which has continually supported communities under a campaign "Community Footprints." All the chains worldwide emphasize three social issues; poverty, children's subsistence, and environmental consciousness. The activities for communities' amendment are varied; most of them focus on broadening skills, education, and job offers. Besides, the hotels work closely with the locals to protect and revive the natural resources. The campaign is also integrated into the properties development' plan to make it more harmonize to the SDGs (The Ritz Carlton, 2016).

Providing guest information and communicating with the hotel activities can help to boost the hotel's potentials and achievements. Accor launched a scheme which is based upon the sustainable development in hospitality firms. Therefore, the "Planet 21 strategy" is occurred to be a tool for sharing sustainable information to customers. The hotel guests can discover all the knowledge information in every hotels' area, whether it be hotel rooms, restaurants, or services. The program can encourage customers to participate in the hotels' sustainable activities through offering educational messages (Accor, 2016).

The research of Diamantis (1999) found out that the common adopted green concept is "three R principles" (i.e., reduce, reuse and recycle) covering in various

activities whether it be for water, energy or waste management project. That notwithstanding, the efficiency consumption in resources is not adequate for green business; building good interactions with native communities is also a thing to concern (Mensah, 2007). Furthermore, there are various kinds of green operating accommodations that can raise as examples. Many hotels create environmental preservation leaflets in hotel rooms. It can be a tool to persuade guests participating in the green program, including water reduction campaigns, energy-saving, or items donated for charity (Fukey & Issac, 2014).

Eco-design is another way to lessen environmental impacts. Property construction can generate effects for both local and global scales. The site construction and development touch the local landscapes and environment. The building materials and obtainment lead to global impacts through construction sources such as mining and deforestation. Moreover, the built hotel property can lead to a long-run negative impact i.e., the overconsumption of water, energy, and transportation of all materials and construction. All of these issues is the causes of gas emission and sewage.

Thereby, some new hotel properties do not merely apply green management in hotel operations but also concern on their buildings' designs. Green building in the hotel business seems like a current trend and a new concept in the hospitality industry. Achieving in Leadership in Energy Environmental Design (LEED) is the aim of green hoteliers. Heisterkamp believed that getting certified by LEED is for their awareness and economic benefits (Ogbeide, 2012). There is a research supports that the green hotel design/green hotel building can help the property save energy consumption by up to 30 percent (Butler, 2008). Environmentally friendly design does not merely help to abate the downside effects to human health and ecological, but it also enlarges the capacity of resource consumption in the efficiency methods. In terms of sustainable construction, it can be considered as renewable resources in a short time period, existing materials in local areas (i.e., clay, sand or chalk), readily reused or recycled items (Philip et al., 2013).

**The principles of sustainable design consist of:**

- Shielding the species of local plants around the hotel properties.
- Comprehending in the use of energy, water, and resources.

- Considering the impacts from the sun.
- Maximizing utilize od natural lighting.
- Boosting natural ventilation for cooling purposes.
- Choosing the building materials to harmonize to the native environment.
- Summarizing the amount of energy to consume for construction, transportation, or materials production.

Starwood hotel group can be raised as a case study of environmentally friendly construction; the hotel employs the eco-design principles into their new property, which is account as the luxury hotel classification. The hotel concepts emphasize environmentally friendly materials, including design and architecture. They also accept that the sustainable design is not frustrate the hotel guests' luxurious experience; on the other hand, it augments the relaxation atmosphere through natural lighting and air (Philip et al., 2013).

### **2.2.1 The incentives of the green hotels**

Main incentives for the property to introduce environmental responsibility include financial benefits, competitive advantages, reputation enhancement, attracting new customers, increased organization strength and governments' grants (Gan,2006; Juholin,2004).

In terms of economic aspect, financial benefits are one of the essential factors that influences a green hotel to maximize its environmental scheme. For hotel business, costs of energy, water and waste are high. Thus, a green hotel takes the benefits of environmental efficiency activities to reduce the costs in every hotel's sections. For instance, the hotel starts green projects with less capital investment such as retrofitting light bulbs, energy metering, installing water efficiency systems, and training staff to be more concerned about green practices, so these can also lead to substantial cost savings. Some hotel properties do not merely apply the green management in hotel operations but also in their buildings' designs. One research supports that the green hotel design/green hotel building can help the property save the energy consumption up to 30 percent. The monetary benefits can be in the form of cost reduction in water, energy, waste, maintenance and enlarged the productivity and health (Butler, 2008).

Furthermore, it shows that initiating environmental management practices in the property contributes to competitive advantage in the market. Singjai et al. (2018) confirms that environmental initiatives could gain a competitive advantage, brand image, and customers' trust. It is especially evident for hotel business that operates in a highly competitive market and where the energy expenditures are elevated. The green hotel can maximize their efficiency than their competitors through cost-effectiveness and unique image. Butler highlights that the properties whose environmental responsibility cooperation lag behind may lose the competitive advantage (Butler, 2008). In addition, the green hotel can boost the value to brand image in the market and attract new clients. As a result of the awareness of save and sustain the environment from global warming, climate change, and environmental destruction issues, the number of tourists who are concerned about green hotel and environmental conservation increases dramatically. According to the Conde Nast Travellers' magazine conducted a readers' poll, it exposes that the magazine readers up to 95 percent are concerned with the green practices in their destinations (Mensah, 2006). Thus, the hotel which implements the environmental initiatives is a good alternative for eco-friendly tourists (Miles and Covin, 2000).

Additionally, the green hotel can create strength within the organization. The hotel property can acknowledge the organization competency through the cooperation of various sectors to achieve its common goals of saving the environment. Such cooperation comprises of board of directors where green policy originates, human resources department where employees are trained, and other divisions where operation risks are managed, and green technologies are installed. Besides, sharing the vision of the environmental responsibility among hotel staff is an essential factor that helps the property to better utilize the company recourses for the green practices. Consequently, it can help the hotel achieve the competitive advantage since the hotelier better understands in the company capability to cope with the risks in both of environment and financial issues (Leonidou et al., 2015).

Moreover, green building design is one criterion of the green hotel which is an effect in its use of water usage, minimizing waste, and intelligent electricity. Besides, green buildings can reduce the impact on human health and also harmful emissions in the premises. Thus, the government in many countries provides the incentives to



promote green building. The incentives can provide by the government in both types of financial and non-financial green building. Monetary incentives can include grants, discounted development fees, and tax incentives. The owners of green building can be offered the tax reductions from the total tax payment (Azis et al., 2013). There is a research addressing that the fiscal incentives are the key driver for the hoteliers to impose environmentally friendly features in their properties (Tinker et al., 2016). Furthermore, Non-financial incentive is another form of provided incentives by the government. This kind of incentives can be assistance in business planning, green management, regulatory relief, and innovation. In the category of the incentive, the government often grants the green building owners in many conditions. For instance, the green building hoteliers can get swift permission in plan and proposed development (Choi, 2010). Olubunmi et al. (2014) also supports that non-financial incentives such as expedited permitting and technical assistance can help the owners for time-saving and lessening risk and process issue.

### **2.2.2 The primary factors driving environmental initiatives in the hotel business**

The primary factors that influence hotels to transform into a green business can be categorized into four main pillars consisting of the perception of hoteliers, government regulations, support from customers, and businesses' benefits.

The paper of Manganari, Dimara, and Theotokis (2016) stated that the green program stem from hoteliers or managers' perception. Some owners may implement the green campaign since they perceive it as the right thing to do, while others do it because of cost-saving. Green Hotels Association (2008) defines green hotel as the eco-friendly property that is implemented environmental procedures to water conservation, energy efficiency, waste management whilst saving the money to protect the earth. Moreover, competitive advantage is one motivation that drives the hoteliers to adopt green practices. Hence, it can be viewed through the lenses of the owners, and environmental protection is not a sole concern; monetary benefits are of paramount importance.

Environmental regulations of governments are another critical factor of green program engagement. The program can be implemented when environmental policy enforcement is imposed (Carasuk, Becken, & Hughey, 2016). The majority of the

hotels prefer employing eco-friendly practices to being charged by governments. Mensah specified that the regulations pressure mostly occurs in large-scale hotels since the environmental consequences are noticeable (Mensah, 2007). Additionally, some properties initiate green policies to respond to the regulations to avoid being ceased or sanction (Kirk, 1998). The hotels in Vietnam can be raised as evidence that environmental legislation is the dominant motivation to make the hotels affirm the environmental responsibility program (Manganari et al., 2016). In order to acknowledge the government's policies, many hotels in Vietnam apply the environmental program to businesses such as waste management (reduce, reuse, recycle), decreasing water consumption, or installing the efficiency of electrical appliances.

Customer support is one motivation for the hotel transition. Hotel guests have become more conscious of environmental issues. As a result of the awareness of saving and sustaining the environment from global warming, climate change, and environmental destruction issues, the number of tourists who are concerned about the green hotel and environmental conservation increases dramatically. According to the Conde Nast Travellers' magazine conducted a readers' poll, it exposes that the magazine readers up to 95 percent are concerned with the green practices in their destinations (Mensah, 2007). Thus, the hotel which implements the environmental initiatives is a good alternative for eco-friendly tourists (Miles & Covin, 2000). Khan (2003) supported that green facilities and practices in hotels are the most influential factor for ecotourists to consider a hotel as green hotels are labeled with the efficient management of waste, water, and energy consumption that aims to protect the environment. The research of Deraman, Ismail, Arifin, Izzat, and Mostafa (2017) suggested that the customers do not solely support the green features, but they also cooperate in green activities. For instance, soap dispensers in the hotel restroom are an effective method to mitigate impacts to the ecosystem, and it is convenient to use. The research also mentioned that green practices could be enhanced to gain customers' attention.

Besides, it seems that most of the hoteliers participate in eco-friendly responsibility because of economic benefits (Bohdanowicz, 2006). The main incentives for the property to introduce environmental responsibility include financial

benefits, competitive advantages, reputation enhancement, attracting new customers, increased organization strength, and governments' grants (Gan,2006; Juholin,2004). In terms of the economic aspect, financial benefits are one of the essential factors that influence a green hotel to maximize its environmental scheme. For the hotel business, the costs of energy, water, and waste are high, so a green hotel takes the benefits of environmental efficiency activities to reduce the costs in every hotel's sections. For instance, the hotel starts green projects with less capital investment such as retrofitting light bulbs, energy metering, installing water efficiency systems, and training staff to be more concerned about green practices, so that these can also lead to substantial cost savings. Butler (2008) pointed out that the monetary benefits can be in the form of cost reduction in water, energy, waste, maintenance, and enlarged the productivity and health (Butler, 2008).

Furthermore, it shows that initiating environmental management practices in the property contributes to a competitive advantage in the market. Singjai, Winata, and Kummer (2018) confirmed that environmental initiatives could gain a competitive advantage, brand image, and customers' trust. It is especially evident for hotel business that operates in a highly competitive market and where the energy expenditures are elevated. The green hotel can maximize its efficiency than its competitors through cost-effectiveness and unique image. Butler highlights that the properties whose environmental responsibility cooperation lag behind may lose the competitive advantage (Butler, 2008). In addition, the green hotel can boost the value of the brand image in the market and attract new clients. As a result of the awareness of saving and sustaining the environment from global warming, climate change, and environmental destruction issues, the number of tourists who are concerned about the green hotel and environmental conservation increases dramatically.

Additionally, a green hotel can create strength within the organization. The hotel property can acknowledge the organization's competency through the cooperation of various sectors to achieve its common goals of saving the environment. Such cooperation comprises of the board of directors where green policy originates, human resources department where employees are trained, and other divisions where operation risks are managed, and green technologies are installed. Besides, sharing the vision of the environmental responsibility among hotel

staff is an essential factor that helps the property to better utilize the company resources for green practices. Consequently, it can help the hotel achieve a competitive advantage since the hotelier better understands the company's capability to cope with the risks in both environmental and financial issues (Leonidou, Leonidou, Fotiadis, & Aykol, 2015).

Some hotel properties do not only embrace green practices, but green building design is one issue to concern. Eco-design is accounted as one criterion of the green hotel, which effects in its use of water usage, minimizing waste, and intelligent electricity. Besides, green buildings can reduce the impact on human health and also harmful emissions in the premises. Thus, the governments in many countries provide incentives to promote green building. The incentives can provide by the government in both types of financial and non-financial green buildings. Monetary incentives can include grants, discounted development fees, and tax incentives. The owners of green building can be offered the tax reductions from the total tax payment (Azis, Sipan, & Sapri, 2013). There is research addressing that the fiscal incentives are the key driver for the hoteliers to impose environmentally friendly features in their properties (Tinker, Kreuter, Burt, & Bame, 2006). Furthermore, Non-financial incentive is another form of provided incentives by the government. This kind of incentive can be assistance in business planning, green management, regulatory relief, and innovation. In the category of the incentive, the government often grants the green building owners in many conditions. For instance, the green building hoteliers can get swift permission in plan and proposed development (Choi, 2010). Olubunmi, Xia, and Skitmore (2016) also support those non-financial incentives such as expedited permitting and technical assistance can help the owners for time-saving and lessening risk and process issues.

### **2.2.3 Barriers to corporate environmental responsibility in the hotel industry**

Some scholars addressed that the sustainability standards can be merely implemented among chain hotels since they have the potential and financial power to invest in green technology and carrying out environmental policies to mitigate the detrimental ecological impacts (Kaplan, 2008). Contrastingly, the small and medium

scale hotels are not equipped with such resources of finance. These obstacles are responsible for lagged cooperation in environmental responsibility.

The first barrier is which is a significant driver for the business. To participate in the environmental responsiveness, the properties have to invest a substantial amount of money on green management, energy-saving program, and training. Incorporating in the green hotels, the properties require the investment in planning and implementing. Furthermore, the company may need environmental expertise and audit reporting to create appropriately green practices and reliability. The hotel also requires a long-term and commitment to every hotel section to adopt green practices. If the mainstream does not commit to change in the long-term, it will contribute to the difficulty of maintaining green development, and it will cease eventually (Russo & Fouts, 1997). To further illustrate the finance as a critical obstacle, Tilley (1999) has told firmly that the majority of the hotels will not cooperate in environmental-friendly schemes since they recognize that it is not worth the invested capital. Moreover, it takes an extended period to get returns on environmental investment.

Besides the cost of the investment, customers' perspective is one hindrance resulting in the failure of the green hotel initiative. Kasim (2007) addresses that some tourists have less concern about the green practices of the hotel; they merely emphasize the value of money that is spent for experiencing quality products and services. Mainly, the role of hotels is perceived as a service provider, so many hotels are afraid that green practices will directly affect the quality of their services. Most hotel guests have high expectations for services and facilities such as freshly laundered linen, high pressure of water system, and transportation service. Baker, Davis, and Weaver (2014) also support that a reduction of luxurious service and an increase in inconvenience are the most significant factors that drive customers away. To illustrate, reducing on lower pressure of showerheads can help save the water consumption in the hotel, but it can lead to the guests' dissatisfaction. Although some tourists may concern about the environment, eco-friendly practices of the hotels are not a key factor when selecting a hotel. Property location, price, and facility are substantial contributing factors to customers' decisions (Yi, Li, & Jai, 2018).

Furthermore, the green transformation is based upon the global trend in pollution management in the tourism and hospitality industries (Wang, Wang, Xue,

Wang, & Li, 2018). With the increase in environmental consciousness, the transition to a green hotel is a green image showing that the hotels keep up environmental protection trend in the market (Lee & Cheng, 2018). A survey in TripAdvisor indicates that the US travelers who plan their stays in green hotels are up to 71 percent. Evidently, some hotels establish a green image or greenwashing to respond to these concerned environmental customers (Sukhu & Scharff, 2018). According to TripAdvisor's statistics in 2012, it was up to sixty percent of hotel customers suspicious about the green hotel and its operations. However, greenwashing can lead to a decline in the purchase and customers' trust. Attracted to green policies, eco-conscious customers hold a high expectation to experience and participate in green practices. If the hotels cannot deliver or practice a misleading claim, it can result in a reduction of trust in the business, which is crucial to brand loyalty. This negative impression can spread quickly among potential customers, leading to more obstacles for hotel development in the future (Chen, Bernard, & Rahman, 2019).

The third fundamental obstacle is the uncertain global economic situation and a natural disaster that wavers the tourism industry's growth. As forecasted by UNWTO, the expansion of the sector has continued increasing since 2012. It creates hope in the tourism field for the future's growth. However, the hoteliers learn from the past circumstances that there were several global crises resulting in adverse events in the industry. Starting with the global economic downward, it decreased by 4.5 percent of the steady growth rate in the worldwide tourism industry (Belau, 2003). Furthermore, the global spread disease such as Severe Acute Respiratory Syndrome (SARS) caused the fright of tourists to travel at that time, so it decreased the number of tourists in each destination and slowed down the tourism economy. The natural disaster such as earthquakes, tsunamis, or typhoons creates massive damage in tourism attractions, properties, and infrastructures. After the occurred natural disaster, all business owners in the affected areas have to invest in reconstructing their properties and waiting for an extended period to revive. With the adverse impacts on the hotel business, the transition to the green hotel property is seriously in question.

### 2.3 Guiding to sustainable hotel certification schemes

The hotel industry can be accounted for as one crucial source of direct and indirect environmental depletion. Hence, the green hotel certification programs in hospitality businesses were originated to enlarge the environmental protection schemes in hotel firms. The environmental awareness hotels are got the certifying for their efforts, which has been presently requiring for the hotel industry (Fukey & Issac, 2014).

The International Tourism Partnership & Green Hotelier (2016) pointed out that all the large number of green certifications can be separated into two standards of “performance-based” and “process-based” which are the most effective in environmental impacts determination.

- Performance-based: the programs spotlight on hotels’ progression and the ability to yielding with the internal and external objectives. The awards are based on hotels’ performances.
- Process-based: the center of the scheme in sustainable management planning, monitoring, and practice processes.

GreenHotelWorld.com shown the report of hotel properties with green certifications. The report has collected the data from globally international hotels (approximately 130,000++ hotels). With the overall study, it found that merely 6.2 % getting certified to be sustainable hotels. The study of GreenHotelWorld.com dispersed by the landmass:

North America 10.1%	South America 2.7%
Africa 3.7%	Oceania 4.8%
Europe 6.1%	Asia 0.9%

Regarding the ensuing benefits of certifying as a green hotel, it does not merely guarantee on environmental conservation actions, but it also contributes the advantages to the certified hotels.

- Increasing the potentials in evaluating its effects on the environment and society.

- Helping to identify the competency to enhance internal management of properties.
- Benefiting from costing saving, owing to engaging in green practices and technologies.
- Boosting the competitive advantage by efficiency management and lessening on operation expenses.
- Heightening the ability to conform with lawful and regulatory requisites.
- Delighting environmental consciousness customers through green information, participation, and hotel activities.
- Attracting the number of eco-friendly guests leads to an increase in sales and profits.

With the numerous of green hotel certification schemes, all the global and regional scales of green hotel certifications are raised to mention about which are The Global Sustainable Tourism Council Criteria (GSTC industry criteria), Green Seal, the Leadership in Energy and Environmental Design (LEED) and Green Leaf certification are the globally level of green certifying schemes. Besides, the highlighting of the environmental protection standards for hotel business in Thailand is also addressed under the scheme Thailand Green Hotel Certification. The selected globally green certifications in hotel businesses are different in application price, region, sophistication, and goals (The International Tourism Partnership & Green Hotelier, 2016). All these addressed hotel environmentally friendly certifications are raised to mention above since each specific certification is covered on the distinct issues such as water, waste, social involvement, sustainable performances, green design, human resources practices, cultural and biodiversity preservation. They are also widely renowned and adopted by hotel properties worldwide. Furthermore, some certification programs for the hotel industry are in line with the concepts of this paper, whether it be Hotel Sustainable Business Model (HSBM), Sustainable development (NESDB), or Sustainable Tourism (ST). According to the concepts is essential and further developed to be a tool for green hotel indicators of the study.



### **2.3.1 The Global Sustainable Tourism Council Criteria (GSTC industry criteria)**

The Global Sustainable Tourism Council (GSTC) was developed the criteria which bond to the concept of "sustainable tourism." The program is raised not solely; it is a bond to the hotel business and the paper's concept, but its criteria are also actual embraced by Thailand tourism organization to make the tourism sites and hotel properties to be more eco-friendly.

To address about the certification, the standard criteria of GSTC regularly revise every three to five years. The current application of criteria was the revised version in October 2016; the criteria can be divided into four critical headings as following (Global Sustainable Tourism Council, 2016; The International Tourism Partnership & Green Hotelier, 2016).

- Effective, sustainable planning
- Maximizing social and economic benefits for the local community
- Enhancing cultural heritage
- Reducing negative impacts on the environment

The GSTC certification program can be recognized as a big umbrella of green hotel certification programs which is subdivided into two levels; global and regional certification levels. Meeting the GSTC criteria, steps, and procedures, as well as compliance with other international formulas, can confer the certification scheme and its logo.

The lists of the global level of certification schemes are presented below, and for further information and criteria can be found in appendix 1.

- EarthCheck Company Standard
- Biosphere Responsible Tourism
- Green Globe
- Green Growth 2050
- Rainforest Alliance
- Travelife Sustainability System
- Green Key
- Green Key Global
- Green Tourism Active

And these certifications are at a regional level:

- EU Ecolabel or Eco Flower
- Certification for Sustainable Tourism (CST) for hotels – Costa Rica
- Chile Sistema de Distinction en Turismo Sustainable – Chile
- Eco – Certification Malta
- Ecotourism Ireland Certification Program
- European Ecotourism Labeling Standard (EETLS)
- Fair Trade Tourism – South Africa
- GREAT Green Deal Certification Program – Central America
- Green Star Hotel Certificate – Egypt
- Hoteles + Verdes (AHT) – Argentina
- Japan Environmentally Sustainable Accommodations International Standards (ESAIS)

Source: The International Tourism Partnership & Green Hotelier (2016)

### 2.3.2 Green Seal (GS)

Green Seal is a nonprofit organization that was established in 1989. The certification standards are for environmental development and abating negative impacts on human health and social. The standards of GS are divided into 55 different categories. With the scope of the hotel business, the established standards for lodging properties are in the group GS-33. The standards are applied in all types of hotel properties, including convention hotels, bed and breakfast, full service, motels, resorts, and others. For the certification levels, there are three levels of awards, which are bronze, silver, and gold. However, the GS' s hotel business standards do not account in some areas of properties such as swimming pools, golf courses, and restaurants.

- Bronze: The leadership in some elements of hotel operations
- Silver: The more intense in leadership operations
- Gold: The leadership in environmental program

The certification requirements are created into various categories and sub-categories.

The comprehensive standards are based on certification levels as following:

### **Environmental requirements**

#### **Waste Minimization, reuse, and recycling**

- Recycling program
- Composting program
- Refillable amenities
- Double-sided printing
- Food donation

#### **Energy conservation and management**

- Energy consuming devices
- Indoor lighting
- Appliance and heating, ventilation and air conditioning (HVAC) systems
- Climate and Lighting control
- Indoor air quality

#### **Management of freshwater and resources**

- Water efficiency
- Landscaping and irrigation
- Groundskeeping
- Towel and linen reuse program
- Washing capacity

#### **Hazardous substances**

- Minimization of hazardous substances
- Storage and mixing of cleaning and pool products
- Chemical storage
- Pest control

#### **Purchasing**

- Environmental purchasing policy
- Paper products
- Cleaning, laundry, and dish products
- Paints

- Durable goods
- Reusable packaging and shipping pallets
- Environmentally responsible supplier

### **Continual improvement**

#### **Additional requirements for gold level**

- Energy reduction
- Management of resource use: energy, water, and waste
- Sustainable building
- Renewable energy
- Greenhouse Gas Emission
- Waste reduction
- Green cleaning
- Water conservation

Source: Green Seal (2017)

### **2.3.3 The Leadership in Energy and Environmental Design (LEED)**

LEED certification program was developed by the United States Green Building Council; it is the most globally approved in terms of the green building certification scheme. The aim of the certification is to enhance sustainable performance and design in all businesses. The criteria for buildings evaluation include design, construction, operation, and maintenance procedures. In terms of acquiring the certification, a building has to be certified at least 40 scores. The levels of the program are varied, which depends upon the certified points.

- Certified: 40-49 points
- Silver 50-59 points
- Gold 60-79 points
- Platinum 80 points up and above

Criteria of LEED certification are varied grounding on types of projects and buildings.

A hotel firm is recognized as one sector of hospitality businesses; its certification's criteria is the section of ID+C, which is about commercial interiors,

including retail and hospitality. The project checklist is divided into seven critical points with sub-issues that are location and transportation, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, innovation, and regional priority.

The project checklist for certifying are applied in seven key areas:

### **Local and Transportation**

- LEED for neighborhood development location
- Surrounding density and diverse uses
- Access to quality transit
- Bicycle facilities
- Reduced parking footprint

### **Water Efficiency**

- Indoor water use reduction

### **Energy and Atmosphere**

- Fundamental commissioning and verification
- Minimum energy performance
- Fundamental refrigerant management
- Enhanced commissioning
- Optimize energy performance
- Advanced energy metering
- Renewable energy production
- Green power and carbon offsets

### **Material and Resources**

- Storage and collection of recyclables
- Construction and demolition waste management planning
- Long-term commitment
- Interiors life-cycle impact reduction
- Building product disclosure and optimization- Environment product declarations
- Building product disclosure and optimization- Sourcing of raw materials

- Building product disclosure and optimization- Material ingredients
- Construction and demolition waste management

### **Indoor Environmental Quality**

- Minimum indoor air quality performance
- Environmental tobacco smoke control
- Enhanced indoor air quality strategies
- Low-Emitting materials
- Construction indoor air quality management plan
- Indoor air quality assessment
- Thermal comfort
- Interior lighting
- Daylight
- Quality views
- Acoustic performance

### **Innovation**

- Innovation
- LEED accredited professional

## **2.3.4 Initiating in environmental development scheme in green hotels: Thailand standard**

### **2.3.4.1 GSTC standard recognition in Thailand**

According to UNWTO's report, it anticipates that in 2020 the number of tourists in South East Asia and Pacific continents will be enlarged in particular the countries in South East Asia. Thereby, Thailand is one country that the tourism trend will be expanded the same as the forecast, so it also leads to the growth of Thailand's economic (DASTA, 2018). Initiating sustainable tourism development concepts in Thailand's tourism destinations is essential; otherwise, the fertile natural resources, cultural richness, and the spectacular tourism sites will be ruined.

In Thailand, the GSTC standard was embraced to the sustainable tourism management of the Designated Areas for sustainable tourism administration (DASTA). The standard was applied to the tourism destinations that point to enhance

the sustainable and efficient management in all scales of tourism enterprises. Therefore, the standard is considered as a considerable challenge for the firms to accomplish in sustainable tourism beyond the provided basis requirement. To achieve the global standard GSTC, DASTA has to develop tourism destinations to harmonize and purify with the scheme criteria. The chief of GSTC addressed that "Being recognized for GSTC standard to create tourism management standards of destinations which are established by DASTA; it can examine that it is one step of the success of Thailand tourism development." The application of the standard in Thailand, DASTA, has utilized the developed standard for training in the related tourism agents in terms of the destinations' development. Presently, the Thailand tourism standard is recognized by GSTC, but the criteria continuously improving to harmonize with the international standards (Global Sustainable Tourism Council, 2018).

The outcomes of engaging GSTC standard can contribute to

- Improving local people and host communities' subsistence
- Living with happiness
- Maximizing in low carbon destinations
- Increasing the participation for all

DASTA applies the GSTC standard into all designated areas through the concept of sustainability. The criteria are categorized by grouping as following:

**Group A: The efficiency in sustainable management**

- A1: Sustainable management planning and strategies
- A2: The participation of both private and government sectors
- A3: Tourism destinations assessment
- A4: Proceeding reports in all development dimensions
- A5: Seasonal tourism management
- A6: Natural disaster protection plans and procedures for local communities and tourists
- A7: Compliance with the regulations and policies for environmental protection
- A8: Providing the accessing facilities in tourism sites for all ages, physical conditions, and particular assistant persons.

- A9: Harmonized law enforcement in the areas
- A10: Surveying for travelers' satisfaction for future improvement
- A11: Supporting tourism standard for all tourism firms
- A12: Monitoring, protecting and reporting in sanitation, crime, and security

**Group B: Maximizing economic benefits and decreasing the negative impacts on host communities**

- B1: Economic report creating at least once per year (evaluating from tourists' expenses, employment rate, investment and hotels' revenues)
- B2: Career opportunities for local people
- B3: Social participation
- B4: Opening for local people' viewpoints
- B5: The accessing ability of local habitats
- B6: The comprehension of tourism
- B7: The prevention of unrightful beneficial gaining
- B8: Supporting in local communities

**Group C: Advantages of boosting whilst lessening the downsides effects on local communities' cultural and tourists.**

- C1: Reviving and protecting natural and cultural destinations
- C2: Creating tourist management plan for tourist attractions
- C3: Providing guidance to conduct in properly tourists' behavior to diminish the undesired impacts
- C4: Sheltering cultural heritage through legislating
- C5: Accuracy delivering tourism sites information to visitors
- C6: Defending the intellectual properties of personal and community

**Group D: Mitigating the environmental depletion**

- D1: Identifying the environmental risks and problems
- D2: The environmental impacts monitoring
- D3: Enforcement in wildlife protection laws and regulations
- D4: Reduction of greenhouse gas emissions
- D5: Supporting energy efficiency program
- D6: Encouraging water-saving activities



- D7: Water management
- D8: Installing water quality checking system
- D9: Efficiency managing on wastewater treatment
- D10: Diminishing amounts of waste
- D11: Law enforcement in coping with noise and light pollutions
- D12: Increasing eco-friendly transportation and vehicles

Source: DASTA (2018)

#### **2.3.4.2 Sustainable tourism development program of DASTA**

Thailand is renowned as one of the world's top tourism destinations, so the Thai government inquires about the significance of the tourism industry of the country. In 2003, the Designated Areas for Sustainable Tourism Administration (DASTA) was established for policymaking and determining the development plans in the extraordinary sustainable tourism areas. In terms of development, the goals of the organization are to raise the environmental, social, and economic aspects. DASTA drives the development strategies in both tourism businesses and hotel properties in all six designated areas. With the scope of sustainable tourism development, the scheme of "Co-Creation" to attract all social sectors to participate in policy planning, decision making, and generating equally benefits. For more effective in the development, DASTA cooperates with many international organizations such as Earth Check, Global Sustainable Tourism Council (GSTC), the International Ecotourism Society (TIES), and Mekong tourism.

In terms of the sustainable tourism development strategies for the hotel industry, the campaign "Low Carbon Hotel" was launched to heighten the environmental responsibility, including the accommodation business and travelers. DASTA also promotes green practices for hotels to attain sustainable tourism development by prescribing green procedures in various areas such as energy conservation, wastewater, and trash management.

#### **Energy conservation**

The number of energy consumption keeps increasing nowadays, especially in the hotel business. The energy is a crucial thing to provide comfort to hotel guests. Hence, the organization suggests an energy-saving program to hoteliers in the designated places.

- To raise the knowledge of hotel owners and staff about energy-saving technologies i.e., LED lamps or solar panel installation.
- To gather the group of hoteliers for further discussing the efficiency of energy use in hotels.
- To enhance the sustainable design of hotel building for energy saving.
- To monitor and maintain the electricity system within the properties.
- To encourage the hotel businesses to create the energy use report and the reduction plans in the future.
- To reinforce everyone in the business to involve in the energy efficiency scheme.

### **Wastewater management**

Tourism and hotel industries are one source of wastewater issue that leads to the problems of environmental harmfulness and diseases. To protect the undesired problems, the guidelines for wastewater management are suggested.

- To maximize the knowledge of the wastewater treated system and reuse program.
- To ensure the treatment system is suitable and efficacy with the size of hotel buildings as a law requirement.

In some supervised areas, hotels engage the wastewater reduction scheme in the properties. Linens and towels programs are widely applied to lessen the amount of water consumption and wastewater generating at the same time. Besides, wastewater can be utilized for other purposes, such as for water gardening.

### **Solid waste mitigating**

According to the rapid enlargement of the tourism industry, the expansion of tourism enterprises grows in the same direction i.e., hotels and restaurants. Consequently, it results in a large quantity of solid waste generating from the industry. 3R concept is adopted into the DASTA development plan for waste management.

- To encourage the process of waste separation and reuse campaign.
- To support the products which are made of biodegradable materials.
- To educate about the biogas system to abate the amount of food waste.
- To promote the recycling program in both hotels and host communities.
- To purchase the products in bulks to decrease waste from goods packaging.
- To instruct about the efficient waste management methods.

Furthermore, the Tourism Authority of Thailand (TAT) and DASTA join the partnership with the Global Sustainable Tourism Council (GSTC) to apply the tourism management standard into the selected areas. The aim is to enhance all related businesses and organizations to sustainably manage tourism for achieving in "Sustainable Tourism" (TAT, 2018). GSTC collaborates with another four organizations that are the Rainforest Alliance, UNEP, UN Foundation, and UNWTO for the criteria. It also supports and communicates for tourism development, which is propped by GSTC experts. GSTC launched two prime criteria that can be divided into criteria for destination (GSTC-D) and criteria for hotels and tour operators (GSTC-H&TO). Besides, all the standards of GSTC engulf three pillars of sustainable development, including health, safety, quality, and aesthetic issues.

Source: DASTA (2016)

#### **2.3.4.3 Thailand National Strategy Frameworks in green development**

The Twelfth National Economic and Social Development Plan (2017-2021) was created in the period of global rapidly alteration and be connecting whilst Thailand was experiencing the reforms. Thus, the development plan was engaged in the principles of King Rama 9 "Sufficiency Economy Philosophy" to enhance immunity and adaptation capacity during the unstable world in Thai citizens. The plan also leads to national development that contributes to balance and sustainability.

With the devising the twelfth plan, it based on the 20-year National Strategy framework (2017-2036), Sustainable development goals (SDGs) and the Thailand 4.0 policy including the participation of all sectors in society to plot the plan for accomplishing in Thailand's strategy of "Security, Prosperity and Sustainability" (NESDB, 2017).

Similarly, The Second National Tourism Development Plan (2017- 2021) specified that "Thailand is one of the famous tourist destinations in the world, so the growth of tourism industry has to be equivalenced in all dimensions whether it be economic, social and the equality of benefits allocation to local communities." Environmental development is also integrated into the plan through reviving tourists' attractions and natural resources.

In the shade of tourism development, the plan gives the significant to boost tourism competence. It can be a tool for benefits enlarging, so the local people can gain the benefits from the tourism sector. In addition, it accords with the global tourism trend and responds to the needs of tourists under the concept of "Green Tourism."

Green tourism strategy is imposed and revised throughout five years (2017-2021) since the tactics can be strengthened and harmonize with the practice and monitoring processes. UNWTO and UNEP identified the meaning of green tourism as one kind of tourism that concerns the three aspects of sustainable development for both the present and future. To develop green tourism, it has to be in the line of sustainable tourism and national development plans.

Tourism Authority of Thailand (2017) determined the seven green approaches for the green tourism scheme which concludes

1. Green Heart

Preserving the environment and decreasing carbon footprint practices of all tourism enterprises and stakeholders is the aim of this approach.

2. Green Logistic

Encouraging to use clean vehicles for both short and long jaunts.

3. Green Attraction

Sustainable tourism development is implemented into the attraction sites with explicit criteria to deduct the flow impacts on the environment.

4. Green Activity

Tourism activities have to conform to the resources. The green activity also concludes in eco-friendly products, green practices, and supporting local commodities.

5. Green community

Traveling with the consciousness of the environment, culture, tradition, and local subsistence.

6. Green Service

Being aware of the environmentally friendly in served products and services of all related tourism industry businesses.

7. Green Plus

Enhancing the participation of all to protect the environment.

Source: Ministry of Tourism and Sports (2017)

The accommodation business is accounted for as one main vital sectors in the green service campaign. To be eco-friendlier, Thailand organizations developed the green certification "Green Leaf Environmental Certification of Hotel Operation Standards" and "Green concept," which consorts to the tourism development plan and seven greens concept.

#### 2.3.4.4 Green Leaf Certification

Hotel business in Thailand causes environmental degradation through energy consumption, water usage, and waste generation for satisfying hotel guests. The overconsumption of resources can also cause by the downside impacts on local habitants such as in Pattaya and Phuket, the water scarcity area. To remedy the environmental issues, Green Leaf Foundation (GLF) in Thailand was originated on 17 March 1998 to cooperate with government agencies, NGOs, hotels, suppliers, and hotel associations. Moreover, GLF collaborates with Association for the Development of Environment Quality (ADEQ), Thai Hotel Association (THA), Electricity Generating Authority of Thailand (EGAT), Metropolitan Waterworks Authority

(MWA), Tourism Authority of Thailand (TAT) and United Nations Environment Program (UNEP) to develop the standard in each specific area.

The key objectives of GLF as follows:

- Elevating the environmental consciousness in hotel properties and public sectors to raise sustainable tourism.
- Encouraging long-term improvement in efficiency resources management of hotels and tourism firms.
- Promoting environmental standard and certification program through the development of GLF scheme in hotels.
- Boosting the potential of competitive advantage for tourism enterprises.

According to the report of TAT in 2011, the certified hotels under GLF standard are up to 470 properties with engaging environmental management plans and procedures (Dusida Worrachaddejchai, 2019; Mishra, 2016).

Green Leaf Foundation (2009) prescribed the criteria for grading green level of hotels business as shown below:

- Environmental policy and communication
- Human resource development
- Committees and teams
- Goals and strategic planning
- Waste management
- Energy efficiency
- Water efficiency
- Kitchen (food and beverage)
- Laundry
- Green procurement
- Indoor air quality (air and noise pollution)
- Water resources and quality
- Spa and massage
- Recreational facilities (fitness center, swimming pool, etc.)

- Security and safety
- Ecological impacts
- Collaboration with the community and local administration
- Local cultural encouragement

Table 2.2: The popular green hotels' activities defining by the Tourism Authority of Thailand

Recycle Used Consumer Items	Recycle materials typically include glass, paper, metal, plastic, textiles and other used items which can be taken to a recycling centre or be picked up curb-side for reprocessing.
Eliminate Junk Mail	Have your name removed from mailing lists used for unsolicited offers, mail orders.
Minimize Waste of Paper	Use both sides of a sheet of paper when printing, copying, writing and drawing. Use email to share documents and ideas. Print only those emails for which a hard copy is needed.
Recycle Electronics	Electronic products contain valuable materials, plus dangerous contents that could get into water supplies. Some manufacturers and retailers will recycle your used electronics.
Educate Ourselves on Green Principles	We can access educational resources that promote sustainable, impactful pro-green behaviours in businesses, communities and families.
Turn it Off, Repair It	Turn off lights when they are not in use to save electricity. Repair leaky faucets and toilets to save water.
Network with Other Green-Minded Companies	We can learn about the green practices that have worked well for other businesses.
Digitize Documents	Instead of inefficiently and wastefully attempting to organize paper documents into physical files, scan the important files to digital documents.
Build a Green Interior	This means the creation of an interior of beauty and functionality while keeping our health and the environment in mind. Use of eco-friendly materials makes the interior better for living.
Practice Freecycling	Freecycling is the passing of an unwanted item, for free, to another person who needs the item. It makes more space in landfills and reduces the need to manufacture new goods.

Table 2.2 and 2.3 were summarized by TAT on the green practices in hotel firms to reduce the impacts to the environment. The activities are varied in many areas such as waste management, green building, sustainable training and education. Besides, the Tourism Authority of Thailand (TAT) created waste minimizing the program as a primary strategy that can be widely adopted in hotel properties.

Table 2.3: The practices of waste minimizing program (Mishra, 2016)

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Reduce	We can reduce waste by making ecologically sound decisions when purchasing products, including consideration of the packaging of the product: the less packaging material used the better.
Reuse	We should reuse containers and products, and rather than buying disposable items we should try to purchase and use items that can be reused, and by doing so eliminate unnecessary trash.
Recycle	We can recycle a wide variety of materials, including paper, food scraps, yard trimmings, electronic products and many others. These materials can be reprocessed into new products, preventing waste of potentially useful materials.
Re-buy	We should try to purchase products manufactured with recycled content. The recycling of a product and its subsequent purchase as a new product is called the 'recycling loop'. The closing of the recycling loop is a good eco-friendly practice.

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## 2.4 Implementing sustainable issues in green hotel property

Green hotel transition can be propped by certification schemes, it also relates to the concepts of sustainable development, sustainable tourism, and the Hotel Sustainable Business Model (HSBM). All these concepts are coherent and aims to the development of sustainable green criteria and performances in the hotel industry.

### 2.4.1 Sustainable development

With the globally increasing ecological awareness in the hotel industry, the initiated environmentally friendly strategies are borne to sustainability development (NESDB). The United Nations have raised the issue of sustainable development (NESDB) since the year 1972 through establishing the globally initial of the environmental conference in Sweden. Furthermore, in 1983 the World Commission on Environment and Development was founded to study on combine environment and development in equilibrium. Subsequently, the published report "Our Common Future" called for "Sustainability" to the transition of human's way of life to live harmonize to the ecological. The report played a significant role in the 1992 UN Conference on Environment and Development in Rio de Janeiro (Rachel Emas, 2015). It leads to the creation of Brundtland Report that defined the standard meaning of SD as "meets the needs of the present without compromising the ability of future generations to meet their own needs" (Robert, Parris, & Leiserowitz, 2005). Ciegis et al. (2009) supported that the defined meaning in the report also composes of two crucial concepts:

- "Need" idea is mainly the requirement of the globe's poverty should be raised as the preference issue.



- Technology and social structures are utilized as tools for the development, but the advancement has not to demolish the healthy environment. It also has to contribute to satisfying the basic human needs for both present and future needs.

Moreover, the diversified of its meanings from different sources are raised for clear understanding since Pierantoni (2004) indicated that the definitions of SD depend upon the concentration points that are varied i.e., economic, environmental, social, political, or philosophical decisions.

Harwood (1990) pointed out that the SD is an unceasing system that aims to balance the ecological, species, and resources as well as to enhance the benefits for humankind.

In terms of economic viewpoint, it can be examined that SD is the progress of economic to boost the more significant social benefits at present without bating the abilities for benefits obtaining in the future (Goodland & Ledec, 1987).

The Pirages' study, SD, is the process of the economic advancement that can widen the social opportunities (Ciegis et al., 2009).

Weitzman (1997) indicated that it is a tool to gauge future consumption.

The World Bank expressed the SD as "sustainable development is a development that continues."

The Rio de Janeiro Declaration on Environment and Development in 1992 also provides the similar description as the long period development of the society to response the present and future of human's needs whilst supplementing the healthy natural resources and protect the earth for the forthcoming generations (Ciegis et al., 2009).

#### **2.4.1.1 The concept of sustainable development**

According to various meanings, it can be viewed that the aims of SD do not merely give the significant on an environmental issue, but enhancing the humanity subsistence, equality and economic are also the decisive goals for the development (Bohdanowicz, Zientara, & Novotna, 2011; Hsieh, 2012). The meaning of SD was

original obscure and widely to spotlight on myriad dimensions of the development. Consequently, the issues of “What is to be sustained” and “What is to be developed (figure 2.2) were raised to define the focal points of the concerned categories, including the period for the development in the future.

To spotlight on what to be sustained, it is separated into various essential categories that are composed of nature, life support, and community. Besides, the things to be developed are divided into three major pillars; people, economy, and society. In the report, it found that the most concerned issue is the heading of life support systems to contribute citizens to access and utilize the limited resources equally. The similarity to the beginning stage of SD, the central idea is on the economic enlargement to increase the number of employments. The recent research addressed that the concentration gives the significant to human development, such as improving life quality, education, impartiality, and life possibilities (Robert et al., 2005). According to green hotel certification programs, all the crucial points of things to be sustained and to be developed are also included in the green hotel indicators. It can examine that the issue of sustainability is not merely promoted, but many organizations strive to make it real and adopted in the hotels’ activities.

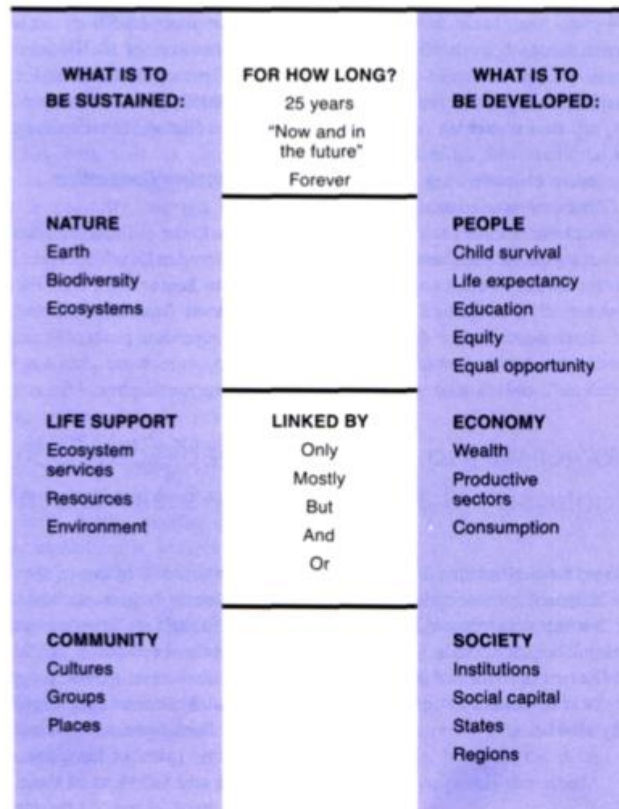


Figure 2.3: The scope of sustainable development (Robert et al., 2005)

In 2002, the World Summit on Sustainable Development determined the standard of sustainable paradigm through three pillars of SD as a general concept (economic, social, and environment). Ciegis et al. (2009) breakdown the concept structure of SD and further explain in the detail of each dimension.

- **The economic:** economic sustainability is based upon the theory on capital convertibility by Solow's and the concept of maximum income by Hick-Lindahl. Its purposes are to protect the wealth and resources for the foremost benefits and future generations. Hicks also reveals that enlarging the income and consumption whilst less effect on the existing assets are the crucial issues for economic sustainability.
- **The ecological:** it gives significant to the environment and the ways to balance nature, ecosystem, and biological locally to globally, including the capability to safeguard it for the future. Ciegis et al. (2009) pointed out that

there is nothing in the earth can replace the fertile ecological. It is worth to protect all biological diversity.

- **Social aspect:** it enhances the limitations between social structure and the natural resources in a sustainable way. Building resilience and stability also are the goals of social development. Living in harmonize with the nature surrounding and being responsible for the environment can be presented through SD. The Baltic Agenda 21 identifies two varied concepts of SD are "development-progress-growth" and "stability-safety-environment." Furthermore, the corporate social responsibility of organizations is essential in this dimension.

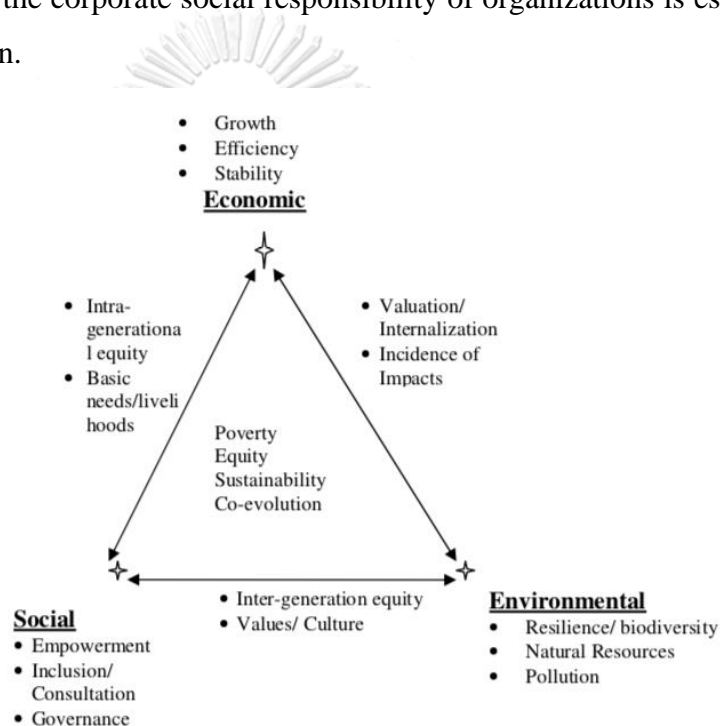


Figure 2.4: The components of sustainable development (Ghosh, 2008)

Ghosh (2008) showed the aspects of SD in the triangle shape to present the interrelated between three key concepts. The study also further explained the process of linkage system that at least the environmental domain is shifted, it leads to the struck of the economic advancement for both short and long-term. The transition in social aspect and behavior also effect on the economic and environmental dimensions. The change in economic generates adverse impacts on human welfare and

environmental management. Hence, Kahuthu stated that in the case of one aspect is neglected; it destroys all system of sustainability (Ciegis et al., 2009).

#### **2.4.2 Sustainable tourism**

Sustainable tourism can be accounted for as one concept for environmentally friendly in the tourism sector. In addition, sustainable tourism bonds to sustainable development. Liu (2003) stated that the concepts of SD and ST had come along together; it also can reciprocally in the literature. The research of Butler, Harris, and Leiper examined the differentiation between SD and ST; it can be illustrated that SD enhances the stable conditions of life, and it also focuses on the development to achieve "sustainability" in the coming future. On the contrary, ST presents all forms of tourism, including both alternative and conventional types that can lead to sustainable development in the future (Liu, 2003).

##### **2.4.2.1 The relationship between tourism and sustainable development**

Tourism is one of the particular sectors that can lead to sustainable development and tackle all presently occurred challenges. According to the enlargement of the sector, it contributes to the economic flow, especially in tourism countries and destinations. Apart from that, it is the sector that bonds the association between three key components together, whether it be tourists, native communities, the environment, and the tourism industry (UNEP, 2005). It also found that under the raised relationship, it leads to the essential features between the relation which can be:

- **Interaction:** Service provider is a fundamental role of the tourism industry, so it attracts the interplay and traveling experience among travelers, native communities, and the environment.
- **Awareness:** It makes visitors be more sensible of the countries, culture, and natural areas.
- **Dependency:** Friendly host communities, fertile environment, authentic cultural, tradition-rich of history, and clean surroundings are the attributes that tourists desired. The tourism sector should embrace these characteristics in place.

Besides, Swarbrooke (1999) remarked that the government, in many countries, attempts to bring tourism into their development plans to reach sustainable development. France, Italy, Spain, and Portugal can be illustrated as the case study of the tourism-based SD. The tourism was applied to the countryside of those nations, so it is a tool to help to tackle to problems of unstable incomes from agriculture, environmental exploitation, and local people subsistence. It also helps the areas to get closer to sustainable in economic and societies.

#### **2.4.2.2 Definitions of sustainable tourism**

ST does not have the standard defined meaning, but referring to the Brundtland Report, it is defined as the alternative tourism that responds to the present needs of tourists, local communities, and the tourism industry. In the same vein, these kinds of tourism must not jeopardize the future generations to meet their own needs. ST also leads to the bright sides of economic and social aspects, so there is an explanation that can further describe the specific idea. ST can be called that the tourism that affects the economic feasibility, but it does not extirpate the resources which the future generations and native people can depend upon (Swarbrooke, 1999).

Due to the myriad definitions, The World Tourism Organization (UNWTO) gives the meaning of ST based upon the description of SD. Sustainable tourism development can satisfy travelers' demand, but it has to heighten the possibility of future generations. Besides, it elongates the ability to develop economic, social, culture, natural resources, biodiversity, and viable life systems in effective management (Liu, 2003).

The meanings of ST are illuminated by UNWTO that is grounded on the three pillars of SD. According to the defined meanings by UNWTO (2004), the first dimension is to enhance the cost-effectiveness of overall economic activities to lead to economic sustainability. The sociocultural dimension denotes the points of equal in a lifetime opportunity, and human rights have to be thoughtfulness for all in society. The third dimension, the environmental sustainability means the environmental preservation and the management in all kinds of pollutions that diminish biodiversity and natural resources.

Sustainable tourism is about the forms of tourism and connectivity through infrastructures. The tourism of the present and future have to be under the boundary of natural carrying capacities. It also has to generate bright outcomes for economic, native people, communities, and livelihoods. Equity sharing of the economic benefits among the host communities is the critical thing to be concerned (Eber, 1992).

Tourism can improve the local lifestyles and the flow of economic in the areas. This kind of tourism must not exploit the healthy resources that it counts upon (Countryside Commission, 1995).

Woodley (1993) expounded that sustainable tourism can be any places, whether it be parks or other kinds of travel sites that are permeated with ecological conservation (Woodley, 1993).

Coccosis proposes that there are four points of view to apprehending the context of tourism that it is in the stage of sustainable development (Woodley, 1993).

- Gaining economic incentives from the tourism sector.
- The need to sustain ecological tourism.
- The perspective of long-term progressive of tourism destinations.
- Acquiring tourism as one of the sustainable development tactics.



Figure 2.5: The relationship between sustainable tourism and other tourism forms  
(Swarbrooke, 1999)

Swarbrooke (1999) applied figure 2.5 to illustrate that sustainable tourism can be varied types, and it interacts together in some ways.

#### **2.4.2.3 The aims of sustainable tourism**

According to the specific form of ST, UNEP (2005) suggested that the meaning of "sustainable tourism" should be explicit in terms of "tourism that is based on the principles of sustainable development." Besides, the definitions can be illustrated all kinds of tourism with sustainable conditions. It is necessary that the concept of sustainable tourism has to be nourished and associated with national, regional, and local development plans.

Erdogan and Baris (2007) specified the principles of sustainable tourism which ground on the following determinants

1. Altering the consumption pattern
2. Protecting and efficiency consume natural resources through the management and saving programs
3. Conserving the joint global resources
4. Diminution on waste and chemical discharging through reduce, reuse and recycle scheme
5. Developing site consumption and management plans
6. Cooperation with the partnerships to support sustainable development
7. Creating sustainable procedures

Besides, there are totally 12 objects for the agenda of sustainable tourism to be achieved (UNEP, 2005; UNWTO, 2004):

##### 1. Economic Viability

To certain long-term benefits of economic swelling and enhance the competitiveness of the tourism businesses.

##### 2. Local Prosperity

To expand the economic benefits to the host communities.

##### 3. Employment Quality

To maximize the number of job creations that brace tourism enterprises without discriminated issues.



4. Social Equity

To prevalently distribute the social and economic benefits which gain from tourism to local communities.

5. Visitor Fulfillment

To grant fulfillment, satisfaction, and safety to visitants equally.

6. Local Control

To gather native communities in the planning development and decision-making processes.

7. Community Wellbeing

To invigorate the subsistence of local people.

8. Cultural Richness

To respect the different cultural, historical, and customs of host communities.

9. Physical Integrity

To heighten the potentials of scenery, both urban and rural, by keeping away from ecological detriment.

10. Biological Diversity

To sustain the natural resources and wildlife.

11. Resources Efficiency

To lessen the use of limited non-renewable resources in tourism products and services providing.

12. Environmental Purity

To mitigate the pollutions from tourism that can destroy the quality of the environment.

This research focuses on the potentials of green hotel enterprise to achieve sustainable development and sustainable tourism. Presently, ST is widely adopted in the hotel industry. Even though hotels are not categorized as tourist attraction sites, it is the place to cater to a large number of tourists during their vacations. According to the environmental detriment impacts, sustainable tourism (ST) is engaged in the tourism industry to mitigate the downside consequences from products and services. Swarbrooke (1999) analyzed that there are three primary reasons for the firms to accept in ST

- If the businesses based upon the natural resources, it can be a risk for the companies in the future in case the environmental is annihilated.
- Being voluntary is better than government enforcement on environmental performances.
- Being “good neighbors” create a good image of the companies.

For this reason, the hotel business gives a significant to environmental awareness due to the considerable benefits and meanwhile being a part of the environmental protection. However, comparing to tour operator businesses that enfold the ST principles into the business's products and services. UNEP (2005) addressed that the lodging industry merely 1 of 10 properties takes part in environmentally friendly programs or green certifications to support the quality environmental and host communities. It seems that governments should play a significant role in driving all related enterprises to involve in sustainable tourism strategies.

#### **2.4.3 Hotel Sustainable Business Model (HSBM)**

With regard to sustainable development in tourism, a new business model has developed to response consent to the conceptual approach. The triple bottom line (TBL) was emerged by Elkington in 1998 to be a framework of planning, reporting, and decision-making processes of the firms. It is utilized as a reporting model for companies' performance controllers in economic, environmental, and social issues (Mihalič, Žabkar, & Cvelbar, 2012). A hotel sustainable business model (HSBM) is the innovative formulated tool that is applied for how the green of the hotel properties are in their mindfulness on the sustainable program in the different hotel categories. The concept of TBL is to generate the businesses' profits whilst maintaining good relationships with host habitats and conserving the planet earth (Cvelbar & Dwyer, 2013). In the report of UNWTO (2004), the implemented sustainable scheme in hotel firm is incorporated with the TBL model to develop a new model which specific for hotel business.

### 2.4.3.1 Conceptual of HSBM

Indeed, there are various created concepts for the enterprises in environmental awareness, and HSBM is one of them. To scope down to the hotel firm, it relates to the concept of sustainable tourism, so the HSBM model for a hotel is also developed based upon the TBL, SD and ST. The study of Mihalic proposed that to implement the model into the businesses, it is essential to enlarge the model to be a 3+3 sustainable model. The added requirements for the corporate firms are concluded customer satisfaction, environmental responsibility, and support, which can implement into sustainable tactics.

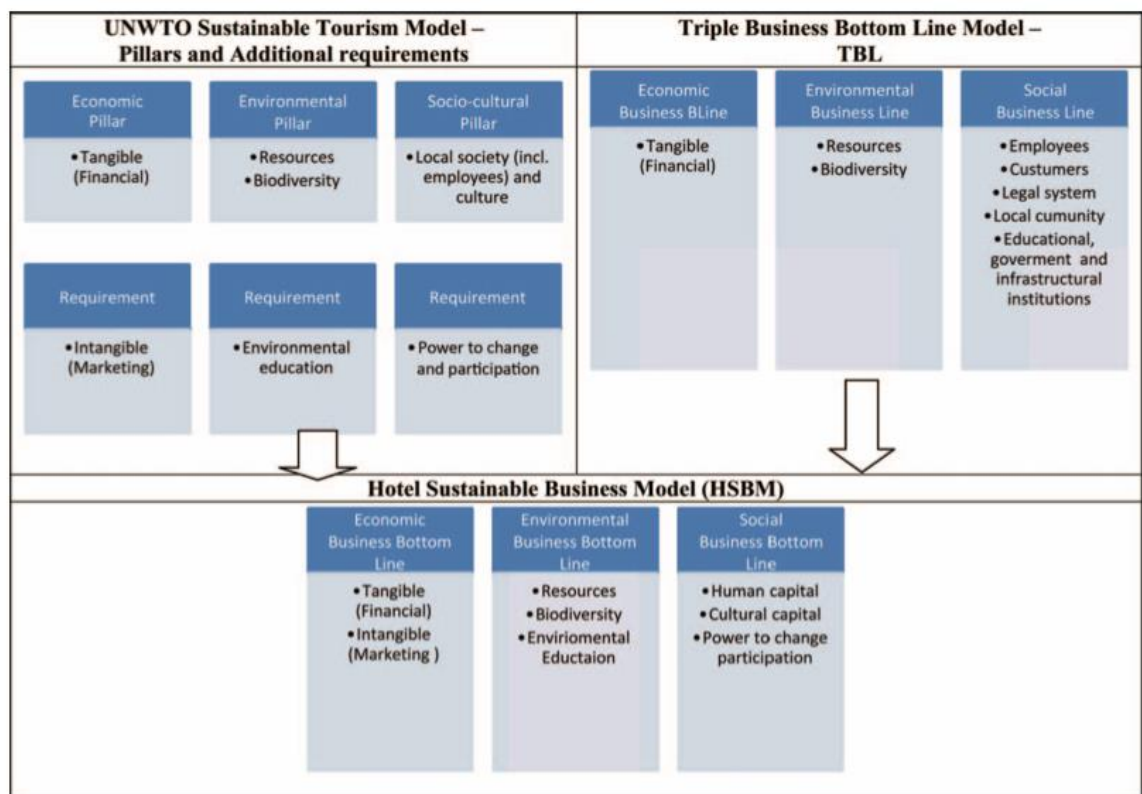


Figure 2.6: Conceptual of HSBM (Mihalič et al., 2012)

Figure 2.6 presents the critical pillars of sustainable development, the mentioned extended points, the TBL model, and the latest development of HSBM. HSBM increases the three innovation aspects of the existing models that are economic, environmental, and social business.

For the supplementary essentials, the financial and marketing points are placed in the economic business since companies' profits and customer satisfaction are accounted for as the competitiveness measurements, which lead to sustainable profits. Hunt and Morgan (1995) indicated that sustainable profits could be originated from enterprises' competitive advantage, quality, images, and fulfilling the customers' needs and preferences.

The education of the SD in the firms can provoke the thoughtfulness and the ethics of the environment. The environmental can be addressed through tourists educating and encouraging sustainable activities. Besides, sustainable knowledge and management can enhance the awareness of employees (Bohdanowicz, 2005; UNWTO, 2004).

The power of change and participation that are the indicators of HSBM. It counts on the human capital (staff), cultural capital (native culture), and relationships with host communities, organizations, and associations as the critical asset of any tourism sites that can be drivers to tourism development. Besides, the research of Mihalič et al. (2012) proposed the indicators to measure the green performances of hotel enterprises. There are 34 developed indexes that are divided into the key pillars of TBL and relevance sub-categories (Appendix B).

## **2.5 Green indicators for measuring the levels of the sustainable program in the hotel business**

The standards of green hotels' indicators in this paper are developed through the criteria of green certification schemes. With the overall review, the green indicators are analyzed from eco-friendly hotel certification programs, which categorized into three issues that are social, environmental, and economic dimensions. As the mentioned earlier, the keys areas of green praxis; firstly, the popular adopted areas are the efficiency of water, energy, and waste management.

On the one hand, it found that these three areas of eco-friendly programs are not enough for sustainability in the hotel. Various significant issues are behind the hotel operations, which can drive to the genuine environmental concern business and response to the criteria of sustainable development. The categorized table will be

presented in table 2.4, which is shown the number of related points of each green issue in different certification schemes.



Table 2.4:: Green indicators for sustainable practices in hotel business

(The explanations of green indicators can be found in appendix C)

Adopted areas for green performances	Social				Environment				Economic			
	GSTC	GS	LEED	GL	GSTC	GS	LEED	GL	GSTC	GS	LEED	GL
1. Energy efficiency	0	0	0	0	1	5	5	3	0	0	0	0
2. Waste management	0	0	0	0	2	6	2	4	0	0	0	0
3. Water reduction	0	0	0	0	1	5	1	4	0	0	0	0
4. Local participation and well-being improvement	8	0	0	0	2	0	0	2	0	0	0	0
5. Cultural and historical conservation	8	0	0	1	0	0	0	0	0	0	0	0
6. Pollutions mitigating and hazardous substances	0	0	1	2	3	1	4	1	0	0	0	0
7. Conserving biodiversity, ecosystems and landscapes	0	0	0	0	6	0	0	1	0	0	0	0
8. Buildings and infrastructure	5	0	0	0	2	0	3	0	0	0	0	0
9. Environmental and sustainable policies and management	0	0	0	1	2	1	0	2	3	1	0	1
10. Location and transportation	0	0	2	0	1	0	2	0	0	0	0	0
11. Green purchasing	0	0	0	0	1	3	0	0	0	0	0	0
12. Business model	0	0	0	0	0	0	0	0	2	0	0	1

The table above show the significant criteria and issues in sustainable activities which are accounted in green hotel properties. With the analyzed green indicators, once comparing between green and non-green hotel firms, it can help to identify which level of the hotels are. Moreover, it can utilize as guidelines for both properties to boost their potentials to be greener. In the meanwhile, it can benefit to other hotel hoteliers who intend to initiate in green hotel scheme.

## **2.6 The importance of the various studies**

As part of the related paper, various studies identify that participating in sustainable tourism is a challenge for the hotel industry. The going green is based upon the global trend in the environmental consciousness of the tourism and hospitality industries (Wang et al., 2018). With the image of the hotel firm as a service provider, it leads to a large amount of resources consumption to delight the customers, whether it be water, energy, food, and non-durable products. Hence, it is not surprising that the hotel industry can generate significant downside impacts on the environment (Reynolds, 2013). The analysis of EUHOFA, IH&RA, and UNEP in 2001 supported that the operations of hotel and tourism industry caused by the environmental issues such as water inadequacy in the limited freshwater areas, ozone layer ruining (HVAC system), land deterioration (location of the features) and air pollution (Mishra, 2016). The similarity to the research of Sourvinou and Filimonau (2018) viewed that environmental degradation by hotel firms are a considerable problem owing to their unceasing operational lifecycle.

With the increase in environmental concern, the transition to a green hotel is lead to the initiative in green schemes. The paper of Lee and Cheng (2018) addressed the traditional green praxis in hotel firms that originate with 3Rs (reduce, reuse, and recycle). It would seem that presently hoteliers are awakened to adopt and improve the environmental saving program. In comparison to the traditional green campaign, the green activities are widespread; 5Rs are adopted through gathering refuse and repair into the scheme. The practices are also developed to cover the critical areas of hotel properties, which are energy, water, and waste management. Even though

minding in green transition is driven by the mainstream and current trend, it can make a change to the environment (Reynolds, 2013).

However, a question is raised by various scholars whether this environmental responsibility is permanent, or whether it is temporarily introduced to exploit its benefits. Chen et al. (2019) stated that a green hotel could be sustainable as long as its employees are adequately educated. Promoting the efficiency in practices and measures, the hotel should have robust environment training methods and motivate the staff to have a common goal in environmental achievement. Moreover, the training can focus on maintaining consistency service quality without compromising environmental efficiency management. Thus, the ecological responsibility scheme can continue and be strengthened. Deraman et al. (2017) supported that some features have the intention of environmental responsibility. Although they engage fewer simple measures of the practice (reuse, reduce, and recycle), the primary methods carry out in the large scales. Thus, various hotels still employ an environmental program.

Conversely, Kirk (1998) and Geerts (2014) argued that the incentives of pursuing environmental initiatives, such as adding brand value, cost-saving, being the leader in the marketplace, and attracting more customers, are the main objectives of hoteliers. Thereby, all of these advantages are significant for the businesses, while the positive impacts on the environment are viewed as the bonus. Several hoteliers noted that the essential factor of becoming green is the cost-related issue. They are also afraid that the expenditure on environmental responsibility and maintenance will be augmented in the future. High cost for the program can lead to a decrease in profits, so many hotel owners relinquish the environmental efficiency program.

A lack of environmental knowledge and related policies in sustainable tourism development is also a leading cause of failure in green management in the properties. Moreover, the measures to evaluate the green hotels from each association are incompatible, and some properties pay to get a green certificate so that those hotels can meet the green qualifications effortlessly (Rahman et al., 2012). As a result, customers may doubt the state of being genuinely green. These issues can prove that green hotels cannot be achieved long-term (Pizam, 2009).



Customer behavior is one determinant that influences hotel businesses to abandon effective environmental management. With the high expectation of experiencing hotel services, environmentally friendly campaigns may not be significant for customers comparing to the spending cost for hotel rooms. Jauhari and Manaktola (2007) propped that a large number of hotel guests are unwilling to pay more for the room that is operated by green practices since it is not worth their prospection. Kasim (2007) told that even though the hotel can incorporate environmental management whilst maintaining the quality of services, they may worry that the eco-friendly scheme can be an obstacle for customers and service quality. It is evident that some hotels are achieved in green policies, but the guests may view that it is the procedure to reduce the cost (Baker et al., 2014). The study of Kirk (1998) indicated that it is the challenges for the owners to overcome without interrupting guests' satisfaction. The hotel is seen as a service provider, so many hotel owners choose to reserve the quality services and the green campaign out.

Furthermore, it seems that the issue of greenwashing is also essential (Lee & Cheng, 2018). The studies of Gabarda-Mallorquí et al. (2017) and Bohdanowicz (2006) had the common viewpoints that considering the benefits of being eco-friendly influences the transition of the business and attract the hoteliers to incorporate the green program. They adopt environmental management to establish an environmentally friendly image aiming to attract guests' attention. Miles and Covin (2000) propped that being a green hotel is a good alternative for eco-friendly tourists that is a stimulus of greenwashing. Thai research on green hotel concept also points out that even though the green practices are implemented in daily hotels' operations, they are unwilling to do the real action to revive the environment due to monetary concern (La et al., 2017). The study of Butler (2008) coincided that "green hotels can help to preserve the environment, but it hurts the business, so the green hotel transition is a problematic issue for hotel owners.

However, greenwashing can lead to a decline in the purchase and customers' trust (Chan & Wong, 2012). Attracted to green policies, eco-conscious customers hold a high expectation to experience and participate in green practices. If the hotels cannot deliver or practice a misleading claim, it can result in a reduction of trust in the business, which is crucial to brand loyalty. This negative impression can spread

quickly among potential customers, leading to more obstacles for hotel development in the future (Lee & Cheng, 2018).

Regarding the above academic studies in the probability of operating green hotels sustainably, Pizam (2009) addressed in the paper Green hotels: a fad, ploy, or a fact of life? that “in the middle and long-term future of the hotel industry, it is my personal belief that...like most other businesses (hotels) will have no other choice but to become "real green." As the light of the above, there is a small number of researches to discuss sustainable in a green hotel. Especially in Thailand, the eco-friendly hotel is implemented into the development plan and hotel certification program.

However, the studies of green hotel practices are not be varied. There is the study of Consortium (1998) investigated the improvement of Thai hotels in environmental activities. Khunon and Muangasame (2013) compared the management of CSR programs in both international hotel chains and independent Thai owners. On the one hand, it would seem that the paper did not mention the green performance of the Thai hotel industry truly employment. The research of Dusit Thani College, it emphasized on the benefits of the hotel whilst adopting green marketing concept (La et al., 2017). The research “How green are our hotels? Evidence from Thailand” Mishra (2016) collected the data in different stars of hotels in Bangkok Thailand to identify the environmental practices in those properties. The paper discovered that the environmental program is still overlooked the environmental management in properties. The key driver of green embracing is emphasized on cost-saving, so it is vital that the research on how the green of hotel in Thailand should be extended.

According to the aim of this paper, it emphasizes on identifying the potentials and challenges to make the green hotel transformation and permanent whilst maintaining the standard of services. Supporting green hotel firms through incentives can be another tool to promote transition. Hence, it can be beneficial as hotel principle guidelines for private and government sectors. This paper does not merely concern the responsible environmental program in a green hotel, but it also emboldens the incorporation of other commercial hotels in whole levels and scales. It is necessary that this study can fulfill the gap of Thai research in particular issues to encourage

green program employment and lessen the crucial obstacles of the green transformation of the Thailand hotel industry.

## **2.7 Conceptual Research Framework**

The purposes of this study are to explore the challenges and potentials of the hotel enterprise in environmentally friendly. Besides, to examine the perception of hotel practitioners and stakeholders toward the growth of green hotels in Thailand. It also leads to be the benefit of Thailand green certification for hotel businesses to add some essentials indicators that can help to boost the efficiency of green hotel transition.

In this paper, the standard green indicators are analyzed the crucial criteria through reviewing several green certification schemes both from international and national levels. The standard indicators also relate to two main concepts that are sustainable tourism (ST) and Hotel Sustainable Business Model (HSBM). The indicators will be established as a standard index is brought to compare to a selected green hotel in Krabi (study area), which labeled by the Green Globe certification program. The benchmarking approach can use to analyze some missing some significant criteria, including green practices in the hotel property. The result from comparing standard indicators and the green hotel will raise to correlate with the green certification program of Thailand to see the potentials to develop the Thai green indicators. Moreover, the data from the hotel business's stakeholders is applied to analyze the challenges and capabilities of the green hotel since the intense level of green practices in the hotel firm depends upon the perception of customers. The interview of government agencies and other commercial hotels are utilized as the viewpoints of the possibility to improve green criteria in our country.

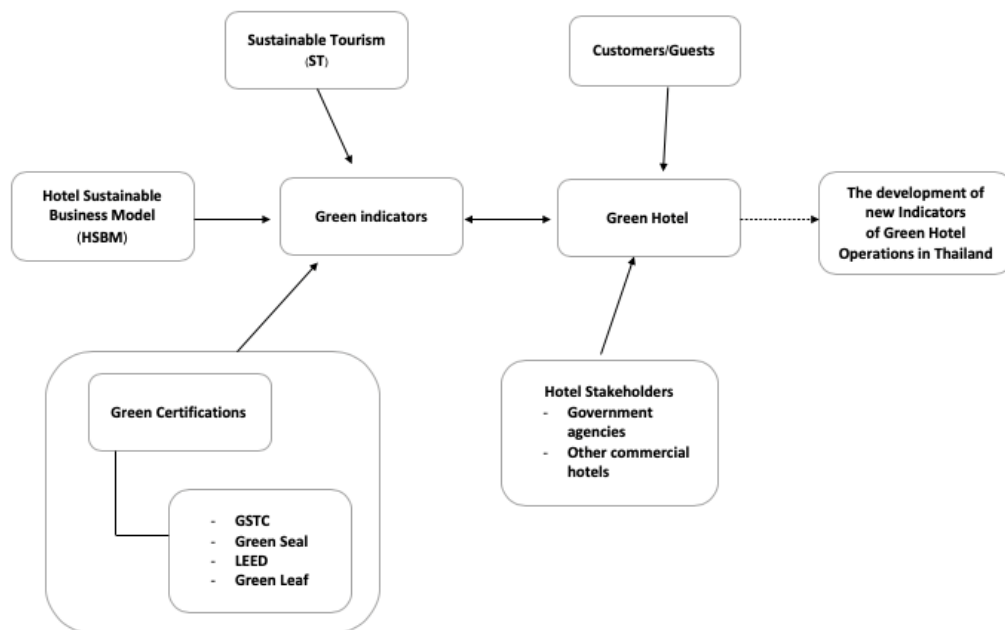


Figure 2.7: The conceptual framework to study the perceptions and challenges to become a green hotel



## **CHAPTER III**

### **RESEARCH METHODOLOGY**

#### **3.1 Study Area**

Two hotels were selected for this study. One is a green hotel in Krabi province, another is a non-green hotel in Bangkok as a benchmark for green hotel activity implementation.

The research field was selected in a green hotel in Ao-Nang beach at Krabi, Thailand. The study areas firstly, the site selection scoped down on the tourism province of Thailand. Krabi considered as one of the renowned tourist destinations for both domestic and international travelers. Besides, Ao-Nang is the prime area of Krabi province that surrounds by fertile natural resources and large numbers of hotels in every type. The study area as a green hotel property had to be legal; in particular, the selecting green hotel had to be approved by a green certification scheme and in the small or medium scales hotel firm.

For this paper, the green hotel was selected based upon the determined criteria for a green hotel by these following points:

#### **Green Hotel**

- Acquiring the green certify
- Non-chain affiliated hotel
- Small or Medium hotel sizes

To follow the scope of the study, the green hotel of this paper was selected through the green globe certification program. It found that there were the numerous of hotels in Krabi that got the green label certified in both Thai and International levels green certifications. With the scopes of the study, the paper emphasized to study on non-chain hotel since it showed that green awareness and practices could be initiated by the individual intention and in every star rating of hotels.

In Thailand, there were eight hotels certified by green globe organization as the names shown below:

- ANANA Ecological Resort, Krabi
- Club Med Phuket

- Mövenpick Resort & Spa Karon Beach Phuket
- Mövenpick Resort Bangtao Beach Phuket
- Mövenpick Asara Resort & Spa Hua Hin
- Pimalai Resort & Spa
- The Shore at Katathani
- Katathani Phuket Beach Resort

Regarding the hotels listed above, it would seem that there are the Green Globe certification program stamps small numbers of hotels. Apart from that, most of the hotel properties were chain-affiliated hotels. Conversely, ANANA Ecological Resort, Krabi was a brand-new building hotel that received the green certify by the Green Globe certification program. With the intention of the owner to structure and run a green hotel business, the hotel shined its potentials to receive the green hotel certify within almost one year of hotel operation. They also continued developing green practices, policies and plans to improve the green program and achieve a higher level of certification scheme of the green globe. All those mentioned above came to answer why the hotel case study was ANANA Ecological Krabi.



Figure 3.1: Map of Krabi province and ANANA Ecological Resort's location (shown in red star)

In terms of non-green hotel selection, Sivatel Bangkok was the potential case study of the non-green property. According to the renowned tourist destination of Bangkok, it was selected for another case study. Bangkok is the capital of Thailand and is a famous city for tourists. The city was one of the top ranks of the world's most popular tourist destinations in 2019 (Talty Alexandra, 2019). The town is renowned for its spectacular historical sites, beautiful architecture, museums, street food, and Thai massage. With the characteristic of the central city, it is full of numerous all types and sizes of hotels. Therefore, identifying non-green property with environmental activities implementation is a challenge of this study. At the aims of non-green hotel selection, Sivatel Bangkok hotel was followed all required criteria in particular green practices and management, so it was opted as a successful case study of the non-green hotel.



Figure 3.2: Map of Bangkok and Sivatel Bangkok's location (the red star)

Considering of non-green hotel selection process had to be under the similar criteria of green hotel selection. The considering criteria of case study selection were shown below:

- Hotel size (small or medium hotel sizes)
- Star-rating

- Non-chain hotel
- Non-chain affiliated hotel
- Not acquiring the green certify
- Green environmental activity commitment

The criteria of site selection were considered from the hotel size, facilities, star rating, and a number of rooms which are regarding to the description of different hotel categories by TAT, the study areas were accounted into the small scales of four stars properties. Pivcevic indicated that small hotels were one of the crucial drivers of in hotel industry since small size hotels provide the flexibility of services and high market share. Comparing to the big features or chain hotels, small properties could offer a personal touch of customers with the homely atmosphere (Radwan, Jones, & Minoli, 2012). Deraman et al. (2017) also addressed that small feature could be achieved in the environmentally friendly measures; in the event that the steps were engaged the properties thoroughly. The intention in the environmental awareness program was also the critical factor of the field selection.

Table 3.1: The description of the hotel star rating (Mishra, 2016)

Star	Description
One	This hotel is for the budget traveller. It is expected to be clean, basic accommodation, with no frills.
Two	They are best described as limited-service hotels. Accommodations are basic and clean while some business services may be offered. The rooms usually include a private bath, telephone and TV.
Three	It emphasizes style, comfort and service. The tourist may expect to find on-site dining, a swimming pool, conference rooms and business services. Some will have fitness centres and gift shops.
Four	Tourists expect a fine-dining restaurant, bar/lounge, up-to-date technology services, full amenities and detail to style and comfort.
Five	They offer the finest luxury appointments. Superlative service and style are a must. Architecture and design are of the greatest importance as in the finest in furnishings and abundance of space. Expect tennis courts, pools, fine-dining options and more.

### 3.2 Data Collection

The mixed methods were employed for data collection. The research focused on a green hotel and a commercial hotel under a similar star rating and size. In order to collect the data, the applied methods would be shown below.



Qualitative method was applied to both hotel properties and government agencies through the activities below:

- **Desk study:** Documentary research was one method of this paper. All reviewing content of information, green certification indicators, academic papers, articles, book sections, and organizations 'official reports were done in the process of the desk
- **Field observation:** It was a primary method to understand the current situations of the places to access real data. Besides, this procedure could lead to an understanding of more information about the selected hotels such as eco-friendly practices, hotel atmosphere, staff training, and hotel guests. Field observation of both green and non-green hotels were two times visiting. The visits to the green hotel were during 30-1 August 2019 and 6-10 October 2020. In terms of the non-green hotel, the hotel inspections were on 10 September 2019 and 20 October 2020.
- **In-depth interview:** The in-depth interview was the analytical instrument for acquiring the data. The target group of the interviewees was elected through purposive sampling, which based upon the research objective and reaching the criteria of the target respondents. This kind of method was widely used since the cost is not high, and the researcher can access insight into the data of the recruited interviewees. Therefore, the outcome of the data was within the selected sample (Acharya, Prakash, Saxena, & Nigam, 2013). The in-depth interview process focused on the green hotel's practitioners of green and non-green properties. The in-depth interview approach was employed for ten persons (hotel owner, manager, and staff of all areas) of the green hotel and three persons (hotel owner and staff) of the non-green hotel. This method was also adopted for data collection in terms of a governmental agency (1 person) both the Thai and English languages, to study their perceptions toward the green transformation of the hotel industry.

**Question issues can be divided into several significant areas:**

- Green performance of the properties
- Green management and monitoring process
- Factors to drive a green transition

- Barriers to being a green hotel
  - The participants' viewpoints of green scheme initiation
- **Semi-structured interviews:** This method is utilized for data collection of a government agency that was the Department of Environmental Quality Promotion, as well as green and non-green properties. The questions aimed to define the green hotel supportive and development plan of a green hotel. Gill, Stewart, Treasure, and Chadwick (2008) stated that semi-structured was a flexible approach that could receive information through the prepared questions. At the same time, the interviewees could express their ideas and perspectives to answer questions that were useful for this research.

The quantitative approach was selected to collect the data of hotel customers by using online self-respond questionnaires.

- **Self-respond questionnaires:** The questionnaire was distributed to guests/customers in both Thai and foreigners. The respondents were in the different ages, educations, nationalities, and environmental awareness behavior. Hence, it leads to different viewpoints toward the environmental practices and policies in the hotel business are remarkable. The questionnaire was placed through the online channels to receive a variety of participants. The duration time of data collection will be one month (July), so the numbers of respondents are based upon a period with unlimited numbers of the respondents.

**The participants were under two qualifications of the study:**

- Green awareness was one priority of customers that will be classified by the questionnaires.
- The interviewees visited Krabi at least once
- The ages needed to be 18 years old and above

Table 3.2: The table of research methods and population

No.	Objectives	Population	Methods
1.	To identify the key burdens and challenges of environmental commitment in the business by studying the perception of hotels' practitioners and hotel stakeholders to become permanent green hotels' feature	<ul style="list-style-type: none"> <li>• Green hotel (10)<sup>i</sup></li> <li>• Non-green hotel (3)</li> <li>• Governmental agency (1)</li> </ul> <ul style="list-style-type: none"> <li>• Thai travelers (122)</li> <li>• Foreign travelers (70)</li> </ul>	<ul style="list-style-type: none"> <li>Field observation</li> <li>In-depth interview</li> </ul> <ul style="list-style-type: none"> <li>Self-respond questionnaires</li> </ul>
2.	To propose the recommendations for green hotel operations and certification scheme in Thailand	<ul style="list-style-type: none"> <li>• Green hotel (10)</li> <li>• Non-green hotel (3)</li> <li>• Governmental agency (1)</li> </ul>	<ul style="list-style-type: none"> <li>Field observation</li> <li>In-depth interview</li> </ul>

### 3.3 Data Analysis

To identify the key burdens and challenges of environmental commitment in the business as well as the recommendations for Thai certification of green hotel, the data was collected through qualitative approach. In order to analyze the gathered data, the content analysis method was applied to interpret the data. The coding chart was created to answer the central questions of the study and the related concepts.

Moreover, the online self-respond questionnaire forms for Thai and Non-Thai tourists to explore their perspectives toward green practices and green hotel transition. The questionnaires consist of 10 issues which were into two sections, mainly highlighted on general data of respondents and travelers' experiences with green hotels (Appendix D). All the collect self-respond forms analyzed through descriptive statistics. The relationship between travelers' perspectives and green hotel attributes analyzed and synthesized by the Chi-square approach. The results from respondents would be applied to categorize the groups of customers by the concept of green

<sup>i</sup> The numbers in parentheses show amount of the study population.

customer segmentation. It was also considered as one key driver of green practices in hotel enterprises.

In terms of hotel benchmarking, the green index was analyzed from the signification of several green certification criteria and considered as a green standard of this study. The standard was carried to compare with the substrate green index of hotel case study point by point through the in-dept interview of hotel managers and staff. Benchmarking data will be arranged into a table; the gap of the green hotel practices and green standard will be an occurrence. Comparing data was unitized to examine the missing issues of Thailand's green indicators in the hotel industry. Furthermore, the interview of conventional hotels in which interest in green programs will be studied about hotel practitioners' perception. Therefore, it led to the process of evolving Thailand's green hotel certification standard through government agencies' interviews and discussion for further policy suggestions.

The hotels' owners interview result was analyzed as a SWOT analysis of the study of perspectives and Challenges of Green Hotel Operations in Thailand. Consequently, the research could fill the gap to encourage the enlarging of the green hotels in Thailand. Moreover, it could be utilized to study key burdens of the green transition, and it can lead to developing environmentally friendly hotel policy recommendations and support. Thus, the paper's result would be a response to the aim of this works to boost the green transition of the hotel business and strengthen the Thailand green indicator for the hotel industry to remedy the downside impacts on the environment.

## CHAPTER IV

### RESULTS

#### 4.1 Environmental–friendly attributes of hotel properties

According to the selected hotels with green practices, this topic shows the general information of hotels and the areas of green practices implementation.

##### 4.1.1 ANANA Ecological Resort, Krabi (Hotel A)

ANANA ECOLOGICAL RESORT is an eco-sustainable and ecological resort in Ao Nang district, Krabi province, Thailand. The hotel offers guests experiences in delighted eco-friendly products and services to reconnect with nature and sustainable excursion experiences (Appendix D).

##### Goal

ANANA seeks to provide guests with an experience close to nature and show respect for the environment we live in at Ao Nang, Krabi. The hotel is intentional with the foods we consume, the products we purchase, and the “Thailand experience” provided to all guests. The property is a Green Globe Certified resort where they strive to reduce environmental impact and allow guests to be surrounded by the idyllic landscapes and limestone cliffs.

##### Room information

ANANA is a 6-level resort occupying only 400 sqm of nature with 59 studios with Thai charm and heritage. The hotel offers four room types with different room features, as shown below:

- Thai studio
- Family and friends
- Spa studio
- Spa suite

## Ecological Commitments

The hotel prides itself on environmental commitment and eco-sustainability. They believe that this ongoing engagement ensures that the hotel operates sustainably as possible, providing the best eco-experience for guests without harming the environment.

- **Green Globes is the highest standard for sustainability worldwide**

Green Globe International Standard for Sustainable Tourism is the original standard that all tourism eco-labels are based on. ANANA is one of only eight in Thailand with the certification. “So, if you want to do the very best for the planet, you need to meet the very best standard there is for sustainable tourism,” stated the hotel owner.



Figure 4.1: The green hotel certified by Green Globe Certification

- **Saving resources in the rooms**

- Sustainable bathroom amenities and removal of all single-use plastics
- All lightbulbs are high efficiency
- The modern “whisper quiet” aircon systems are 40% more energy efficient than the industry standard.
- All windows are tinted and insulated following low-energy building standards to save more energy.

- All showerheads and water taps are equipped with water-saving aerators that save up to 50% water usage.



Figure 4.2: Saving resources in the rooms through aircon, electricity and water efficiency systems

- **Giving back to nature**

- The industry emitted carbon footprint for comparable properties in Thailand average at 323,086.00 kg of CO<sub>2</sub>. ANANA emitted merely 72% of this amount in the first year.
- Energy use intensity of 101.6 KWh/m<sup>2</sup>/year. This amount ranks in the top tier of the most efficient properties in Thailand, following the Thai Department of Alternative Energy Development and Efficiency regulations.
- The hotel monthly measures water consumption in average daily water usage per room night. Thus, it helps the hotel reflecting and understanding water consumption depending on occupancy. Throughout the hotel opening year in 2019, it reduced 50% of water consumption from opening to the end of year form using the water database at hand.



Figure 4.3: The design's direction to enhance energy efficiency

- **Waste is never wasted**

- Food waste is on-site composted and used in the hotel's organic farm.
- In-room amenities are entirely plastic-free, and the materials are either biodegradable or recycled by the housekeeping team.
- Toothbrushes and combs are made from bamboo, and cotton buds are made from sustainable woods. Straws are only served where necessary and made with paper.
- Paper in the office is avoided as possible. The hotel gives reusable containers to all grocery suppliers to avoid cartons, plastic bags, and crates on delivery.
- Waste is recorded in all hotel departments to identify areas where garbage can be most easily saved.

- **The organic farm**

- Up to 60 mostly edible indigenous plant species. These plants produced 5kgs of fresh herbs, fruits, vegetables, and 5-10 fresh pineapples daily. This harvest's help covered approximately 80% of the groceries used in the central kitchen.
- The surplus of plants' productions is distributed to staff and the community.
- In 2019, the gardens sequestered approximately 1,700 kgs of CO<sub>2</sub> per year, equivalent to the CO<sub>2</sub> emissions of 142 guest nights. The gardens also contributed to additional CO<sub>2</sub> saving by reducing carbon emissions to deliver vegetables and avoiding chemicals.





Figure 4.4: The hotel's organic farm with chemical free

- **Guests educate on green attributes**

- Education is essential, and guests can learn about the implemented green practices from provided hotel guidebooks in all guest rooms. Moreover, guests can harvest their pineapples for shakes at the hotel café as the hotel's philosophy "farm to table."

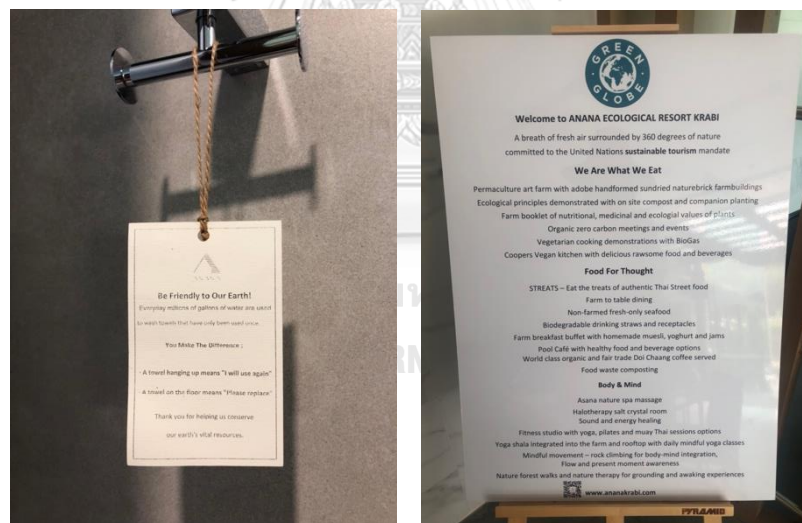


Figure 4.5: Green practices information for hotel guests

#### **4.1.2 Sivatel, Bangkok (Hotel B)**

Sivatel Bangkok is a sustainable boutique hotel that is in the prime business and shopping areas. It takes only 5 - minute walk to the Ploen Chit BTS sky train station. The hotel offers its distinctive brand of modern Thai hospitality to leisure and business travelers, ensuring the best kind of experience of the hotel's products, services, and the downtown city (Appendix E).

#### **Goal**

Sivatel Bangkok aims to be a sustainable boutique hotel in Bangkok. The hotel does not merely initiate in preserving the environment, but it also selects organic and natural products and ingredients to reduce the impacts on the environment. The hotel provides freshly, no-chemical and eco-friendly products and services to guests and supports local communities in supporting and promoting their organic products. According to the role of the hotel business in greenhouse gas emission and environmental degradation, the hotel wants to be a part of protecting the planet to be better.

#### **Room information**

The hotel provides 75 cozy suites with smart and modern amenities as follows:

- Jasmine
- Champa suite
- Rosselle suite
- Chaba honeymoon suite
- Chrysanthemum suite two bedroom
- Orchid duplex suite two bedroom
- Grand royal duplex two-bedroom

#### **Ecological Commitments**

The hotel commits to the environmental practices embracing and communities supporting.

- **Sustainability policy**

The hotel holds the concept of "Happy Hotel Happy Workplace" for delivering happiness to guests, staff, and local communities through engaging sustainable policies.

- Encourage and inspire staff to participate in environmental preservation, waste management, and support community enterprises.
- Set plans and goals on the energy efficiency yearly to continually.
- Focus on waste reduction in the hotel, such as wet waste, recycle waste, and food waste through the entire system of waste management.
- Consume and support eco-friendly products and ingredients from local communities, mainly organic and natural products, to better employees' and guests' health.

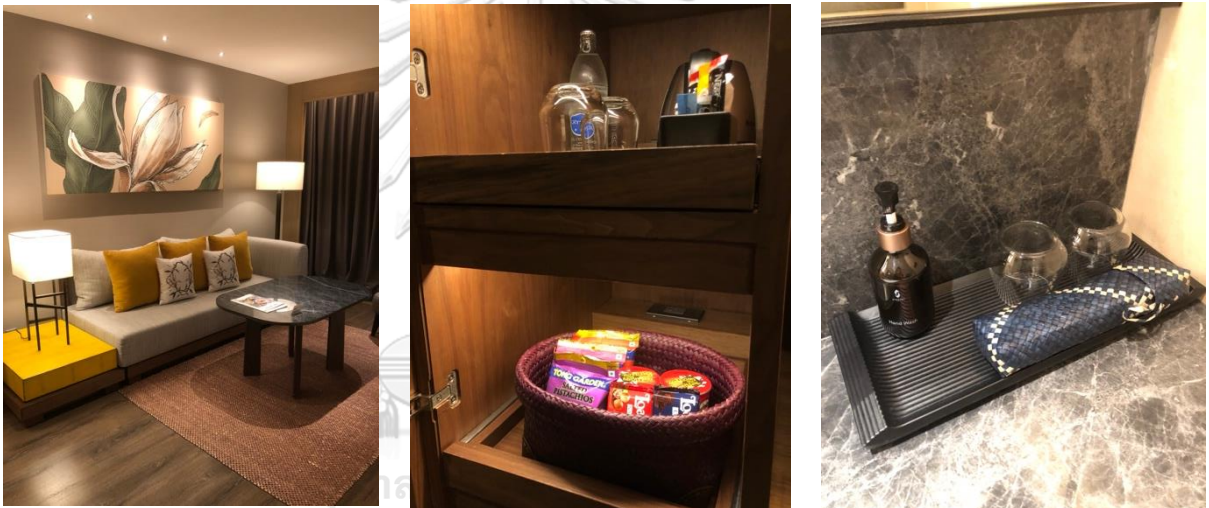


Figure 4.6: In rooms eco-friendly products by supporting local communities

- **Waste Bank Project**

The hotel concerns effective waste management by organizing a waste bank project to separate waste into specific categories. The hotel also coordinates to with local communities for waste selling.

- **Carbon Footprint**

It also was Thailand's First Carbon Neutral Hotel and certified by Thailand Greenhouse Gas Management Organization. The hotel contributed a CO<sub>2</sub> emission total of 2,379 tons in 2017. The hotel initiates carbon footprint reduction for reducing

fuel consumption and greenhouse gas emission. However, it is continually taking action to offset CO<sub>2</sub> emission to "Zero" (Carbon Neutral).

- **Organic Farming**

To lessen the downside impacts on the environment, the hotel encourages staff to grow fresh vegetables to offer non-chemical vegetables to its restaurants. Apart from reducing the environmental impacts, it also distributes the income to staff and property.

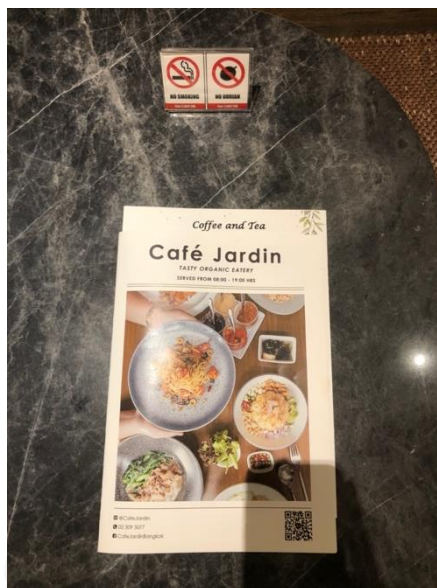


Figure 4.7: The hotel menu with organic ingredients



Adopted areas for green performances	Social				Environment				Economic			
	GSTC	GS	LEED	GL	GSTC	GS	LEED	GL	GSTC	GS	LEED	GL
<b>6.Pollutions mitigating and hazardous substances</b>	0	0	1	2	3	1	4	1	0	0	0	0
Hotel A	0	0	1	2	3	1	4	1	0	0	0	0
Hotel B	0	0	0	2	3	1	2	1	0	0	0	0
<b>7.Conserving biodiversity, ecosystems and landscapes</b>	0	0	0	0	6	0	0	1	0	0	0	0
Hotel A	0	0	0	0	6	0	0	1	0	0	0	0
Hotel B	0	0	0	0	3	0	0	1	0	0	0	0
<b>8.Buildings and infrastructure</b>	5	0	0	0	2	0	3	0	0	0	0	0
Hotel A	5	0	0	0	2	0	3	0	0	0	0	0
Hotel B	4	0	0	0	2	0	3	0	0	0	0	0
<b>9.Environmental and sustainable policies and management</b>	0	0	0	1	2	1	0	2	3	1	0	1
Hotel A	0	0	0	1	2	1	0	2	3	1	0	1
Hotel B	0	0	0	1	2	1	0	2	3	1	0	1
<b>10.Location and transportation</b>	0	0	2	0	1	0	2	0	0	0	0	0
Hotel A	0	0	2	0	1	0	2	0	0	0	0	0
Hotel B	0	0	2	0	1	0	1	0	0	0	0	0
<b>11.Green purchasing</b>	0	0	0	0	1	3	0	0	0	0	0	0
Hotel A	0	0	0	0	1	3	0	0	0	0	0	0
Hotel B	0	0	0	0	1	3	0	0	0	0	0	0
<b>12.Business model</b>	0	0	0	0	0	0	0	0	2	0	0	1
Hotel A	0	0	0	0	0	0	0	0	2	0	0	1
Hotel B	0	0	0	0	0	0	0	0	2	0	0	1

Table 4.1 was carried over from the green indicators' analysis in chapter 2 (shown in Table 2.4), and it found that Hotel B was missed only some indicators of green implementations in these specific areas as presented in Table 4.2.

Table 4.2: Green activities gap of the selected commercial hotel (Hotel B)

<b>Green management areas</b>	<b>Social</b>	<b>Environment</b>	<b>Economic</b>
<b>1. Energy efficiency</b>		<p><b>Green Seal</b> Installing climate and lighting control (sensor system) for lighting and HVAC</p> <p><b>Green Leaf Certification</b> Installing technology or energy saving devices that are suitable to the property size and scale</p> <p><b>LEED</b> Advance energy metering</p>	
<b>2. Waste management</b>		<p><b>Green Seal</b> Initiating in composting scheme from food and yard waste</p> <p>Donating leftover food to local habitants or food bank</p>	
<b>3. Water reduction</b>		<p><b>Green Leaf Certification</b> Installing water saving devices or technology in the property and creating efficiency water consumption policy</p>	
<b>4. Local participation and well-being improvement</b>		<p><b>Global Sustainable Tourism</b> Preserving local subsistence, nature resources, and reducing the affected impacts</p>	

<b>Green management areas</b>	<b>Social</b>	<b>Environment</b>	<b>Economic</b>
<b>6.Pollutions mitigating and hazardous substances</b>	<b>LEED</b> Encouraging an employee to walk or bike for lessening gas emissions	<b>LEED</b> Indoor air quality assessment	
<b>7.Conserving biodiversity, ecosystems, and landscapes</b>		<b>Global Sustainable Tourism</b> Responsibly managing and interaction with wildlife  Compliance with animal welfare  No harvesting, trading, consuming and displaying the wildlife species expect the law permission	
<b>8.Buildings and infrastructure</b>	<b>Global Sustainable Tourism</b> Preserve the natural, cultural, landscape and heritage areas of local community		
<b>10.Location and transportation</b>		<b>LEED</b> Reducing parking footprint by providing bicycle facilities i.e. bicycle lane and parking space	

The criteria above show the missing green practices in property B (non-green hotel) in detail that is in 8 areas. The in-depth interview data found that the hotel property is not a new building, so it might be challenging to install advanced technology for energy and water consumption efficiency. However, the hotel owner does not overlook these high consumption areas, so the green practices and the suitable system are embraced to the entire property.

In terms of adopting green practices, it is essential to consider the context and potentials of the property, such as the hotel's location, attributes, and staff. Thus, pollutant mitigation and all cultural preservations are not aligned with its location in downtown Bangkok. The owner adopted the alternative green strategies instead



regarding the hotel's capability and potential. For example, the hotel did not embrace the preservation of the cultural area and local community. Nevertheless, the property chose to preserve the culture by Thai decoration attributes. Highlighting the local community, they support many communities by purchasing local and natural ingredients and products to use in all property. Therefore, green practices can be implemented and adjust to harmonize with the hotel's context to enhance its performance and draw out its natural strengths.

### 4.3 Tourist behaviors toward green hotel selection

This study gathered the data from both Thai and foreign travelers about their green hotel selection processes and travel experiences that were shown in the tables below.

Table 4.3: Demographic profile of Thai and Non-Thai travelers

Demographic of Thai tourists	Numbers of Thai tourists	%	Numbers of Non-Thai tourists	%
<b>The experience of Krabi province visiting</b>				
Yes	89	72.95	39	55.71
No	33	27.05	31	44.29
<b>Total</b>	<b>122</b>	<b>100.00</b>	<b>70</b>	<b>100.00</b>
<b>Gender</b>				
Male	21	17.21	33	47.14
Female	101	82.79	37	52.86
<b>Total</b>	<b>122</b>	<b>100.00</b>	<b>70</b>	<b>100.00</b>
<b>Income</b>				
Less than 10,000 Baht per month	8	6.56	6	8.57
10,000 – 30,000 Baht	57	46.72	17	24.29
30,001 - 50,000 Baht	39	31.97	20	28.57
50,001 - 70,000 Baht	11	9.02	5	7.14
70,001 - 90,000 Baht	3	2.46	4	5.71
90,001 - 100,000 Baht	1	.82	3	4.29
100,001 - 200,000 Baht	3	2.46	7	10.00
More than 200,001 Baht	-	-	8	11.43
<b>Total</b>	<b>122</b>	<b>100.00</b>	<b>70</b>	<b>100.00</b>
<b>Age</b>				
Less than 18 years old	-	-	-	-
18 – 25	6	4.92	7	10.00
26 – 35	80	65.57	29	41.43
36 – 45	27	22.13	25	35.71
46 – 55	4	3.28	7	10.00
56 – 65	5	4.10	-	-

Demographic of Thai tourists	Numbers of Thai tourists	%	Numbers of Non-Thai tourists	%
More than 65 years old	6	4.92	2	2.86
<b>Total</b>	<b>122</b>	<b>100.00</b>	<b>70</b>	<b>100.00</b>
<b>Education</b>				
High school	2	1.64	-	-
Diploma	1	.82	1	1.43
Bachelor's degree	80	65.57	22	31.43
Master's degree	37	30.33	40	57.14
Ph.D. degree	2	1.64	7	10.00
<b>Total</b>	<b>122</b>	<b>100.00</b>	<b>70</b>	<b>100.00</b>
<b>Occupation</b>				
Unemployed	8	6.56	9	12.86
Student	6	4.92	7	10.00
Full time employment	89	72.95	40	57.14
Part-time employee	-	-	3	4.29
Self-employment	19	15.57	11	15.71
<b>Total</b>	<b>122</b>	<b>100.00</b>	<b>70</b>	<b>100.00</b>
<b>Travel frequency (times per year)</b>				
1	6	4.92	5	7.14
2	21	17.21	11	15.71
3	28	22.95	18	25.71
4	15	12.30	6	8.57
5	25	20.49	5	7.14
6	6	4.92	4	5.71
7	-	-	1	1.43
8	4	3.28	1	1.43
9	-	-	1	1.43
10	12	9.84	8	11.43
11	1	.82	-	-
12	-	-	4	5.71
15	3	2.46	3	4.29
20	1	.82	2	2.86
21	-	-	1	1.43
<b>Total</b>	<b>122</b>	<b>100.00</b>	<b>70</b>	<b>100.00</b>

The demographic breakdown following Table 4.3 sorted out by the experiences of Krabi province visiting found that the bulk of Thai tourists, 72.95 percent, have been to Krabi, and 27.05 percent never been there before.

With the gender category, most respondents were female, 82.79 percent, and male 12.21 percent. Most of the Thai tourists' income, 46.72 percent, was averaged at 30,000 Baht per month or less. Of the sample, more than half, 65.57 percent were aged at 26-35, 22.13 percent were 36-45, and only 3.28 percent were 46-55, respectively. Categorized by education levels, 65.57 percent acquired a master's degree, 30.33 percent had a bachelors' degree, and 0.82 percent of diploma obtaining.

Primarily of Thai respondents' 72.95 percent were full-time employees and the minuscule numbers were students, merely 4.92 percent. The average travel frequency was found three times per year 22.95 percent, five times per year 20.49 percent, and the maximum rates at 20 times per year only shown at 0.82 percent.

Scoping on foreign travelers' side, the data analysis was female, 52.86 percent, and male, 47.14 percent. Over half, 55.71 percent, experienced Krabi, and 44.29 percent have never been there.

The breakdown into the tourists' income, 28.57 percent earned (30,000 – 50,000 Baht per month), 24.29 percent (30,000 Baht and less), and 4.29 percent gained 90,001 Baht and above. Nearly half of all respondents aged 41.43 percent were at 26-35 years old, 35.71 percent were 36-45, and only 2.86 percent were above 65 years old. In terms of education levels, most of them, 57.14 percent, graduated with master's degree, 31.43 percent of bachelor's degree, and 1.43 percent diploma. Grouping by occupation, the majority were full-time staff, 57.14 percent, 15.71 percent were self-employment, and 4.29 percent were the part-time employee. The travel frequency, the averaged rated were at three times per year 25.71 percent, two times per year 15.71 percent, and the equal rates at 1.43 percent of 7,8,9 and 21 times per year in order.

#### **4.3.1 The perspectives toward green hotel attributes**

In terms of the green hotel similarity of both types of travelers, 47.54 percent of Thai tourists were not well known about the green hotel, 40.98 percent were familiar, and 11.48 percent were unsure (from the total of 122 Thai participants, shown in Table 4.4). Compared to the foreign tourists' survey, in a total of 70 participants, 42.86 percent were familiar with the green hotel, 40 percent were not familiar, and 17.14 percent were uncertain (shown in Figure 4.8).

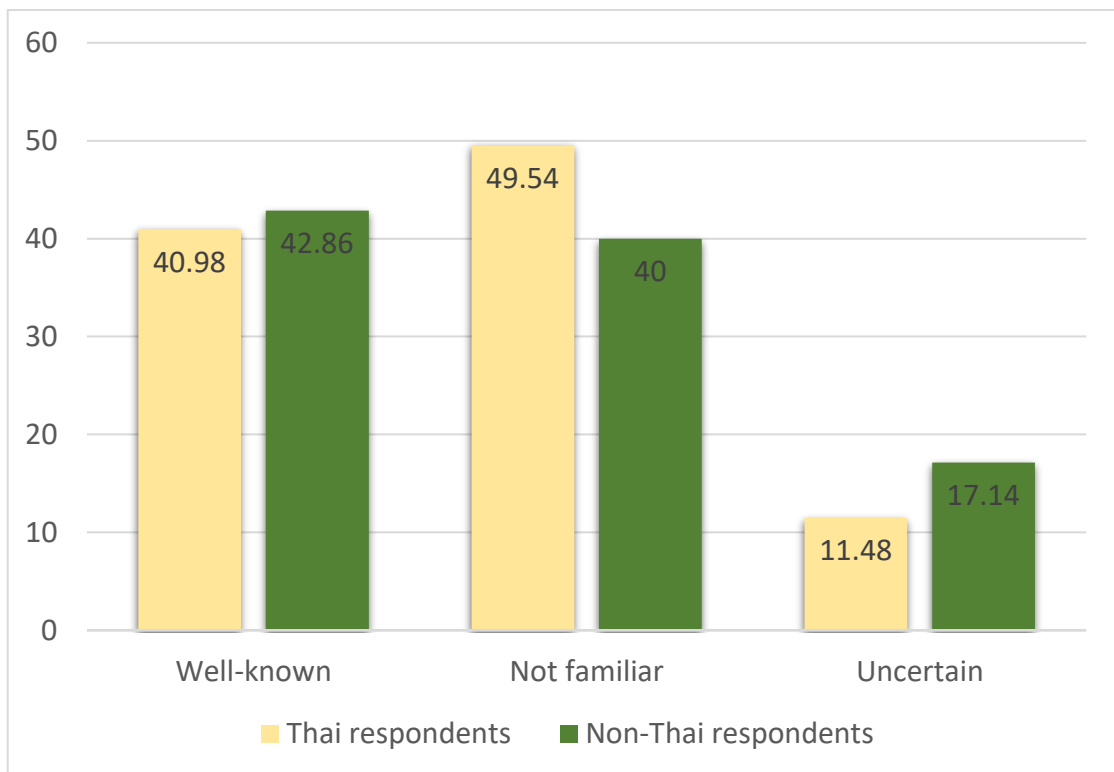


Figure 4.8: Green hotel similarity of Thai and foreign tourists

With the tourists' perspectives on a green hotel and environmental protection, most tourists agree on the same page that green hotels can help to protect the environment are up to 53.28 percent for Thai and 40 percent for foreign travelers. Moreover, some groups of tourists strongly agree on the environmental protection by green hotel attributes at 25.41 percent for Thai and 38.57 percent for foreigners. Conversely, some tourists who show their perspectives on disagreeing and strongly disagree on this issue in particular foreign travelers (shown in Figure 4.9)

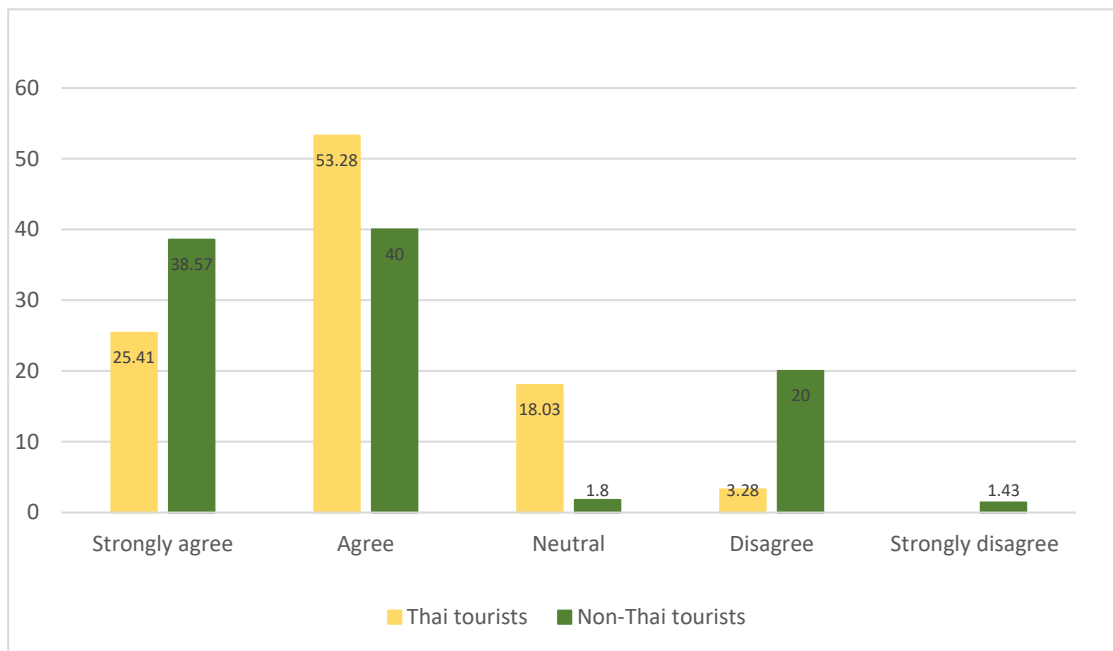


Figure 4.9: The tourists' perspectives toward green hotel helps to protect the environment

A study about the experiences of green hotel staying of Thai and foreign tourists (shown in Figure 4.10) shows that most Thai tourists selected staying in a green hotel sometimes up to 62 percent, and 18 percent seldom opted for a green property. Some Thai tourists, who are 12 percent, often stay in a green hotel, and 8 percent usually stay consecutively. On the foreign tourist side, 36 percent of them sometimes stay in this kind of hotel. With the tiny figures gap, 30 percent of foreigners seldom stay in green attributes. However, the frequency of a green hotel staying experience shows more on the side of Non -Thai tourists. The data presents 16.66 percent usually select a green hotel, 13.33 usually select, and 3.33 percent always stay in this hotel type.

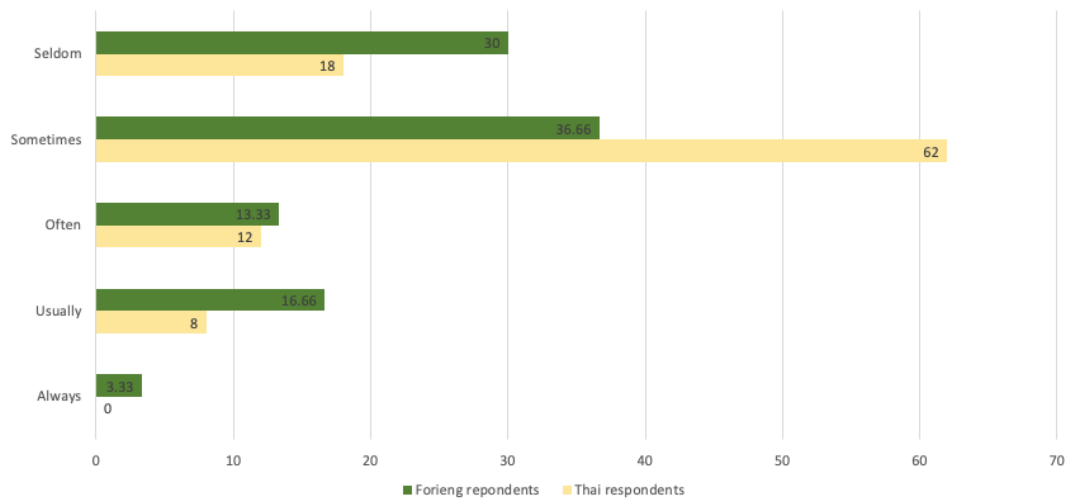


Figure 4.10:: Green hotel staying experiences

#### 4.3.2 Key factors of hotel selection process

With the collected quantitative data on Perspective and Challenges of Green Hotel in Thailand, it discovered that most of Thai customers prefer to stay in the kind of resort hotels and bed and breakfast (B&B) equality at 26 percent, 15 percent of hostels, 10 percent of green hotels, homestay and chain hotels, and 3 percent of service apartment respectively. From the side of foreign customers, the resort accommodation is the majority selected at 26 percent, 19 percent of chain hotels, 16 percent of B&B and the equally 13 percent of green hotels and homestay, and the slightest selected is same as Thai customers (shown in Figure 4.11).

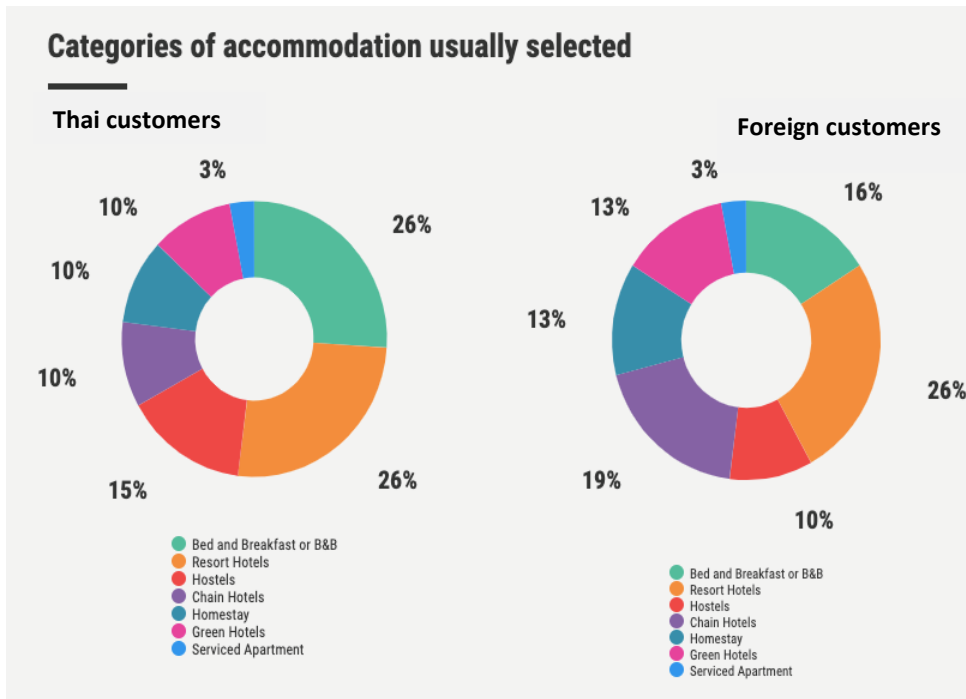


Figure 4.11: Categories of accommodation usually selected by Thai and Foreign customers

Figure 4.12 below emphasizes the factors of hotel selection; the top three rankings of Thai tourists are on hotel price, facilities, and location consecutively. Similarly, to Non-Thai tourists, location, price, and facilities are significant factors. On the one hand, both tourists give less concern on the star rating and quality of hotels' products when selecting a hotel to stay.

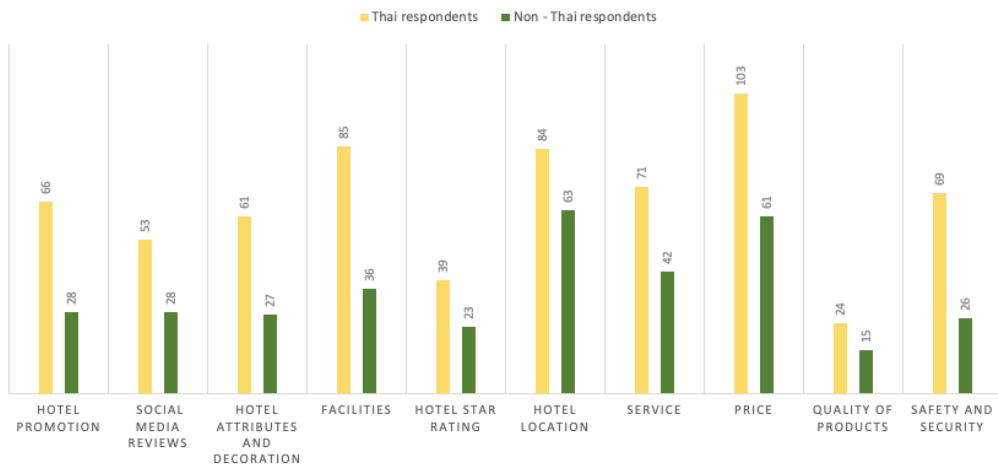


Figure 4.12: Factors of hotel staying decision

Regarding the green hotelier and practitioners' perspective interviews, the results came out that the factors of hotel selection are not 100% based on location, price, and facilities. The principle of hotel business is not hotel location unless it becomes a destination that the ANANA hotel's owner made the property to become a perfect destination. It may not be necessary to be close to the beach if making the property become a destination. The property is an ecological destination that why the hotel is no plastic. Everywhere customers are in the hotel, they will be able to see what we have done in terms of ecology. The owner also examined that a high star rating hotel does not mean it is the best hotel in the area. However, the luxury hotel has to be the subordination of the environmental concern. In terms of non-green hotels, the owner also considers the significance of providing non-chemical and organic products for hotel guests as well as developing the hotel to be a sustainable boutique hotel. Both hoteliers viewed that their implementations can be the hotels' strength points to attract customers. However, it does not imply that the hotels' owners are inattentive in providing the facilities, products, and services for their guests.

The study also digs out the influence channel toward hotel decision-making. Figure 4.13 presents in numbers of tourists that one person can select to more than one answer. It found that social media such as Facebook, Instagram, and Twitter are powerful channels in the hotel selection process for both nationality tourist groups. Thai tourists can also be influenced by surrounding persons (i.e., friends, family, and relatives) who oppose foreign tourists' side. Besides, the official hotel website and print advertising (ex. Magazine, Travel Book, or Brochure) are dominant channels in hotel selection. However, it is surprising that social influencers (i.e., YouTubers, reviewers, or bloggers) play a minor part in the decision process for Thai tourists.



In contrast, influencer shows the most impact on hotel selection in the side of Non-Thai tourists. The least effective channel for hotel decisions is advertising (ex. TV, Billboard, or Leaflet) for both kinds of tourists.

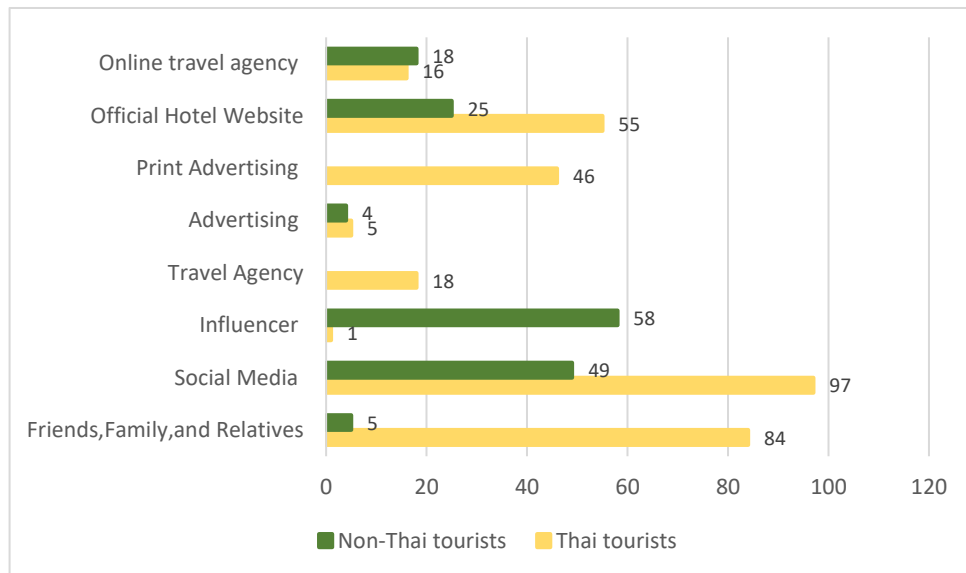
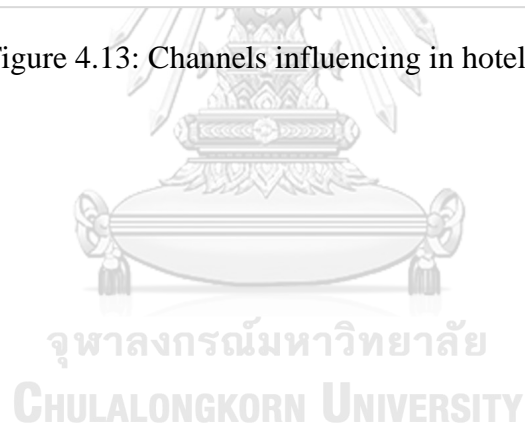


Figure 4.13: Channels influencing in hotel selection



#### 4.4 The demographics and green hotel selection process

To compare the demographics impact of both types of customers toward green hotel experiencing by engaging chi-square method to study the correlation, the study results shown in Tables below.

Table 4.4: Correlations between Thai demographics and green hotel experiencing (N=122)

Item	Green hotel familiarity (GHS)					Total
	Don't know	Not well	Neutral	Well	Very well	
<b>Gender</b>						
Male	1 (1.50)	2 (3.10)	6 (9.20)	1 (1.50)	1 (1.50)	11 (16.90)
Female	0	11 (16.90)	29 (44.60)	12 (18.50)	2 (3.10)	54 (83.10)
<b><math>\chi^2 = 6.295</math> df = 4 P-Value = 0.178</b>						
<b>Income</b>						
Less than 10,000 Baht/month	0	1 (1.50)	2 (3.10)	1 (1.50)	1 (1.50)	5 (7.70)
10,001 - 30,000 Baht	0	5 (7.70)	12 (18.50)	5 (7.70)	2 (3.10)	24 (36.90)
30,001 - 50,000 Baht	1 (1.50)	4 (6.20)	17 (26.20)	5 (7.70)	0	27 (41.50)
50,001 - 70,000 Baht	0	1 (1.50)	3 (4.60)	1 (1.50)	0	5 (7.70)
70,001 - 90,000 Baht	0	1 (1.50)	0	0	0	1 (1.50)
90,001 - 100,000 Baht	0	1 (1.50)	0	0	0	1 (1.50)
100,001 - 200,000 Baht	0	0	1 (1.50)	1 (1.50)	0	2 (3.10)
<b><math>\chi^2 = 16.639</math> df = 24 P-Value = 0.864</b>						
<b>Age</b>						
18 - 25	0	1 (1.50)	0	2 (3.10)	0	3 (4.60)
26-35	1 (1.50)	8 (12.30)	22 (33.80)	9 (13.80)	3 (4.60)	43 (66.20)
36 - 45	0	2 (3.10)	10 (15.40)	2 (3.10)	0	14 (21.50)
46 - 55	0	1 (1.50)	0	0	0	1 (1.50)
56 - 65	0	1 (1.50)	3 (4.60)	0	0	4 (6.20)
<b><math>\chi^2 = 13.695</math> df = 16 P-Value = 0.621</b>						
<b>Education</b>						
High school	0	0	1 (1.50)	0	0	1 (1.50)
Diploma	1	0	0	0	0	1

	(1.50)					(1.50)
Bachelor's degree	0	11 (16.90)	24 (36.90)	6 (9.20)	3 (4.60)	44 (67.70)
Master's degree	0	2 (3.10)	9 (13.80)	6 (9.20)	0	17 (26.20)
Ph.D. Degree	0	0	1 (1.50)	1 (1.50)	0	2 (3.10)
<b><math>\chi^2 = 72.484</math> df = 16 P-Value = 0.000**</b>						

Table 4.4 shows the correlations between gender, income, age, education, and occupation. A chi-square test was revealed, there was the significant relationship between education and GHS  $\chi^2 = 72.484$  df = 16 P-Value = 0.000,  $p < 0.05$ . It also figured out that there were no significant relationships of gender  $\chi^2 = 0.6295$  df = 4 P-Value = 0.178,  $p > 0.05$ . Besides, the  $\chi^2$  values showed that income and GHS at  $\chi^2 = 16.639$  df = 24 P-Value = 0.864,  $p > 0.05$  was not related. The  $\chi^2$  values of age and GHS at  $\chi^2 = 13.695$  df = 16 P-Value = 0.621,  $p > 0.05$ . It led to the conclusion that only education could influence the decision-making of staying in a green hotel. The gender, income, and age did not become significant to the hotel selection process of Thai travelers.

Table 4.5: Correlations between foreign demographics and green hotel experiencing (N=70)

Item	Green hotel familiarity (GHS)				Total
	Not well	Neutral	Well	Very well	
<b>Gender</b>					
Male	3 (6.40)	8 (17.80)	7 (15.60)	3 (6.70)	21 (46.70)
Female	8 (17.80)	9 (20.00)	6 (13.30)	1 (2.20)	24 (53.30)
$\chi^2 = 3.223$ df = 3 P-Value = 0.359					
<b>Income</b>					
Less than 10,000 Baht/month	2 (4.40)	1 (2.20)	1 (2.20)	0	4 (8.90)
10,001 - 30,000 Baht	3 (6.70)	5 (11.10)	2 (4.40)	1 (2.20)	11 (24.40)
30,001 - 50,000 Baht	2 (4.40)	8 (17.80)	1 (2.20)	2 (4.40)	27 (41.50)
50,001 - 70,000 Baht	0	0	2 (4.40)	0	13 (28.90)
70,001 - 90,000 Baht	0	0	2 (4.40)	1 (2.20)	2 (4.40)
90,001 - 100,000 Baht	0	0	1 (2.20)	0	1 (2.20)
100,001 - 200,000 Baht	3 (6.70)	0	2 (4.40)	0	5 (11.10)
More than 200,001 Baht	1 (2.20)	3 (6.70)	2 (4.40)	0	6 (13.30)
$\chi^2 = 26.124$ df = 21 P-Value = 0.202					
<b>Age</b>					
18 - 25	0	1 (2.20)	0	1 (2.20)	2 (4.40)
26 - 35	5 (11.10)	9 (20.00)	4 (8.90)	2 (4.40)	20 (44.40)
36 - 45	3 (6.70)	6 (13.30)	6 (13.30)	1 (2.20)	16 (35.60)
46 - 55	3 (6.70)	1 (2.20)	1 (2.20)	0	5 (11.10)
56 - 65	0	0	2 (4.40)	0	2 (4.40)
$\chi^2 = 15.059$ df = 12 P-Value = 0.238					
<b>Education</b>					
Bachelor's degree	4 (8.90)	7 (15.60)	3 (6.70)	0	14 (31.10)
Master's degree	6 (13.30)	9 (20.00)	7 (15.60)	2 (4.40)	24 (53.50)
Ph.D. Degree	1 (2.20)	1 (2.20)	3 (6.70)	2 (4.40)	7 (15.60)
$\chi^2 = 7.019$ df = 6 P-Value = 0.319					

The data performed that all foreign demographics did not present the correlations with GHS. Identifying by gender found that  $\chi^2 = 3.223$  df = 3 P-Value = 0.359,  $p > 0.05$  so there was not significant relationship with GHS. Income also not related to GHS,  $\chi^2 = 26.124$  df = 21 P-Value = 0.202,  $p > 0.05$ . The  $\chi^2$  values of age and GHS at  $\chi^2 = 15.059$  df = 12 P-Value = 0.238,  $p > 0.05$ . Moreover, there was no correlation between education and GHS  $\chi^2 = 7.019$  df = 6 P-Value = 0.319,  $p > 0.05$ . With the data above can be analyzed that the differentiation of gender, income, age, and education did not play the significant roles of the green hotel selection process of foreign travelers.

Table 4.6: The comparison of green hotel staying experiences of Thai and Foreign

Item	Pearson Chi-square Of Thai travelers	Value	df	Asymp. Sig. (two-sided)	Pearson Chi-square of foreign travelers	Value	df	Asymp. Sig. (two-sided)
<b>The experience of green hotel staying respondents</b>								
1. Gender		6.295	4	0.178		3.223	3	0.359
2. Income		16.639	24	0.864		26.124	21	0.202
3. Age		13.695	16	0.621		15.059	12	0.238
4. Education		<b>72.484</b>	<b>16</b>	<b>0.000*</b>		7.019	6	0.319
5. Occupation		14.367	12	0.278		12.254	12	0.426
6. Krabi visiting experience		3.877	4	0.423		4.878	3	0.181

With the comparison, the demographic of respondents was divided into Thai and Non-Thai respondents, and it was discovered that only education was an influence in green hotel staying of Thai respondents. In-terms of foreign respondents, all factors above did not show the relationship of the experience of green hotel staying.

Table 4.7: The comparison of green hotel staying, categorized by nationality groups

Travelers' nationalities	Experience of green hotel staying					Total
	Strongly uninterested	Uninterested	Maybe	Somewhat interested	Strongly interested	
Thai	58 (30.20)	13 (6.80)	35 (18.20)	13 (6.80)	3 (1.60)	122 (63.50)
Non-Thai (Foreign traveler)	25 (13.00)	11 (5.70)	17 (8.90)	13 (6.80)	4 (2.10)	70 (36.50)
Total	83 (43.20)	24 (12.50)	52 (27.10)	26 (13.50)	7 (3.60)	192 (100.00)
<b><math>\chi^2 = 6.019</math> df = 4 P-Value = 0.198</b>						

Table 4.7 shows the relationship between nationality groups and experience of green hotel staying which were divided by Thai and Non-Thai respondents. It found that  $\chi^2 = 6.019$  df = 4 P-Value = 0.198,  $p > 0.05$ . Moreover, there was no correlation between education. Thus, it concludes that respondents' nationalities did not become significant to the hotel selection process of Thai travelers.

#### 4.5 SWOT analysis matrix

To study green hotels' perspectives and challenges in Thailand, the collected data from hoteliers and staff is analyzed into a SWOT analysis matrix, as shown in Table 4.8.

Table 4.8: SWOT analysis from green hotel practitioners' interviews

<b>S</b> <b>STRENGTHS</b>	<b>W</b> <b>WEAKNESSES</b>	<b>O</b> <b>OPPORTUNITIES</b>	<b>T</b> <b>THREATS</b>
Being harmonized with the environment, such as hotel surroundings, landscape, building materials, or hotel building.	High investment in hotel green hotel technology can lead to the delay of return on investment (ROI)	Getting support and subsidies from the government can help in the hotel advancement.	Reducing service in the customer's perspective
Lessening the impacts on the ecology by implemented green practices and management.	Being a niche market that is specific for some group of customers.	Being in a global trend can attract more eco-friendly customers.	Due to being in the niche market, a disaster can be a crucial burden for the green hotel.
Cost efficiency in the property.	Complicated in hotel operations and procedures in case comparing to commercial hotels.	Enhancing customers' environmental consciousness behaviors	The COVID-19 pandemic directly effects on tourism and hotel business
Being different in the hotel market	Frequently monitoring, maintaining, and reporting of the system and energy usage.		
Creating a good image			
Boosting local employment and community development.			

## **SWOT Analysis**

### **Strengths**

Operating green hotel attributes can mitigate the impacts on the environment through green activities implementation and management in various hotel areas. Moreover, the sustainable hotel building, decoration, and materials enhance the harmonizing between hotel and nature that lessens land degradation and pollutants. It would seem that green practices in the hotel business lead to the cost efficiency of the entire property even though it is a high investment in the early stage. Not only on the environmental side, but it also connects to the social aspect. Green hotel enlarges the local community participation such as community development, local product supporting, and local employment. These things can be a tool helping local people's well-being improvement, upskilling, and accessing to more opportunities. Besides, claiming the property as a green hotel can create a good image of the property and be different in the hotel market that can attract more customers, in particular the eco-consciousness persons.

### **Weaknesses**

It cannot be denied that the hotelier doubtful in green hotel transition stems from high investment in the energy, water, and waste management technological systems. Thus, all these operation costs lead to the delay of return on investment (ROI). Apart from this, there is expenditure on frequently providing staff training programs, green performance monitoring, and reporting for maintaining the standard of green hotel management that is more complicated than other hotel types. Being niche does not have the pros only, but it also limits for some customer groups. As mentioned above, from the customers' perspectives, some customers do not even care about the eco-friendly things and cut the green hotel out of their hotel selection lists.

### **Opportunities**

Getting support and subsidies from the governmental or related agencies can help in the long run successfully and appealing to green hotel transformation in Thailand. Presently, sustainability, green business, and green consumption are in the



global trend, so the green hotel attributes can draw the intention of green consumers that is the way to expand customer target. The hoteliers also believe that green practices are not sudden help to change the customer's behavior; it is another approach to raising the awareness of hotel guests that they can adjust into their daily lives.

### **Threats**

The numbers of customers still believe that green hotel has to limit hotel facilities and guests' comfortable that they cannot fully experience the delighted products and services such as low-pressure shower head, soap dispenser, towel, and linen program. Positioning in the niche market and high investment are easily affected by external factors, i.e., financial crisis, disaster, pandemic, or political issues.

It seems that initiating green practices generates strengths for the hotel business. However, there are many threats much to be a concern that can be a vital challenge for the hoteliers in the green hotel journey. Therefore, it would be nice if the opportunities can help mitigate green hotel's weaknesses and prevent future threats.

## CHAPTER V

### DISCUSSION AND CONCLUSION

#### 5.1 Discussion

##### 5.1.1 Hotel owners' perspectives toward green hotel transition

According to the green activities benchmark of both hotels, the missing green criteria found in 8 areas of environmental activity implementations (shown in Table 4.2). It found that key areas implementation to be covered in a green hotel be fundamental on **Energy efficiency, Waste Management, and Water Reduction**. It would seem that entering to green hotel route is all about monetary on high system installation and maintenance expenditures, whether it be energy efficiency technology or green management. It cannot deny that the hotel industry consumes a large amount of energy, natural resources and emit waste and pollutions as the outcomes, so many hotel properties have to reconsider all property's advanced technology installation, particularly during the pandemic presently. Bohdanowicz (2005) propped that these green activities and implementations can appropriate approach to each hotel properly to enhance the effectiveness of the environmental performance and standard, which also contribute to the robust effects on the aspects of the environmental and economic (Hsiao et al., 2014).

Both hotels A and B have agreed on the same page that typically green hotels will strongly affect local well-being and culture, but they examine that these dimensions of local support are out of date. Green hotel moves forward to sustainable development, emphasizing the hotels' outstanding strengths, leading to the locality development. With the different attributes and locations of both hotels, "it does not affect the way of connecting and supporting local people and communities that can support various activities such as supporting local products directly without mediators. The products support returns to incomes within the community's loop, household, and local people's subsistence without any debts" (interviewed the owner of Sivatel Bangkok). The raised example can consider as the concrete point that genuinely helps to improve local living and subsistence. The studies of Chan and Han et al supported that greening hotel management and local engagement can enhance

customers' satisfaction and royalty that contribute to the properties' long-run achievement (Han et al., 2018).

The activity areas on conserving biodiversity, ecosystems, and landscapes, particularly in wildlife and animal welfare, are not engaged that ground on the context of different in hotels' locations, it can lead to the difference in environmental implementations. Therefore, each hotel has its approach and practice based on its potential, resources, context, and capability. Besides, the governmental agency indicated that the green hotel criteria of Thailand do not much emphasize wildlife and animal welfare and regulatory compliance that might be related to the location of hotel property. Hence, adopting green activities should consider the hotel's strengths leading to high green performances.

In terms of the perspectives of the green hotel owners, it can examine the biggest challenge for green hotels in the entire management of the ecological program. "Most hotels do not have key strategies at all; we manage it as much as possible. Monitoring in everything is consuming energy; how can the hotel either stop it or manage it. Managing is to find the way to support the environmental initiative by giving time and spending money" (said by the owner of ANANA Ecological resort). The various studies related to green hotel transition; agree on the same page with the hotelier interview in terms of budgeting.

However, the green practices gap (Table 4.2) can be brought to analyze the critical burdens of green hotel transition. According to the interview, green hotel operating is stemmed from the intrinsic motivation to be environmental awareness. The owners highlighted government support "Monetary in everything you use to manage and find a way to support the eco-friendly strategies." It can be examined that the effective green strategies embraced are not adequate, but the investment in green technology in hotel property is also essential. Tilley (1999) has firmly told that most hotels will not cooperate in environmental-friendly schemes since they recognize it is not worth the invested capital. Moreover, it takes an extended period to get returns on environmental investment.

The green hotel owners viewed that the most concerns are not about making a profit, but about sustainability profit growing step by step. The owner also stated that "Well pampering the hotel, it will super profit in one year and the guests also get the

benefits from these. Profit is the result in the agenda, all implementation is about the people and well-being” (interviewed with the owner of ANANA Ecological Resort, Krabi).

In terms of the perspective of the non-green hotel owner, the worth in monetary investing is about the staff’s happiness. The owner adopted the “Happy workplace model” in the happiness of body, relax, money, brain, soul, heart, society, and family. “If the staff are full of the happiness in psychological and physical, it can lead to staff’s awareness on what the hotel is implementing. It can create a positive effect on hotel’s services and customer’s satisfaction” (interviewed with the owner of Sivatel Bangkok). The green hotel owner propped that staff is the number one of the green hotels; the guests’ happiness will follow and happy to come back, the revenue is rising” (interviewed with the owner of ANANA Ecological Resort, Krabi).

It seems that worth the invested capital can be various interpreted rely on the hoteliers’ perspectives that can be implied that transformation a green hotel firm and long-term successful business have to be stemmed from the heart. The respondent hotel practitioners also suggested that it would be delighted whether government agencies support these kinds of monetary in terms of subsidization and incentives that can enlarge the green hotel transition in Thailand. The government sustenance is a crucial driver to make a green hotel long running or provoking in expanding the green hotel in Thailand. Lacking continuity in green hotel advocacy and promoting make many hotel owners uncertain about participating in the green hotel journey.

### **5.1.2 Green hotel similarity and experience**

Highlighting the green hotel similarity of both respondents, the large number of Thai respondents were not familiar with the green hotel, but the foreign respondents were conversely. It would seem that there is a tiny figure gap of the green hotel familiarity between both types of tourists, but the number of green hotel familiarity of foreigners' side was more significant. Both hotel owners propped that their target customers are everywhere, but the target countries show willingness in ecological that mostly on European, American, and Japanese customers since they more comprehend the green concept and sustainable tourism.

With the preference of green hotel selection, almost 50 percent of foreign travelers considered that environmental awareness behavior could contribute to green hotel staying. But the majority of Thai travelers still an uncertain perception of the trend of environmental consciousness with the influences of the green hotel selection process. It would seem that the tourist with the environmental perspective means to select green hotel and the environmental hotel feature is their critical factors for hotel selection. The in-depth interviews of both hoteliers indicated that their hotels are available for everybody interested in to get the feeling of the green hotel. It also found that this tourist group also shows their willingness to pay a premium for green products and accommodation. Lee and Moscardo's paper figured out that initiating green attributes and practices can boost their satisfaction, environmental attitudes, and eco-friendly behavioral intention (Noor et al., 2014).

Conversely, the research of Watkins argued that green hotel attributes concerned were in the group of frequent travelers who mostly stay in the green properties with good cooperation with green practices and management, but they would not prefer paying for premium room rate for those rooms. However, most of Watkin's study respondents claimed themselves as environmentally conscious consumers, but it did not imply that they considered themselves as environmentally conscious travelers (Millar et al., 2012). Eco-friendly behavior cannot refer that they will select to stay in a green hotel. Kasim (2007) propped that the crucial arouse interest of hotel selection is by price, hotels' facilities, and locations aligned with this paper's analyzed data.

### **5.1.3 Key factors of hotel decision process**

Scoping on the travelers' side, both types of travelers the top third raked, the majority preferred to stay in resort hotels, B&B, and chain hotels consecutively. Studying the critical factors of hotel selection, they voted to the price and hotels' facilities for Thai respondents. Similarly, to foreign respondents, they emphasize locations and price. It seems that the study's result is aligned with Kasim's study on crucial arouse interest of hotel selection. Apart from the factors above, the factors also ground travelers' time, opportunities, and effort in green hotel decisions. As the trend

changes, customers can be motivated in a green hotel selection through modern design, ambiance, comfortable, and hotel surroundings (Suki & Suki, 2015). These features and surroundings are concordant with the hoteliers; the green hotel can be a perfect destination by providing the experience of being close to mountains, jungle, no traffic, and no pollution. The green hotel owner was agreeable “the hotel takes the green intention by reserving the nature landscape 85% of the total property areas. It does not solely help environmental preservation, but the greenery and natural surroundings can make customers feel relaxed and peaceful.”

The green hotel transition will be permanently successful rely on the customers' perspective and support (Han et al., 2018). Customers' perspective is one hindrance failing the green hotel initiative. Kasim (2007) addressed that some tourists have less concern about the hotel's green practices; they merely emphasize the value of money that is spent for experiencing quality products and services. Besides, some hotels may achieve green policies, but the guests may view it to reduce the cost (Baker et al., 2014). Robinot and Giannelloni uncovered that hotel customers consider green attributes and practices as one of the hotel products. These green attributes are not the significant factor of hotel selection or help shape customers' satisfaction (Millar et al., 2012). Even though green hotel property is less preferable than other hotel types, the perspectives of this paper's travelers mostly believed that green hotel could lead to the environmental protection that was a sign of the positive viewpoints toward a green hotel.

#### **5.1.4 Influence channel in hotel selection**

Studying influence channels in hotel selection discovered that online channels (i.e., social media, influencers, and official hotel websites) could drive customers' decision-making process. One remarkable influence offline channel was on the recommendation from family, relatives, or friends. On the side of hoteliers, the effective tool for accessing customers was through an online travel agent (OTA) to attract various customer groups.

The data outcomes can examine that the hoteliers can utilize online and social media networking to widen target customers and promote green hotel properties.

Moreover, the hoteliers and (Suki & Suki, 2015) agreed that social media can utilize to educate customers to be more comprehensive in the green hotel and eco-friendly concepts. The hotels can present green management programs and performances to encourage customers' behavior intention in terms of marketing strategies. The hotel can also use the online channel to communicate to guests about hotels' information in the green initiative, benefits of green implementations including promotion campaigns (Trang et al., 2018).

Jiang and Gao supported the hotel practitioners cannot only rely on launching promotion campaigns. The priority to be concerned is improving green performance, including the green products, services, and operations. These things can make the customer perceive the properties' efforts, enhance green hotel selecting intention, and customer loyalty, leading to the hotel promotion by word of mouth. Regarding the collected data, the recommendation by persons to persons such as friends, family, and influencers can effectively result in hotel staying intention in both traveler groups. Thereby, word of mouth is another effective and sufficient tool for hotel promoting and enhancing the visiting numbers (Jiang & Gao, 2019).

### **5.1.5 Demographics VS The intention of green hotel selection**

Analyzed by the demographics' correlation with GHS, it would seem that there was solely education from Thai respondents play the dominant role in the green hotel selection process. Apart from that, the gender, income, and age of both types of respondents did not influence the green hotel staying. After reviewing various scholars' papers, it is unsurprising that education plays a significant role in GHS as same as this paper data found out. The researchers discovered that higher education levels influence environmentally friendly behavior and consumption. The education has a strong relationship with GHS consumer's viewpoint and eco-friendly consciousness, which are undertaken through green products and services consumption (Chen, 2013; Teng et al., 2011; Wang et al., 2020).

Many studies figured out that education levels show no correlation between green hotel staying and green consumption that depended upon the different demographics, perspectives, and the comprehend in environmental awareness (Fisher et al., 2012). Wang's study presented a similar data analysis, and they found that

gender does not be a crucial factor of green hotel decision-making and no significant relationship between environmental awareness and green consumer. In contrast with Wang, Fisher et al. (2012) found that gender is highly significant to the green hotel selection process. The intention of green hotel experiencing is in the group of females in the US. Like the study in Hong Kong, females have high scores on environmental care and green hotel support (Lee, 2009). Han et al. supported that females show their environmental concern through visiting intention, willingness to pay more, and word of mouth (Wang et al., 2020).

In this study, income did not show the correlation of GHS that is wholly opposed with the many reviewed research. Income has an intense relationship with green consumption, behaviors, and GHS, particularly in different income levels. The higher income group tends to concern about green products and services since it views that these kinds of goods are more expensive, whether it be green foods or green hotels such as green foods' prices typically higher 10-50 percent comparing to traditional foods (Wang et al., 2020). Green hotel, in particular, that is true that green hoteliers encounter with a premium cost of the green building and technology installing 10 – 15 percent such as shower system, HVAC energy efficiency without the mitigating of their guests' comfort (Butler, 2008). Hence, it cannot deny that income strongly relates to the selection and awareness of green support.

However, it seems that eco-friendly guests only 25 percent show their willingness to pay the premium cost of green hotel features. To lessen the obstacle in income and negative perception of green hotels, the price strategy should think over and implement in terms of properly room promotions or incentives to green practices-initiated customers (Ogbeide, 2012). The room rates recognizing also raised in the green hotel case study interview; the hotelier stated that price-friendly could be another tool for accessing the new customers of green hotel, but it will not be an effective tool in case of price-competitive among the green hotel properties. Adequate promotion and pricing should be incorporate and on the same page of the pricing agreement of all green hoteliers.

In their study, age also shows no sign of the GHS, but if mentioning willingness to pay more on green attributes, age is regarded. The higher age group tends to pay more on green hotel properties comparing to a lower age group. On the



one hand, Chen argued that an age group that is likely concerned with GHS and awareness, including green products, goes to young travelers and students under his study (Chen, 2013).

Spotlighting on the experiences of Krabi visiting of respondents, there were not relationship toward green hotel staying. It can be considered that the critical factors of hotel selection are decided by the price and location of the property in accordance with the study's respondent survey. Besides, the location of Krabi, which is in the top-ranked of spectacular natural resources and beautiful beaches in Thailand, so the travelers may select the other alternatives with the full services and facilities instead of a green hotel.

It is similar to the analysis of nationality groups of respondents and green hotel decision relationship. Even though the travelers are intense in the environmental awareness, they do not select places to stay based on their eco-friendly concerns or green practices. Regarding the study of Kasim, most visitors much consider staying in non-green property comparing to green attributes (Berezan et al., 2013)

Nevertheless, the demographic profiles cannot be certainly considered as the key factors that lead to the green hotel selection process. Instead, referring to various scholars' researches and the hoteliers' interviews, the opportunities, efforts, and willingness are the customers' intention factors that connect to the hoteliers open to welcome everyone who would like to experience the green hotel.

## 5.2 Conclusion

Green hotel is property environmental consciousness through implementing green practices and management in both hotel partitioners and guests. It is not merely mitigating the downside impact to the environment but also beneficial to society, and economic dimensions, leading to the future's sustainability concept and hotel development. The green hotel attributes well align with sustainability under the perspective of a green hotel's owner: "if you are taking something, let think about giving something back."

Regarding the paper's case studies, it can present that the early stage of entering the green hotel does not need to cover in all green activities' implementations. The effective green practices initiating is ground on the hotel's capability and potential; the intensity of green practices can be adopted in the future. Hence, the green hotel transition in Thailand can be real occurred due to the intrinsic motivation of hoteliers and staff. With the awareness of the environment, multiple properties are involved in green initiatives since the businesses are hinged on a healthy environment "it is the right thing to do."

However, incorporating green hotels has key burdens and challenges for hoteliers. The environmental commitment in the hotel business requires investing a substantial amount of money in green management, energy-saving program, and training to participate in environmental responsiveness. It can recognize as the significant factor that hoteliers are doubtful in the green hotel transition. The hotel cannot be existing and successful without customers' support, so the customers' perspective is another critical challenge. Some tourists may be concerned about the environment and believe that green hotels can boost the environmental awareness of customers and environmental conservation, but green attributes are not a key factor when selecting a hotel. Property location, price, and facility are substantial contributing factors to customers' decisions. It is a significant challenge for hoteliers to make their green attributes become one of those key factors and prefer destinations to visit. Besides, lacking continuing support from the governmental agencies impedes the green hotel transition. The support can be in terms of incentives, subsidization, or

helping in a hotel promoting campaign. These kinds of supports can relieve hoteliers' uneasiness in the green hotel journey.

In terms of green standards' uniformity of Thai certification programs can lead to unreal green properties that can abolish customers' trust and decrease the certification's reputation. Thereby, corporations between hoteliers, governmental agencies, and stakeholders needed to enhance the effectiveness of sustainable programs and green hotel certification programs in Thailand that can lead to long-term success. It is necessary that the doubt in green practices can be mitigated if the governments provide support for green properties. Thereby, the governmental agencies should endeavor to encourage the green hotel transition. The green hotel enlargement cannot occur only on one side of the government assistance, but the private sector as a hotel property can help figure out the light at the end of the tunnel. It is challenging for hoteliers, governmental agencies, and stakeholders to develop eco-friendly schemes and strengthen the Thai certification of the green hotel in Thailand to influence the customers to visit green hotels and make them more successful in the long run. The success of the hotel business also relies on external factors (threats), both green and non-green hotels such as the COVID-19 pandemic, presently. Therefore, significantly, all hotel business stakeholders should figure out how to sustain the hotel industry.

### 5.3 Recommendations for green hotel green hotel operations and certification scheme in Thailand

Considering the green hotel transition in Thailand, it may arise from green hotel properties and their stakeholders to cooperate in ideas generating in green practices, development guidelines, and enhancing customers' understanding of green hotel attributes. Therefore, to make the green transition tangible, the recommendations present the roles of stakeholders to carry out (shown in Table 5.1).

Table 5.1: Recommendations and stakeholders' roles to strengthen green hotel in Thailand

No.	Stakeholders	Recommendations
1.	<ul style="list-style-type: none"> <li>• Governmental agencies</li> <li>• Thai hotel association</li> <li>• Hoteliers</li> </ul>	Encourage others commercial hotels to enter in the green hotel rout
2.	<ul style="list-style-type: none"> <li>• Governmental agencies</li> <li>• Thai hotel association</li> <li>• Hoteliers</li> </ul>	Plan and develop to make green hotel attributes become one of the keys factors in hotel selection.
3.	<ul style="list-style-type: none"> <li>• Governmental agencies</li> <li>• Thai hotel association</li> <li>• Hoteliers</li> </ul>	Establish a group of green hotel properties, whether it be small, medium, or large size hotels, to figure out practical solutions for green hotel development, including providing green practices and monetary guidance for newcomers.
4.	Governmental agencies	Efficiency support and provide incentives or subsidies to diminish the hoteliers' doubtfulness in green hotel transition. The incentive or subsidization programs can raise the successful case studies from other countries to align with the Thai context and limitations. All efficiency supports can prop long-term success of green hotels that are not solely stemmed from the intrinsic motivation of hotels' owners.
5.	<ul style="list-style-type: none"> <li>• Hoteliers</li> <li>• Hotel marketer</li> </ul>	Consider hotel promoting and marketing to enhance customers' understanding of the green hotel concept.

No.	Stakeholders	Recommendations
	<ul style="list-style-type: none"> <li>• Governmental agencies</li> <li>• Thai hotel association</li> </ul>	
6.	<ul style="list-style-type: none"> <li>• Hoteliers</li> <li>• Hotel practitioners</li> </ul>	<p>Adopt green practices as the introductory offer, not by the enforcement to increase customers' intentions and cooperation. It is hard to alter the customer's behavior with their high expectation of delighted services. The green concept comprehending can draw their attentiveness that can be counted as the beginning of success.</p>
7.	<ul style="list-style-type: none"> <li>• Governmental agencies</li> <li>• Hoteliers</li> <li>• Thai hotel association</li> </ul>	<p>Develop eco-friendly schemes and strengthen the Thai certification of the green hotel in Thailand to influence the customers to visit green hotels and make them more successful in the long run.</p>
8.	<p>Provincial governmental agencies</p>	<p>Support in green hotel promoting and development to be straightened with each provincial tourism campaign that can make the green hotel be famed and increase the numbers of green hotels and provinces visitors.</p>
9.	<ul style="list-style-type: none"> <li>• Hoteliers</li> <li>• Hotel practitioners</li> <li>• Hotel marketer</li> </ul>	<p>Enhance the customers' understanding of the green hotel concept that can provide hotel information, green practices, and green implemented benefits through both online (i.e., social media and hotel official website) and offline (on-site information providing) channels.</p>
10	<ul style="list-style-type: none"> <li>• Hoteliers</li> <li>• Hotel practitioners</li> <li>• Governmental agencies</li> <li>• Thai hotel association</li> <li>• Green hotel experts</li> </ul>	<p>Provide training in green practices to all staff, including educating in the program monitoring, performance evaluation, and reporting to make the green implementations more effective.</p>

### 5.3 Recommendations for further study

This paper emphasizes two medium-sized properties with non-chain affiliated. Future research can study more hotels, particularly properties' potential to precisely comprehend green practices implementations. Moreover, further study should compare the green hotel attributes pre, post, and during the COVID-19 outbreak to inspect the direction of the green hotel business in the future.



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**APPENDICES**

จุฬาลงกรณ์มหาวิทยาลัย  
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**Appendix A**

**The overview of recognizing GSTC standard in global certification schemes**

(The International Tourism Partnership & Green Hotelier, 2016).

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LEVEL OF CERTIFICATIONS	NAME OF CERTIFICATION SCHEMES	THE SCHEMES OVERVIEW	KEY PERFORMANCE AREAS
	<b>EarthCheck</b>	<p>It defines itself as “the world’s leading scientific environmental benchmarking and certification.</p> <p>The certification was created basing upon Agenda 21 principles.</p>	<ul style="list-style-type: none"> <li>- Greenhouse gas emissions</li> <li>- The management of energy efficiency</li> <li>- Ecosystem conservation</li> <li>- Social and cultural management</li> <li>- Land use planning and management</li> <li>- Air quality protection</li> <li>- Wastewater management</li> <li>- Solid waste management</li> <li>- Environmentally harmful substances</li> </ul>
<b>GLOBAL LEVEL</b>	<b>Biosphere Responsible Tourism</b>	<p>The standard was originated in 1995 with the certifying totally 63 tourism firms which includes 40 hotel properties in the list. The certification also reaches the standards of Responsible Tourism institute which is a member of UNWTO. The aims of this program are to diminish the downside impacts on environmental and social whilst enlarging the positive sides.</p>	<ul style="list-style-type: none"> <li>- Responsible tourism policy</li> <li>- Action plan</li> <li>- Staff motivation and training plan</li> <li>- Responsible marketing</li> <li>- Legal and Regulatory compliance evidence</li> <li>- Procedure for corrective actions</li> </ul>
	<b>Green Globe</b>	<p>It was instituted for the travel industry over 20 years ago. The scheme applies the criteria of GSTC to certify hotel properties.</p>	<p>The criteria include sustainable management, environmental, cultural heritage and social economic areas.</p> <p>The certification also has the center on maximizing economic benefits while decreasing social impacts through community development, local employment, equitable hiring and fair trade. In the side of the environment, sources of energy and water consumption must be notified.</p> <p>Environmental management, policies, practices and planning must be in place.</p>

LEVEL OF CERTIFICATIONS	NAME OF CERTIFICATION SCHEMES	THE SCHEMES OVERVIEW	KEY PERFORMANCE AREAS
GLOBAL LEVEL	<p><b>Rainforest Alliance</b></p>	<p>The program currently operates in Latin America and the Caribbean. In the year of 2018, it planned to extend to other continents. It is a member of GSTC standard. Beyond hotel industry, it is also available in other industries such as sustainable agriculture and forestry. Hence, its logo can be broadly recognized.</p>	<p><u>Business Field</u></p> <ul style="list-style-type: none"> <li>-Sustainable management planning</li> <li>-Quality management</li> <li>-Human resource management</li> <li>-Safety management</li> <li>-Communication and marketing management</li> <li>-Food and beverage safety program</li> <li>-Supplier management</li> <li>-Sustainability education</li> </ul> <p><u>Socio Cultural Field</u></p> <ul style="list-style-type: none"> <li>-Contribution to local development</li> <li>-Legal and ethical labor practices</li> <li>-Respect for local cultures and people</li> <li>-Rescue and protection of historical and cultural heritage</li> </ul> <p><u>Environmental Field</u></p> <ul style="list-style-type: none"> <li>-Climate change</li> <li>-Rational use of water</li> <li>-Rational use of energy</li> <li>-Protection of biodiversity</li> <li>-Conservation of natural areas</li> <li>-Prevention of pollution</li> <li>-Solid waste management</li> </ul>
	<p><b>Travelife for Hotels and Accommodations</b></p>	<p>It is renowned in the UK, German, Dutch and Scandinavian tour and hotel enterprises. Presently, the hotel members are 1,400 which 900 of them are certified. The scheme purposes are to grant businesses with the achievable sustainable goals, tools and clarifications to improve the companies' performances including supply chains.</p>	<ul style="list-style-type: none"> <li>-Compliance to policies and regulation</li> <li>-Human and financial resources</li> <li>-Environmental management within the firms</li> <li>-Labor and human rights</li> <li>-Community involvement</li> <li>-Suppliers</li> <li>-Guests</li> </ul>

LEVEL OF CERTIFICATIONS	NAME OF CERTIFICATION SCHEMES	THE SCHEMES OVERVIEW	KEY PERFORMANCE AREAS
<b>GLOBAL LEVEL</b>	<p><b>Green Growth 2050</b></p>	<p>The intension of program establishing is aims to bond to sustainable tourism and corporate social responsibility to support Green Growth. Certification scheme also provide performance determination and CSR impacts analysis solutions.</p>	<ul style="list-style-type: none"> <li>-Sustainability management</li> <li>-Legal compliance</li> <li>-Labor practices</li> <li>-Health and safety</li> <li>-Human rights</li> <li>-Sustainable building design and infrastructure</li> <li>-Sustainable operations</li> <li>-Bribery and corruption</li> <li>-Conserving resources</li> <li>-Reducing pollution</li> <li>-Preserving biodiversity</li> <li>-Social and community development</li> </ul>
	<p><b>Green Key</b></p>	<p>The programs spotlights on sustainable management and sustainability consciousness raising which certifies by Foundation for Environmental Education (FEE). The objectives of green key are focusing on environmental footprint diminishing and provoking environmental awareness in customers and staff.</p>	<ul style="list-style-type: none"> <li>-Environmental management</li> <li>-Staff involvement</li> <li>-Guest information</li> <li>-Water</li> <li>-Washing and cleaning</li> <li>-Waste</li> <li>-Energy</li> <li>-Food and beverage</li> <li>-Indoor environment</li> <li>-Green areas</li> <li>-Corporate social responsibility</li> <li>-Green activity</li> <li>-Administration</li> </ul>

LEVEL OF CERTIFICATIONS	NAME OF CERTIFICATION SCHEMES	THE SCHEMES OVERVIEW	KEY PERFORMANCE AREAS
	<b>EarthCheck</b>	<p>It defines itself as “the world’s leading scientific environmental benchmarking and certification.</p> <p>The certification was created basing upon Agenda 21 principles.</p>	<ul style="list-style-type: none"> <li>- Greenhouse gas emissions</li> <li>- The management of energy efficiency</li> <li>- Ecosystem conservation</li> <li>- Social and cultural management</li> <li>- Land use planning and management</li> <li>- Air quality protection</li> <li>- Wastewater management</li> <li>- Solid waste management</li> <li>- Environmentally harmful substances</li> </ul>
<b>GLOBAL LEVEL</b>	<b>Biosphere Responsible Tourism</b>	<p>The standard was originated in 1995 with the certifying totally 63 tourism firms which includes 40 hotel properties in the list. The certification also reaches the standards of Responsible Tourism institute which is a member of UNWTO. The aims of this program are to diminish the downside impacts on environmental and social whilst enlarging the positive sides.</p>	<ul style="list-style-type: none"> <li>- Responsible tourism policy</li> <li>- Action plan</li> <li>- Staff motivation and training plan</li> <li>- Responsible marketing</li> <li>- Legal and Regulatory compliance evidence</li> <li>- Procedure for corrective actions</li> </ul>
	<b>Green Globe</b>	<p>It was instituted for the travel industry over 20 years ago. The scheme applies the criteria of GSTC to certify hotel properties.</p>	<p>The criteria include sustainable management, environmental, cultural heritage and social economic areas.</p> <p>The certification also has the center on maximizing economic benefits while decreasing social impacts through community development, local employment, equitable hiring and fair trade. In the side of the environment, sources of energy and water consumption must be notified.</p> <p>Environmental management, policies, practices and planning must be in place.</p>

LEVEL OF CERTIFICATIONS	NAME OF CERTIFICATION SCHEMES	THE SCHEMES OVERVIEW	KEY PERFORMANCE AREAS
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	<p><b>Travelife for Hotels and Accommodations</b></p>	<p>It is renowned in the UK, German, Dutch and Scandinavian tour and hotel enterprises. Presently, the hotel members are 1,400 which 900 of them are certified. The scheme purposes are to grant businesses with the achievable sustainable goals, tools and clarifications to improve the companies' performances including supply chains.</p>	<ul style="list-style-type: none"> <li>-Compliance to policies and regulation</li> <li>-Human and financial resources</li> <li>-Environmental management within the firms</li> <li>-Labor and human rights</li> <li>-Community involvement</li> <li>-Suppliers</li> </ul>

LEVEL OF CERTIFICATIONS	NAME OF CERTIFICATION SCHEMES	THE SCHEMES OVERVIEW	KEY PERFORMANCE AREAS
	Green Key Global	It is operated and established by the Hotel Association of Canada. Presently, the certificate is globally application.	<ul style="list-style-type: none"> <li>-Environmental management</li> <li>-Housekeeping</li> <li>-Conference and meeting services</li> <li>-Food and beverage services</li> <li>-Engineering and maintenance</li> </ul>
GLOBAL LEVEL	Green Tourism Active (GT-Active)	<p>The scheme was lately accounted as global standard which is recognized by GSTC and GT-Active. It is applicable in the fields of hospitality businesses; mainly emphasizing on accommodations and restaurants. To certify green practices and abate consumption are the aims of this program.</p>	





**Appendix B**

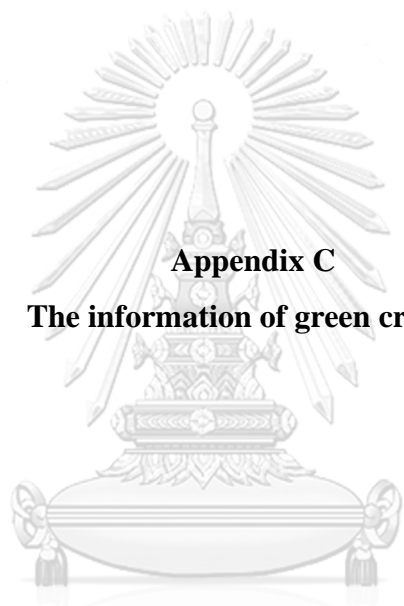
**The HSBM indicators for hotel business (Mihalič et al., 2012)**

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Basic indicators		Business sub-category	Business bottom line
1	Profitability of assets (ROA) = net income/asset	Financial	Economic
2	Profitability of capital (ROIC) = operating profit after taxes/(equity + financial liability)		
3	Profit margin = operating profit/operating income		
4	Economic value added (EVA) = net income – capital costs		
5	Total revenue per employee		
6	Average room rate		
7	Average occupancy rate		
8	Share of guests who evaluate quality as very high	Marketing	
9	Share of guests who evaluate quality vs. price ratio as very high		
10	Share of highly satisfied guests		
11	Share of returning guests who have stayed at hotel at least three times		
12	Share of guests who would recommend the hotel to friends and acquaintances		
13	Energy consumption	Resource	Environmental
14	Consumption of energy from renewable sources (e.g. biomass, solar, geothermal, wind energy, photovoltaic, etc.)		
15	Water consumption		
16	Water recycling		
17	Quantity of solid waste		
18	Recycling waste		
19	Direct CO <sub>2</sub> emissions		
20	Selecting plants that are adapted to a particular environment (% of hotel establishments)	Biodiversity	
21	Planting at least one tree per year (% of hotel establishments)		
22	Environmental activities for the employees (e.g. number of seminars or environmental education hours per employee)	Environmental education	
23	Environmental activities for guests (e.g. workshops, information brochures)		
24	Employee satisfaction (e.g. the proportion of very satisfied employees in the comparable periods)	Human capital	Social

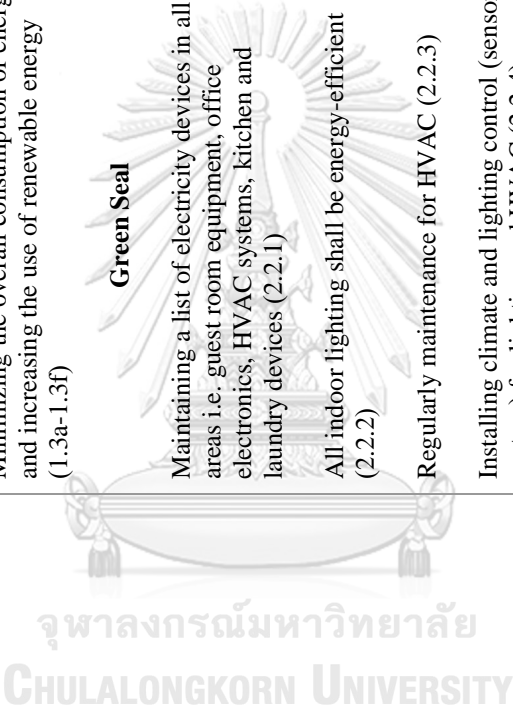
Basic indicators		Business sub-category	Business bottom line
25	Employee salaries (e.g. comparison with other hotels)		
26	Training of employees (e.g. in hours per employee per year)		
	Number of cultural events in the hotel enterprise (local culture)	Cultural capital	
	The proportion of local dishes on offer		
27	Cooperation with the municipality (e.g. the number of projects)	Power, participation	
28	Cooperation with local residents (e.g. the number of joint activities in the comparable periods)		
29	Satisfaction of local residents with the development of tourism		
30	Cooperation with non-governmental environmental organisations		
31	Participation in the overall strategy of sustainable development of tourism in the destination		
32	Monitoring of the implementation of hotel's sustainable/ecologic development strategy (e.g. the realisation of the objectives)		
35	Environmental quality standards (ISO 14001 certificate)		
36	Number of other ecological quality labels (e.g. Green Key, Green Dot, EU Flower, Blue Flag)		




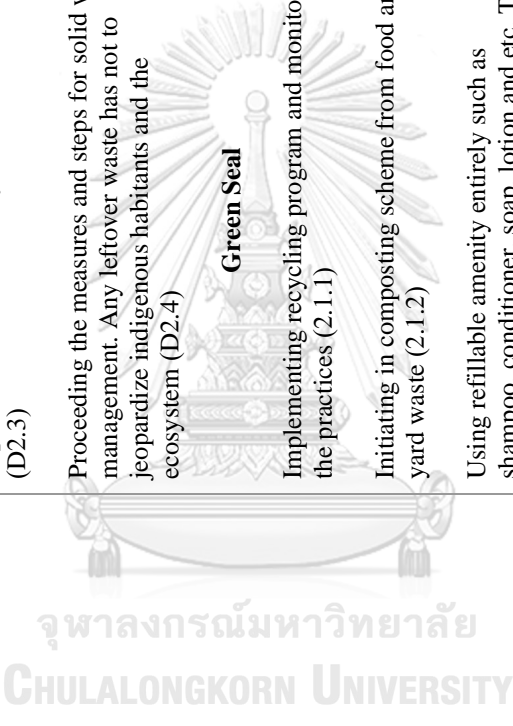
**Appendix C**


**The information of green criteria**

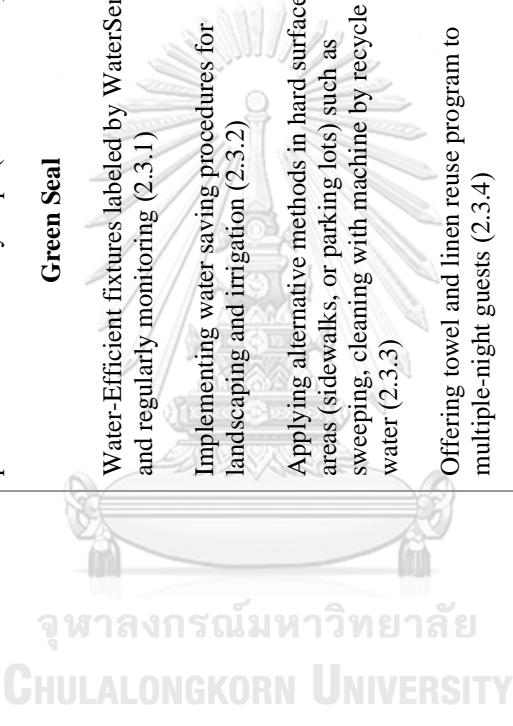
จุฬาลงกรณ์มหาวิทยาลัย  
**CHULALONGKORN UNIVERSITY**

Green management areas	Social	Environment	Economic
<p><b>Energy Efficiency</b></p>	 <p>จุฬาลงกรณ์มหาวิทยาลัย CHULALONGKORN UNIVERSITY</p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Minimizing the overall consumption of energy and increasing the use of renewable energy (1.3a-1.3f)</p> <p><b>Green Seal</b></p> <p>Maintaining a list of electricity devices in all areas i.e. guest room equipment, office electronics, HVAC systems, kitchen and laundry devices (2.2.1)</p> <p>All indoor lighting shall be energy-efficient (2.2.2)</p> <p>Regularly maintenance for HVAC (2.2.3)</p> <p>Installing climate and lighting control (sensor system) for lighting and HVAC (2.2.4)</p> <p>Implementing energy efficiency program and steps. The program has to be acknowledged for all (1.2)</p>	

Green management areas	Social	Environment	Economic
<p><b>Energy Efficiency</b></p>	 <p>จุฬาลงกรณ์มหาวิทยาลัย CHULALONGKORN UNIVERSITY</p>	<p><b>Green Leaf Certification</b></p> <p>Initiating in energy saving steps in hotel operations. Controlling and preventing the overconsumption of energy is essential (5.4.1)</p> <p>Installing technology or energy saving devices that are suitable to the property size and scale. Renewable energy can be good alternatives (5.4.2)</p> <p>Monthly reporting on energy use to create new energy strategies including bringing the data to benchmark the use of energy per guest night in of each year (5.4.3)</p> <p><b>LEED</b></p> <p>Optimizing energy performance</p> <p>Renewable energy production</p> <p>Enhancing energy management</p> <p>Advance energy metering</p> <p>Green power and Carbon offsets</p>	

Green management areas	Social	Environment	Economic
<b>Waste Management</b>	 <p>จุฬาลงกรณ์มหาวิทยาลัย CHULALONGKORN UNIVERSITY</p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Effective treating wastewater procedures and engaging reused or released safely to protect the impacts to local community and the environment (D2.3)</p> <p>Proceeding the measures and steps for solid waste management. Any leftover waste has not to jeopardize indigenous habitants and the ecosystem (D2.4)</p> <p><b>Green Seal</b></p> <p>Implementing recycling program and monitoring the practices (2.1.1)</p> <p>Initiating in composting scheme from food and yard waste (2.1.2)</p> <p>Using refillable amenity entirely such as shampoo, conditioner, soap, lotion and etc. The packaging should be recyclable (2.1.3)</p> <p>Double sided printing (2.1.4, 2.5.2)</p> <p>Donating leftover food to local habitants or food bank (2.1.5)</p> <p>Minimizing the use of disposable food service item (2.1.6)</p>	


Green management areas	Social	Environment	Economic
<p><b>Waste Management</b></p>	 <p>จุฬาลงกรณ์มหาวิทยาลัย CHULALONGKORN UNIVERSITY</p>	<p><b>Green Leaf Certification</b></p> <p>Efficiency wastewater treatment through installing suitable system, monitoring and maintaining (5.2)</p> <p>Engaging 3R program to handle with solid waste management (5.3)</p> <p>Utilizing wastewater for other purposes such as for watering or cleaning (5.1.3)</p> <p>Decreasing non-recyclable or single use packaging in operations (5.3.1)</p> <p><b>LEED</b></p> <p>Storage and collection of recyclables</p> <p>Long-term management on waste reduction</p>	


Green management areas	Social	Environment	Economic
<p><b>Water reduction</b></p>	 <p>จุฬาลงกรณ์มหาวิทยาลัย CHULALONGKORN UNIVERSITY</p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Minimizing the consumption of water by types, policies and efficiency steps (D1.4a – D1.4h)</p> <p><b>Green Seal</b></p> <p>Water-Efficient fixtures labeled by WaterSense and regularly monitoring (2.3.1)</p> <p>Implementing water saving procedures for landscaping and irrigation (2.3.2)</p> <p>Applying alternative methods in hard surfaces areas (sidewalks, or parking lots) such as sweeping, cleaning with machine by recycle water (2.3.3)</p> <p>Offering towel and linen reuse program to multiple-night guests (2.3.4)</p> <p>Washing appliances i.e. washing machine and dishwashers are filled to the recommend capacity and temperature (2.3.5)</p>	



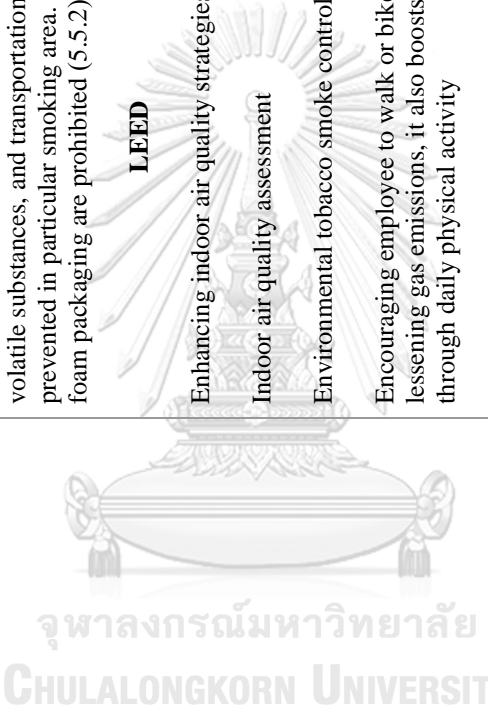
Green management areas	Social	Environment	Economic
<p><b>Water reduction</b></p>		<p><b>Green Leaf Certification</b></p> <p>Encouraging customers to participate in water saving program such as towel and linen. (5.1.1)</p> <p>Installing water saving devices or technology in the property and creating efficiency water consumption policy (5.1.2)</p> <p>Utilizing recycling water for cleaning purposes (5.1.3)</p> <p>Verifying water system continually (5.1.4)</p> <p><b>LEED</b></p> <p>Indoor water use reduction and specific water saving strategies</p>	


Green management areas	Social	Environment	Economic
<p><b>Local participation and well-being improvement</b></p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Supporting local community to improve their livelihood and maximizing opportunities such as the development projects of education, infrastructure and sanitation (B1)</p> <p>Increasing the opportunities for job employment and quality of life (B2)</p> <p>Supporting and providing the advice to local entrepreneurs for the development of sustainable products and services which harmonize to local's nature, cultural and history (B4)</p> <p>Implementing the policy and voluntary groups to cope with the issues of exploitation and any kinds of harassments (B5)</p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Supporting and providing the advice to local entrepreneurs for the development of sustainable products and services which harmonize to local's nature, cultural and history (B4)</p> <p>Preserving local subsistence, nature resources, rights-of-way and housing as well as reducing the affected impacts (B9)</p> <p><b>Green Leaf Certification</b></p> <p>Supporting local community programs in environmental conservation (6.2)</p> <p>Hotel products and souvenirs can be found in the community which are not made from forest and marine materials (6.4)</p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Increasing the opportunities for job employment and quality of life (B2)</p> <p>Purchasing local products and services with the fair trade (B3)</p> <p>Supporting and providing advice local entrepreneurs in the development of sustainable products including joint ventures with local entrepreneurs (B4)</p>

Green management areas	Social	Environment	Economic
<p><b>Local participation and well-being improvement</b></p>	<p><b>Global Sustainable Tourism Council (GSTC, cont.)</b></p> <p>Offering equally opportunities without discriminations and disabilities (B6)</p> <p>Respecting in labors' rights, safety and securing workplace environment Besides, providing the justice wage, training and experience are important for career advancement (B7)</p> <p>Monitoring the impacts on the availability of local services such as food, water, energy and sanitation (B8)</p> <p>Preserving local subsistence, nature resources, rights-of-way and housing as well as reducing the affected impacts (B9)</p>		

Green management areas	Social	Environment	Economic
<p><b>Cultural and historical conservation</b></p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Following good practices and international guidance to decrease the downside impacts on cultural or historical site as well as increasing the benefits to indigenous community (C1, C2)</p> <p>Presenting native culture and heritage through embracing in decoration, design or cuisine whilst regarding to the intellectual property rights of local community (C3)</p> <p>Preventing the unpermitted trading of historical and archaeological artefacts (C4)</p>		

Green management areas	Social	Environment	Economic
<p><b>Cultural and historical conservation</b></p>	<p><b>Global Sustainable Tourism Council (GSTC, cont.)</b></p> <p>Providing the information of native residents, cultural, natural and the appropriate manner guidance for visitors (A9)</p> <p><b>Green Leaf Certification</b></p> <p>Supporting historical, cultural, cuisine, costume and archeological conservation of native community (6.3)</p>		
<p><b>Pollutions mitigating and hazardous substances</b></p>	<p><b>Green Leaf Certification</b></p> <p>Preventing and controlling undesired noise from the organization's activities that can affect on local people (5.5.1)</p> <p>Abating the use of chemical, pesticide and cleaning products which are harm to human health and environment. The emission of dust, volatile substances, and transportation have to be prevented in particular smoking area. CFC and foam packaging are prohibited (5.5.2)</p> <p><b>LEED</b></p> <p>Encouraging employee to walk or bike for lessening gas emissions, it also boosts health through daily physical activity</p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Controlling and calculating the amount of significant greenhouse gas emissions (D2.1)</p> <p>Lessening the use of harmful substances including pesticides, paints, swimming pool disinfectants and cleaning materials whilst replacing by inoffensive (D2.5)</p> <p>Mitigating pollution from noise, light, drainage, erosion, ozone-depleting substances, air, water and soil contamination through initiating in pollution management practices (D2.6)</p> <p><b>Green Seal</b></p> <p>Replacing alternative substances or using less are preferable. All chemical substances are kept in the properly storage (2.4.1)</p>	

Green management areas	Social	Environment	Economic
<p><b>Pollutions mitigating and hazardous substances</b></p>	 <p>จุฬาลงกรณ์มหาวิทยาลัย CHULALONGKORN UNIVERSITY</p>	<p><b>Green Leaf Certification</b></p> <p>Abating the use of chemical, pesticide and cleaning products which are harm to human health and environment. The emission of dust, volatile substances, and transportation have to be prevented in particular smoking area. CFC and foam packaging are prohibited (5.5.2)</p> <p><b>LEED</b></p> <ul style="list-style-type: none"> <li>Enhancing indoor air quality strategies</li> <li>Indoor air quality assessment</li> <li>Environmental tobacco smoke control</li> <li>Encouraging employee to walk or bike for lessening gas emissions, it also boosts health through daily physical activity</li> </ul>	



Green management areas	Social	Environment	Economic
<p>Conserving biodiversity, ecosystems and landscapes</p>	 <p>จุฬาลงกรณ์มหาวิทยาลัย CHULALONGKORN UNIVERSITY</p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Supporting biodiversity conservation and natural protection through the properly management (D3.1)</p> <p>Avoid bringing in the invasive species. Encouraging the utilization of native species for landscapes and restoration (D3.2)</p> <p>Following the appropriate guidelines for the management a natural area in order to diminishing the downside impacts (D3.3)</p> <p>Responsibly managing and interaction with wildlife to reduce the negative effects on animals and other populations in the wild (D3.4)</p> <p>Compliance with animal welfare by not acquiring wild animals without the authority and suitable quipped persons (D3.5)</p> <p>No harvesting, trading, consuming and displaying the wildlife species expect the law permission (D3.6)</p> <p><b>Green Leaf Certification</b></p> <p>Growing local plant species in property (5.7.2)</p>	

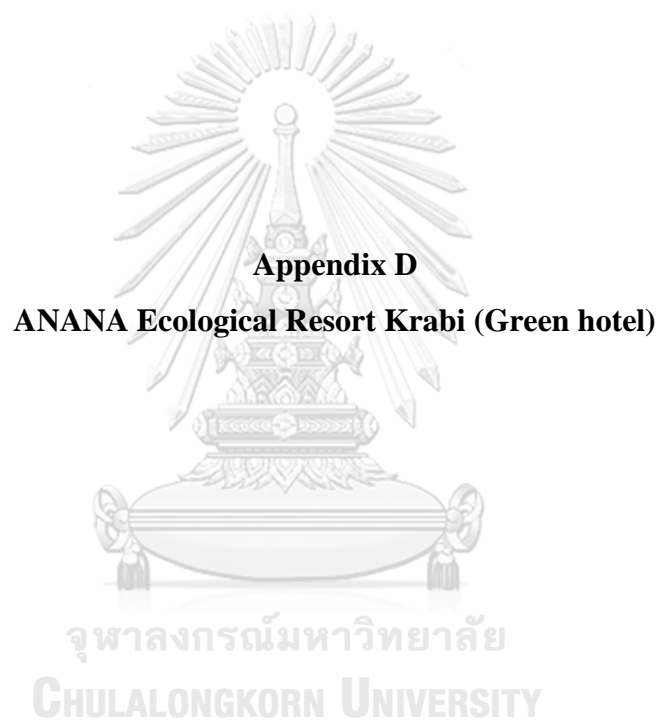
Green management areas	Social	Environment	Economic
<p><b>Buildings and infrastructure</b></p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Design and construction have to compliance to laws and requirements in particular the sensitive areas or heritage sites (A7.1)</p> <p>The entire buildings and activities are accesses for all especially for disability and special needed persons. The provided information is clear and precisely (A7.4)</p> <p>Site selection has to preserve the natural, cultural, landscape and heritage areas of local community. The adverse impacts are minimized (A7.2)</p> <p>Compliance with local, national and international law and regulations including the dimensions of health, safety, labor and environment (A2)</p> <p>Involving in the tourism planning and management of the destinations (A10)</p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Design and construction have to compliance to laws and requirements in particular the sensitive areas or heritage sites (A7.1)</p> <p>Utilizing local materials, crafts, sustainable practices and design in the building construction including using native plants for landscape decoration. Waste from the construction site is properly eliminated (A7.3)</p> <p><b>LEED</b></p> <p>Selecting Eco-friendly building materials</p> <p>Building design which reduces overall energy consumption</p> <p>Interiors life-cycle impact reduction</p>	



Green management areas	Social	Environment	Economic
<p><b>Environmental and sustainable policies and management</b></p>	<p><b>Green Leaf Certification</b></p> <p>Purchasing eco and green label products to lessen impacts on environment. Supporting products and ingredients from local habitants (4)</p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Implementing long-term sustainable management that is appropriate to the property size. The management should highlight on environment, social, cultural, economic, quality, human rights, health, safety, risk and crisis management points and continue improving (A1)</p> <p>Encouraging staff engagement in sustainable management as well as receiving guidance and training which are involved to their responsibilities and roles (A4)</p> <p><b>Green Seal</b></p> <p>Creating environmental purchasing policy in the property (2.5.1)</p> <p><b>Green Leaf Certification</b></p> <p>Providing environmental practices in hotel business training to staff (2)</p> <p>Purchasing eco and green label products to lessen impacts on environment. Supporting products and ingredients from local habitants (4)</p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Monitoring a customer feedback in term of sustainability aspect and taking the corrective action to response customer satisfaction (A5)</p> <p>Promoting promotional material and marketing which regard to property' products and services in sustainability claims. The claims have to be truly based on the firm's performances (A6)</p> <p>Encouraging staff engagement in sustainable management as well as receiving guidance and training which are involved to their responsibilities and roles (A4)</p> <p><b>Green Seal</b></p> <p>Specification on environmental policies and goals. Eco-friendly purchasing policy including supporting local's products are engaged to the firm (1.1)</p> <p><b>Green Leaf Certification</b></p> <p>Providing environmental practices in hotel business training to staff (2)</p>

Green management areas	Social	Environment	Economic
<p><b>Location and transportation</b></p>	<p><b>LEED</b></p> <p>Encouraging employee to walk or bike for lessening gas emissions, it also boosts health through daily physical activity.</p> <p>Integrating into surrounding community</p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Decreasing the use of transportation by encouraging the cleaner alternatives to staff, hotel guests, supplier and operations (D2.2)</p> <p><b>LEED</b></p> <p>Using alternatives automobile such as bicycle, public transit and vehicle sharing</p> <p>Reducing parking footprint by providing bicycle facilities i.e. bicycle lane and parking space</p>	
<p><b>Green purchasing</b></p>		<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Efficiency environmental purchasing including policies, goods, building materials, food and beverages (D1.1, D1.2)</p> <p><b>Green Seal</b></p> <p>Following the established environmental purchasing policies (2.5.1)</p> <p>Purchasing the environmental-preferable printing-writing paper, cleaning products, architectural paints, durable goods and packaging (2.5.2- 2.5.5)</p> <p>Selecting environmentally responsible service providers (2.5.7)</p>	

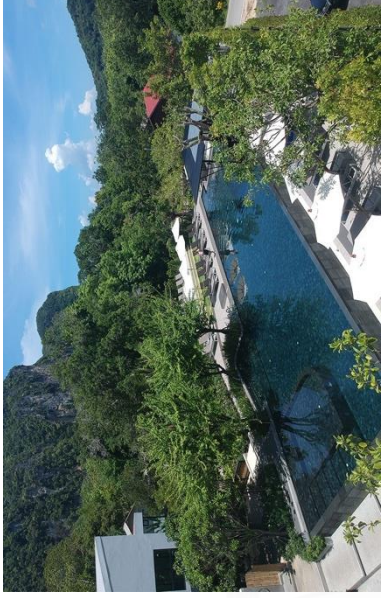
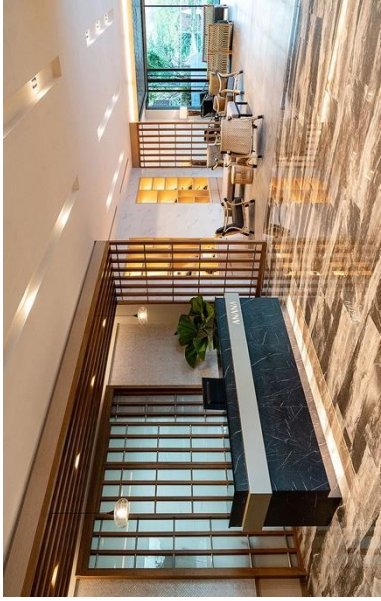
Green management areas	Social	Environment	Economic
<p><b>Business model</b></p>	 <p>จุฬาลงกรณ์มหาวิทยาลัย CHULALONGKORN UNIVERSITY</p>	 <p>จุฬาลงกรณ์มหาวิทยาลัย CHULALONGKORN UNIVERSITY</p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Reporting and communication on sustainable policy, steps and performance to stakeholders and customers to booting their participation and support (A3)</p> <p>Promoting promotional material and marketing which regard to property' products and services in sustainability claims. The claims have to be truly based on the firm 's performances (A6)</p> <p><b>Green Leaf Certification</b></p> <p>Communication and promoting green campaign through medias, leaflet or poster. Besides, the information should be useful to customers (3)</p>

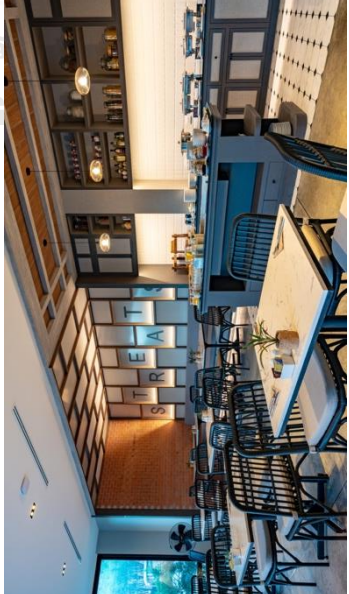
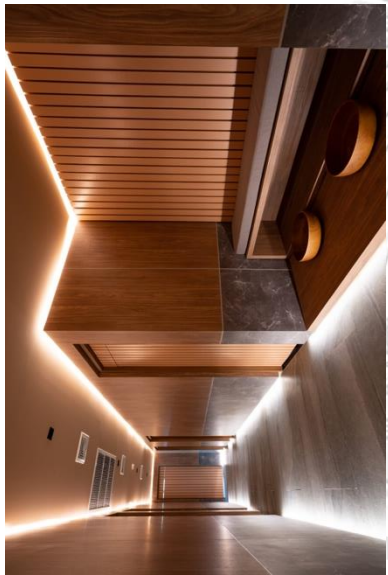
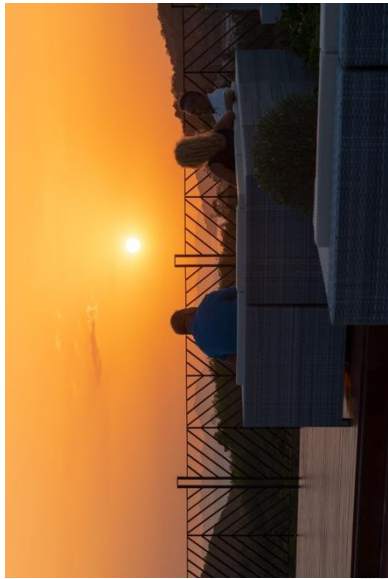


**Appendix D**

**ANANA Ecological Resort Krabi (Green hotel)**

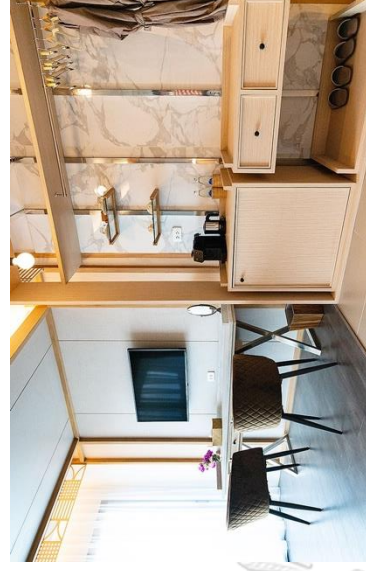
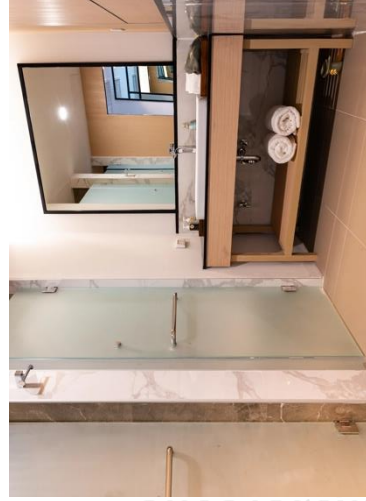
**Hotel architecture and design**





## Hotel suites and rooms

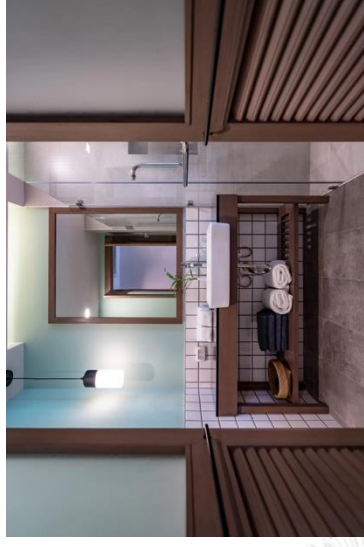
- Spa suite



- Spa studio



- Family and friends



- Thai studio





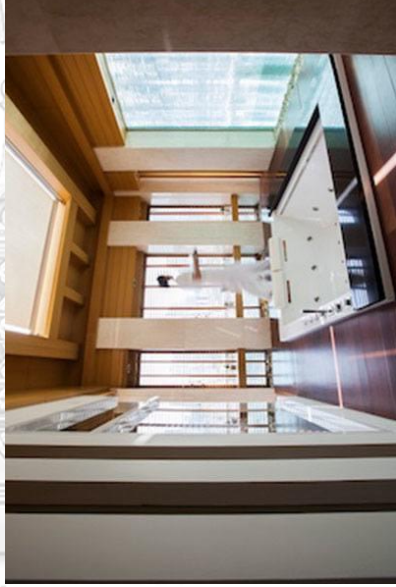
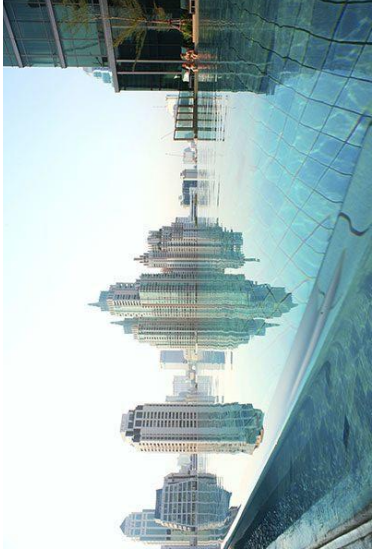


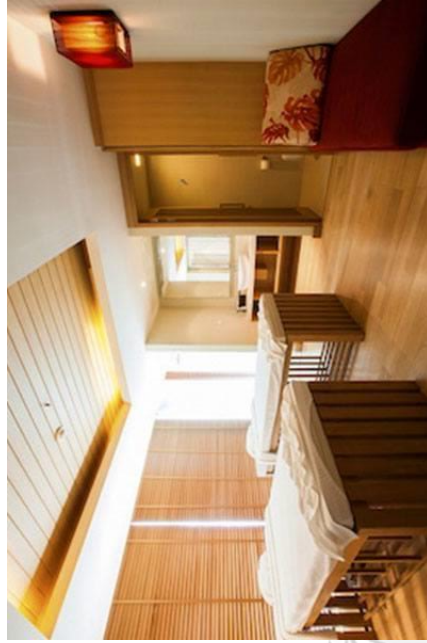
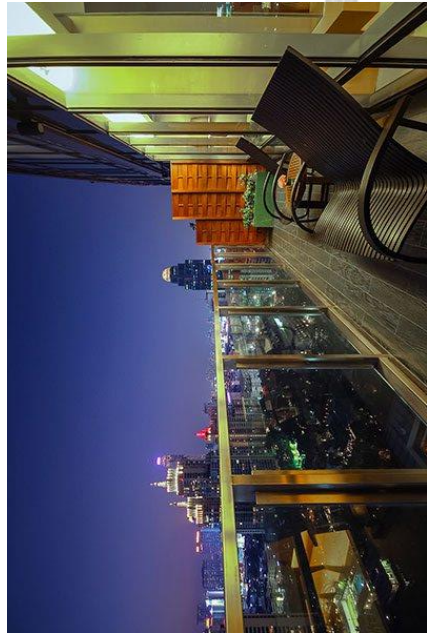
**Appendix E**

**Sivatel Bangkok (Non-green hotel)**

จุฬาลงกรณ์มหาวิทยาลัย  
**CHULALONGKORN UNIVERSITY**

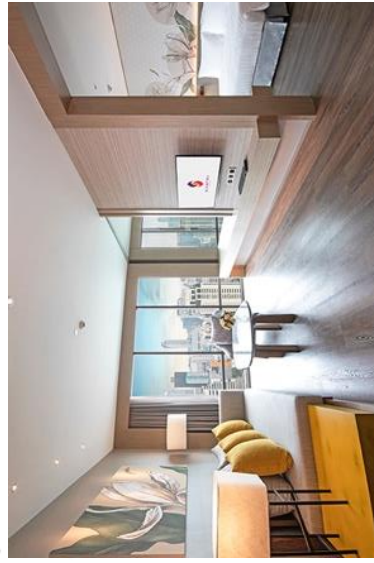
**Hotel architecture and design**





**Hotel suites and rooms**

- **Champa suite**



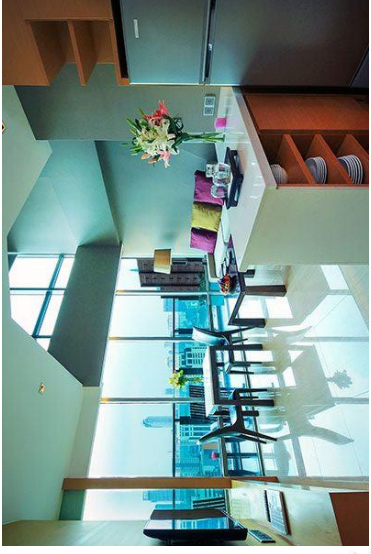
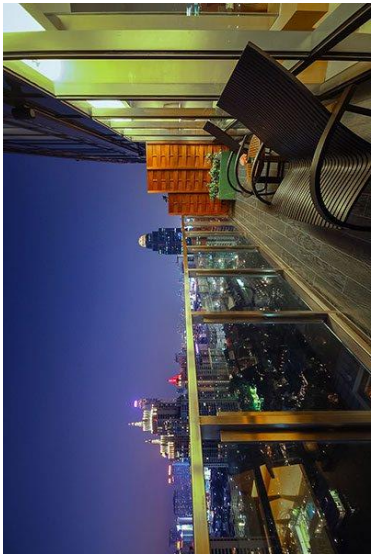
- **Roselle suite**



- **Chrysanthemum suite**



- **Royal Duplex**



- **Grand Royal Duplex**





**Appendix F**

**The indicators of green practices implementation of green hotel (Hotel A) and non-green hotel (Hotel B)**

จุฬาลงกรณ์มหาวิทยาลัย  
**CHULALONGKORN UNIVERSITY**

Green management areas	Social	Environment	Economic
<p><b>1. Energy Efficiency</b></p>		<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Minimizing the overall energy consumption [A][B]</p> <p><b>Green Seal</b></p> <p>Maintaining a list of electricity devices in all areas [A][B]</p> <p>All indoor lighting shall be energy-efficient [A][B]</p> <p>Regularly maintenance for HVAC [A][B]</p> <p>Installing climate and lighting control (sensor system) for lighting and HVAC [A]</p> <p>Implementing energy efficiency program and be acknowledged for all [A][B]</p> <p><b>Green Leaf Certification</b></p> <p>Initiating in energy saving steps in hotel operations [A][B]</p> <p>Installing technology or energy saving devices that are suitable to the property size and scale. [A]</p> <p>Monthly reporting on energy use to create new energy strategies [A][B]</p> <p><b>LEED</b></p> <p>Optimizing energy performance [A][B]</p> <p>Renewable energy production [A][B]</p>	

Green management areas	Social	Environment	Economic
		Enhancing energy management [A][B]  Advance energy metering [A]  Green power and Carbon offsets [A][B]	
<b>2.Waste management</b>		<p style="text-align: center;"><b>Global Sustainable Tourism Council (GSTC)</b></p> Effective treating wastewater procedures and safely to protect the impacts to local community and the environment [A][B]  Proceeding the measures and steps for solid waste management. [A][B]  <p style="text-align: center;"><b>Green Seal</b></p> Implementing recycling program and monitoring the practices [A][B]  Initiating in composting scheme from food and yard waste [A]  Using refillable amenity entirely. The packaging should be recyclable. [A][B]  Double sided printing [A][B]  Donating leftover food to local habitants or food bank [A]  Minimizing the use of disposable food service item [A][B]  <p style="text-align: center;"><b>Green Leaf Certification</b></p> Efficiency wastewater	



Green management areas	Social	Environment	Economic
		<p>treatment through installing suitable system, monitoring and maintaining [A][B]</p> <p>Engaging 3R program to handle with solid waste management [A][B]</p> <p>Utilizing wastewater for other purposes such as for watering or cleaning [A][B]</p> <p>Decreasing non-recyclable or single use packaging in operations [A][B]</p> <p><b>LEED</b></p> <p>Storage and collection of recyclables [A][B]</p> <p>Long-term management on waste reduction [A][B]</p>	
3. Water reduction		<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Minimizing the consumption of water by types, policies and efficiency steps [A][B]</p> <p><b>Green Seal</b></p> <p>Water-Efficient fixtures labeled by WaterSense and regularly monitoring [A][B]</p> <p>Implementing water saving procedures for landscaping and irrigation [A][B]</p> <p>Applying alternative methods in hard surfaces areas (sidewalks, or parking lots) such as sweeping, cleaning with machine by recycle water [A][B]</p> <p>Offering towel and linen</p>	

Green management areas	Social	Environment	Economic
		<p>reuse program to multiple-night guests [A][B]</p> <p>Washing appliances are filled to the recommend capacity and temperature [A][B]</p> <p><b>Green Leaf Certification</b></p> <p>Encouraging customers to participate in water saving program [A][B]</p> <p>Installing water saving devices or technology in the property and creating efficiency water consumption policy [A]</p> <p>Utilizing recycling water for cleaning purposes [A][B]</p> <p>Verifying water system continually [A][B]</p> <p><b>LEED</b></p> <p>Indoor water use reduction and specific water saving strategies [A][B]</p>	
<p><b>4. Local participation and well-being improvement</b></p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Supporting local community to improve their livelihood and maximizing opportunities [A][B]</p> <p>Increasing the opportunities for job employment and quality of life [A][B]</p> <p>Supporting and providing the advice to local entrepreneurs for the development of sustainable products and services [A][B]</p> <p>Implementing the policy</p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Supporting and providing the advice to local entrepreneurs for the development of sustainable products and services [A][B]</p> <p>Preserving local subsistence, nature resources, and reducing the affected impacts [A]</p> <p><b>Green Leaf Certification</b></p> <p>Supporting local community programs in environmental conservation [A][B]</p> <p>Hotel products and</p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Increasing the opportunities for job employment and quality of life [A][B]</p> <p>Purchasing local products and services with the fair trade [A][B]</p> <p>Supporting and providing advice local entrepreneurs in the development of sustainable products [A][B]</p>

Green management areas	Social	Environment	Economic
	<p>and voluntary groups to cope with the issues of exploitation and any kinds of harassments [A][B]</p> <p>Offering equally opportunities without discriminations and disabilities [A][B]</p> <p>Respecting in labors' rights, safety and securing workplace environment [A][B]</p> <p>Monitoring the impacts on the availability of local services [A][B]</p> <p>Preserving local subsistence, nature resources, and reducing the affected impacts [A][B]</p>	<p>souvenirs can be found in the community which are not made from forest and marine materials [A][B]</p>	
<p><b>5.Cultural and historical conservation</b></p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Following good practices and international guidance to decrease the downside impacts on cultural or historical site [A][B]</p> <p>Presenting native culture and heritage through embracing in decoration, design, or cuisine [A][B]</p> <p>Preventing the unpermitted trading of historical and archaeological artefacts [A][B]</p> <p>Providing the information of native residents, cultural, natural and the</p>		

Green management areas	Social	Environment	Economic
	<p>appropriate manner guidance for visitors [A][B]</p> <p><b>Green Leaf Certification</b></p> <p>Supporting and conservation historical, cultural, archeological, and native community [A][B]</p>		
<p><b>6.Pollutions mitigating and hazardous substances</b></p>	<p><b>Green Leaf Certification</b></p> <p>Preventing and controlling undesired noise from the organization's activities [A][B]</p> <p>Abating the use of chemical, pesticide, and cleaning products [A][B]</p> <p><b>LEED</b></p> <p>Encouraging employee to walk or bike for lessening gas emissions, it also boosts health through daily physical activity [A]</p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Controlling and calculating the amount of significant greenhouse gas emissions [A][B]</p> <p>Lessening the use of harmful substances including pesticides, paints, swimming pool disinfectants and cleaning materials [A][B]</p> <p>Mitigating pollution from noise, light, drainage, erosion, ozone-depleting substances, air, water and soil contamination through initiating in pollution management practices [A][B]</p> <p><b>Green Seal</b></p> <p>Replacing alternative substances or using less chemical [A][B]</p> <p><b>Green Leaf Certification</b></p> <p>Abating the use of chemical, pesticide, and cleaning products [A][B]</p> <p><b>LEED</b></p> <p>Enhancing indoor air quality strategies [A][B]</p> <p>Indoor air quality assessment [A]</p>	

Green management areas	Social	Environment	Economic
		Environmental tobacco smoke control [A][B]  Encouraging employee to walk or bike for lessening gas emissions, it also boosts health through daily physical activity [A]	
<b>7.Conserving biodiversity, ecosystems, and landscapes</b>		<p style="text-align: center;"><b>Global Sustainable Tourism Council (GSTC)</b></p> Supporting biodiversity conservation and natural protection through the properly management [A][B]  Avoid brining in the invasive species. Encouraging the utilization of native species for landscapes and restoration [A][B]  Following the appropriate guidelines for the management a natural area [A][B]  Responsibly managing and interaction with wildlife [A]  Compliance with animal welfare [A]  No harvesting, trading, consuming and displaying the wildlife species expect the law permission [A]  <p style="text-align: center;"><b>Green Leaf Certification</b></p> Growing local plant species in property [A][B]	
<b>8.Buildings and infrastructure</b>	<p style="text-align: center;"><b>Global Sustainable Tourism Council (GSTC)</b></p> Design and construction have to compliance to laws and requirements	<p style="text-align: center;"><b>Global Sustainable Tourism Council (GSTC)</b></p> Design and construction have to compliance to laws and requirements	

Green management areas	Social	Environment	Economic
	<p>[A][B]</p> <p>Provide clear information entire buildings and activities [A][B]</p> <p>Compliance with local, national and international law and regulations [A][B]</p> <p>Preserve the natural, cultural, landscape and heritage areas of local community. [A]</p> <p>Involving in the tourism planning and management of the destinations [A][B]</p>	<p>[A][B]</p> <p>Utilizing local materials, crafts, sustainable practices, and design in the building construction [A][B]</p> <p><b>LEED</b></p> <p>Selecting Eco-friendly building materials [A][B]</p> <p>Building design which reduces overall energy consumption [A][B]</p> <p>Interior's life-cycle impact reduction [A][B]</p>	
<p><b>9.Environmental and sustainable policies and management</b></p>	<p><b>Green Leaf Certification</b></p> <p>Purchasing eco and green label products to lessen impacts on environment. Supporting products and ingredients from local habitants [A][B]</p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Implementing long-term sustainable management that is appropriate to the property size. [A][B]</p> <p>Encouraging staff engagement in sustainable management [A][B]</p> <p><b>Green Seal</b></p> <p>Creating environmental purchasing policy in the property [A][B]</p> <p><b>Green Leaf Certification</b></p> <p>Providing environmental practices in hotel business training to staff [A][B]</p> <p>Purchasing eco and green label products to lessen impacts on environment. Supporting products and ingredients from local habitants [A][B]</p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Monitoring a customer feedback in term of sustainability aspect to response customer satisfaction [A][B]</p> <p>Promoting promotional material and marketing which regard to property's products and services in sustainability claims. [A][B]</p> <p>Encouraging staff engagement in sustainable management [A][B]</p> <p><b>Green Seal</b></p> <p>Specification on environmental policies and goals [A][B]</p> <p><b>Green Leaf Certification</b></p> <p>Providing environmental practices in hotel business training to staff [A][B]</p>

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10. Location and transportation	<p><b>LEED</b></p> <p>Encouraging employee to walk or bike for lessening gas emissions, it also boosts health through daily physical activity. [A][B]</p> <p>Integrating into surrounding community [A][B]</p>	<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Decreasing the use of transportation by encouraging the cleaner alternatives to staff, hotel guests, supplier and operations [A][B]</p> <p><b>LEED</b></p> <p>Using alternatives automobile such as bicycle, public transit and vehicle sharing [A][B]</p> <p>Reducing parking footprint by providing bicycle facilities i.e. bicycle lane and parking space [A]</p>	
11. Green purchasing		<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Efficiency environmental purchasing including policies, goods, building materials, food and beverages [A][B]</p> <p><b>Green Seal</b></p> <p>Following the established environmental purchasing policies [A][B]</p> <p>Purchasing the environmental-preferable products, architectural paints, durable goods and packaging [A][B]</p> <p>Selecting environmentally responsible service providers [A][B]</p>	
12. Business model			<p><b>Global Sustainable Tourism Council (GSTC)</b></p> <p>Reporting and communication on sustainable policy, steps and performance to</p>

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			<p>stakeholders and customers [A][B]</p> <p>Promoting promotional material and marketing which regard to property' products and services in sustainability claims. [A][B]</p> <p><b>Green Leaf Certification</b></p> <p>Communication and promoting green campaign through medias, leaflet or poster. Besides, the information should be useful to customers [A][B]</p>





## VITA

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