

# **Master's Thesis**

**The Effect of Cultural Tourism on the Sustainability of Cultural Heritage**

**Sites: the case study of Borobudur, Indonesia**

by

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## Table of Contents

CERTIFICATION PAGE.....	6
ACKNOWLEDGEMENT.....	7
ABSTRACT.....	8
LIST OF TABLES AND FIGURES.....	9
<b>1 INTRODUCTION .....</b>	<b>10</b>
1.1 BACKGROUND.....	10
1.2 GOAL AND SCOPE .....	12
1.3 RESEARCH SIGNIFICANCE.....	12
1.4 BOROBUDUR BACKGROUND INFORMATION .....	13
1.5 RESEARCH AIM & OBJECTIVES.....	15
1.6 RESEARCH QUESTION .....	16
1.7 STRUCTURE .....	16
<b>2 LITERATURE REVIEW .....</b>	<b>18</b>
2.1 INTRODUCTION.....	18
2.2 CULTURAL TOURISM.....	18
2.3 CULTURAL HERITAGE & TOURISM .....	23
2.3.1 <i>The Case of Machu Picchu, Peru</i> .....	25
2.3.2 <i>The Case of Angkor Wat, Cambodia</i> .....	27
2.4 SUSTAINABILITY IN CULTURAL HERITAGE TOURISM .....	30
2.5 LITERATURE SUMMARY .....	37
2.6 HYPOTHESIS .....	38
<b>3 METHODOLOGY .....</b>	<b>41</b>
3.1 INTRODUCTION.....	41
3.2 RESEARCH TYPE .....	41
3.3 DATA COLLECTION STRATEGY .....	42
3.3.1 <i>Interview</i> .....	42
3.3.2 <i>Netnography</i> .....	45
3.3.3 <i>Secondary Data Review</i> .....	47
3.4 CASE STUDY SELECTION.....	47
3.5 DATA ANALYSIS .....	51
<b>4 RESEARCH FINDINGS &amp; DISCUSSION.....</b>	<b>52</b>
4.1 INTRODUCTION .....	52
4.2 BOROBUDUR & LOCAL COMMUNITY .....	52
4.2.1 <i>Positive Impact</i> .....	54

4.2.2	<i>Negative Impact</i> .....	56
4.3	<b>BOROBUDUR TOURISM MANAGEMENT</b> .....	58
4.3.1	<i>Social Indicators</i> .....	59
4.3.2	<i>Economic Indicators</i> .....	60
4.3.3	<i>Environmental Indicators</i> .....	61
4.4	<b>BOROBUDUR CONSERVATION MANAGEMENT</b> .....	62
4.4.1	<i>Social Indicators</i> .....	64
4.4.2	<i>Economic Indicators</i> .....	66
4.4.3	<i>Environmental Indicators</i> .....	67
4.5	<b>TOURISTS PERSPECTIVE</b> .....	68
4.6	<b>DISCUSSION</b> .....	70
5	<b>CONCLUSION</b> .....	74
5.1	<b>POLICY RECOMMENDATIONS</b> .....	80
5.2	<b>RESEARCH LIMITATIONS</b> .....	81
	<b>REFERENCES</b> .....	83
	<b>APPENDIX</b> .....	88

## **Certification Page**

I, Dyah Ayu Indira Hapsari (Student ID 51219610) hereby declare that the contents of this Master's Thesis / Research Report are original and true, and have not been submitted at any other university or educational institution for the award of degree or diploma.

All the information derived from other published or unpublished sources has been cited and acknowledged appropriately.

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Dyah Ayu Indira Hapsari

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## **Abstract**

The tourism industry is one of the world's largest. It is estimated that four out of ten tourist travel motivated by culture. While sustainability became an increasingly important issue in tourism worldwide, most developing country has yet to catch up with its concept and instead focused its utilization for economic benefit. Borobudur temple, located in Yogyakarta, Central Java, Indonesia is one of nine recognized UNESCO World Heritage Site in the country, and the biggest Buddhist temple in the world. This research aim to identify the effect that cultural tourism activity has on the sustainability of cultural heritage site through the case study of Borobudur temple. Through literature review, a theoretical framework on cultural tourism sustainability indicators was built. Three main tourism dimensions- social, economic and environmental- are found to affect the sustainability of cultural heritage site.

Utilizing a mixed method of interview, *netnography* and literature review, this research compared the effect of cultural tourism on the sustainability of Borobudur temple through four main stakeholders: tourism management, conservation, local community and tourists. Findings of this research shows that cultural tourism affect Borobudur's sustainability in a largely negative way through lenient policy management, visitor's over carrying capacity which leads to increasing wear and tear, disconnecting local community from its culture and management, and conflict of interest and philosophy between its tourism management and conservation.

**Keywords:** Cultural Tourism, Cultural Heritage, Sustainability, Cultural Heritage Site, Sustainability Dimension,

## **List of Tables**

TABLE 1: BOROBUDUR VISITORS NUMBER. (SOURCE: AUTHOR'S INTERVIEW)	14
TABLE 2: CULTURAL TOURISM DEFINITION	19
TABLE 3: THEORITICAL FRAMEWORK	39
TABLE 4: POSITIVE AND NEGATIVE IMPACT OF TOURISM ON LOCAL COMMUNITY IN BOROBUDUR	54
TABLE 5: SUMMARY OF FINDINGS ON SUSTAINABILITY DIMENSIONS	71
TABLE 6: POLICY RECOMMENDATIONS	81

## **List of Figures**

FIGURE 1: CULTURAL HERITAGE TOURISM SUSTAINABILITY	34
FIGURE 2: DU CROS' CONTINUUM FOR MANAGEMENT PRIORITIES IN PLANNING A CULTURAL HERITAGE ATTRACTION	35
FIGURE 3: DU CROS' MATRIX INDICATING THE RELATIONSHIP BETWEEN THE CONTINUUMS OF ROBUSTICITY AND MARKET APPEAL	36
FIGURE 4: BOROBUDUR SUB-DISTRICT MAP (SOURCE: MAGELANGKAB.BPS.GO.ID)	53
FIGURE 5: NEGATIVE ASPECTS OF VISITOR EXPERIENCE IN BOROBUDUR TEMPLE	68
FIGURE 6: POSITIVE ASPECTS OF VISITOR EXPERIENCE IN BOROBUDUR TEMPLE	69

# 1 INTRODUCTION

## 1.1 Background

The tourism industry is one of the world's largest industry, and it is one that is still growing. International tourists arrival worldwide has reached a whopping 1.4 billion in 2018, which was two years ahead of its forecasted happening (UNWTO, 2019). In the same year, travel and tourism counts for 10.4% of the total global GDP- a 3.9% increase from the previous year- , contributing \$8.8 trillion to the global economy and creating 319 million additional jobs to the job market (WTTC, 2018). This number was forecasted to grow in the coming years, and prove that travel and tourism remains an attractive recreation and relaxation activity. This number also shows how people are increasingly eager to travel beyond the border of their own countries.

Tourism activity are divided into several categories. To name some of them: adventure tourism, ecotourism, dark tourism, geo-tourism and cultural tourism. Among these categories, cultural tourism accounts for quite a significant percentage. It is estimated that 4 out of 10 tourists are travelling motivated by cultural destination and/or interested in cultural offerings (Hohnholz, 2018). Cultural tourism was defined as an activity which enables people to experience different cultures and traditions through visiting historic, archaeological and architectural of said cultures (ICOMOS, 1997). Cultural heritage, is essentially tied to cultural tourism, and is one of its main motives.

Worldwide, UNESCO has identified 869 World Cultural Heritage Sites, with many more still on the waiting list and/or haven't been identified. Almost all of these sites are available to tourists and travellers. These sites and artefacts are interesting, in the way that they varied from one location and religion to the other, and important, in how some of them still serves as religious and cultural sites, and even those long abandoned, are still an important in a way that they served as a study of human history. These cultural heritage sites attract people's interest, and therefore, attract visitors. The Taj Mahal received around 8 million visitors in 2016, the Great Smoky Mountains in the United States received around 11 million visitors in the same year (Misachi, 2018). China's Forbidden City in Beijing, which was listed as one of UNESCO's World Heritage Sites, received a whopping 15 million visitors annually, and while in 2014 this number dropped 14 million visitors (Misachi, 2018), there was still 14 million individuals visiting and passing through the heritage site in a year.

Borobudur temple, located in Yogyakarta, Central Java, Indonesia is one of nine recognized UNESCO World Heritage Site in the country. The temple is arguably, one of the most well recognized cultural heritage site in the country, and received around 4 million visitors annually. Built around the 9<sup>th</sup> century AD, the temple was abandoned for centuries until in 1814, it was rediscovered by the Dutch who was doing work in the island. Since then, the temple has went through numerous restoration work and eventually, was open to tourism. There has been numerous research done on Borobudur, though mainly focusing on the effect of tourism on the local community, economy or the cultural tradition of the locals.

## **1.2 Goal and Scope**

The aim of this research is to identify the effects that tourism activity has on cultural heritage sites through the case study of Borobodur temple in Indonesia. To further specify, the tourism category analyzed in this research is Cultural Tourism, and the type of heritage site focused on will be Tangible Cultural Heritage. There exist other types of tourism and cultural heritages, however, this research will only focus on cultural tourism and its effect on tangible cultural heritage.

## **1.3 Research Significance**

While sustainability is an important issue worldwide, in tourism or else, most developing country have yet to caught up with its concept and instead focused on the utilization of cultural heritage sites for economic benefits. Most studies found on Borobudur focused on the Socio-Economic impact of cultural heritage site. To find how tourism affect the sustainability of cultural heritage site, is also to ensure that these sites will still exist for future generation. Other than that, this research will also serve as an approach to a more sustainable tourism in Indonesia. Policy makers and site officials could utilize the result to build a more sustainable system for heritage tourism and apply this to other sites. By using Borobudur temple. which is one of the most well-known cultural heritage site in Indonesia (around 4 million visitors per year), it can be set as an example of what to do or not to do on other sites

## 1.4 Borobudur Background Information

Built between the 8<sup>th</sup> and 9<sup>th</sup> century AD by the Syailendra dynasty, Borobudur temple, as its name suggest, was used mainly for Buddhist religious purposes from the time of its construction. Throughout Indonesia's history of wars, conflict and change of power, including the arrival of Islam into the country which overthrow the long reign of Hindu and Buddhist empire, Borobudur temple was abandoned from around the 10<sup>th</sup> to the 15<sup>th</sup> century. Due to its proximity to Mt Merapi and state of disuse, year of eruption from the volcano covered much of the temple under volcanic ashes, obstructing the temple from view. It is only much later in 1814 during the Dutch occupation of Indonesia, that the temple was rediscovered, and then began its long process of rehabilitation and restoration. In the year 1970, the massive restoration project of Borobudur temple was finally completed.

As of 2021, there are two main establishment that manage Borobudur's maintenance and operation. In 1980, the management of Borobudur temple falls under PT.Taman Wisata Candi (Temple Tourism Park), which manage the tourism management aspect of Borobudur temple. In 1991, Borobudur was assigned with the status as UNESCO World Heritage Site, further acknowledging its cultural and historical significance. The following year, in 1992, the management of Borobudur temple was joined by Balai Konservasi Borobudur ( Borobudur Heritage Conservation) to better manage its conservation side.

Borobudur's area is divided into five zonation. Cited from the JICA Study Team (1979), Zone I is the area that is intended for protection and subject to the

prevention of destruction of physical characteristics of the monument. Zone II is intended for the use of visitation; providing facilities for tourists while still protecting the natural and historical environment of the temple. The third zone, Zone III is the area that controls the development of area around the temple while still regulating the use of the land surrounding the temple and preserving the environment. Zone IV's purpose is the prevention of destruction of natural scenery and maintaining historic scenery. The last zone, Zone V, is the zone that is intended for archaeological study purposes, and also the prevention of archaeological monuments that has yet to be discovered.

Indonesia, as an archipelago of over 17.000 islands and more than 1.300 ethnic groups and cultures, attracted millions of tourists every year. Among these visitors, most visits are motivated by cultural and natural intents, accounting for around 60% and 35% respectively (OECD, 2020). OECD estimated that Indonesia's tourism contribution to the GDP is in line with the OECD standard, which reach around 4.1% in 2017, providing 12.7 million of jobs nationwide and representing 10.5% of the total employment. Among Indonesia's many attraction, is Borobudur; one of the biggest Buddhist temple in the world. Borobudur received an increasing number of tourists every year.

*Table 1 Borobudur visitors number. (Source: Author's Interview)*

No	Tourist Type	2016	2017	2018	2019
1	Domestic	5,853,783	5,907,719	6,214,111	6,399,005
2	International	498,136	564,740	540,037	439,633
<b>TOTAL</b>		6,351,919	6,472,459	6,754,148	6,838,638

Table 1 above shows the number of tourists arrival in Borobudur from the year of 2016 until 2019. From the visitors data acquired from Borobudur management interview, it can be seen that from 2016, although the number of international visitor fluctuates through the years, the number of total visitors has been steadily increasing, from 6.351.919 visitors in 2016, to 6.838.638 in 2019. This means, there are around 18000 tourists visiting Borobudur each day.

Borobudur is located in the city of Magelang, only 40km away from the capital of Yogyakarta Province, the Special Region of Yogyakarta. From the domestic airport of Adi Sucipto in Yogyakarta, it took around 1 hour drive to get to Borobudur, while from the newly built Yogyakarta International Airport located in Kulon Progo city, it took around 1 hours 30 minutes to get to Borobudur. Borobudur's location is close to the main highway that connected Magelang to Special Region of Yogyakarta, and it is easily accessible by various means of transportation including private vehicles and city busses.

## **1.5 Research Aim & Objectives**

Aim: Identifying the effect that cultural tourism activity has on the sustainability of Borobudur temple as cultural heritage site

Objectives:

- Identifying the factors and stakeholders in tourism that affect the sustainability of Borobudur as cultural heritage site

- Using data collected from interview and site visit, analyze the effect said factors have on the sustainability of Borobudur as cultural heritage site

## 1.6 Research Question

The main research question is: *How does tourism activity affect the sustainability of Borobudur temple as cultural heritage site?*

In order to answer the main question, several sub questions will be answered:

- What factors affect the sustainability of Borobudur as cultural heritage site?
- How can these factors affect the sustainability of Borobudur as cultural heritage site?

## 1.7 Structure

The first part of this research will be the introduction of the research, which will consist of the background information, the goal and scope of this research, the research significance, aim and objectives, and the main research question and the sub questions. The second part of this research will further explore and define the terms ‘cultural tourism’, ‘cultural heritage’ and ‘cultural heritage sustainability’ based on existing journals and research on the subject. In the same chapter also will be defined the measures of sustainability in cultural heritage site, which later will be made into analytical framework to be proved within this research. Chapter three will further explain

in detail the methods used for this research. In chapter four, the case study of Borobudur temple will be analyzed, which will continue on to the data collection. The fifth chapter of this research will analyze the findings previously mentioned on chapter four. Finally, on the sixth chapter, a conclusion will be drawn from the whole research, as well as answering the main research question. There will be some suggestions given as well as room for future researches.

## **2 LITERATURE REVIEW**

### **2.1 Introduction**

Tourism, in its practice, has always been interwoven with culture and heritage. The human desire to learn and experience something that is new and unique has driven millions of people to leave their place of origin, and explore a place and culture that is unlike their own. As the term 'culture' itself consist of the variation and combination of many objects- both tangible and intangible- so does the definition of cultural tourism. The term cultural tourism, heritage and sustainability will be the focus of this research. In this chapter, first, the term 'cultural tourism' will be defined based of existing journals and articles. Following that, the term 'cultural heritage' and the way it interconnects with tourism practices will be explained, and examples will be given using to support the literatures. This chapter will also discuss the concept of Sustainability in Cultural Heritage Tourism in detail to find the indicators that affect sustainability in cultural tourism, and the way they affect cultural heritage sites.

### **2.2 Cultural Tourism**

The term of 'culture' and 'tourism' in itself seems to be easy enough to define, as inherently, their meaning are separate, and it is assumed that the same goes for defining the term 'cultural tourism'. After all, it is generally accepted that a visit to a cultural museum in a country or region where that culture originally manifested is

regarded as cultural tourism while a visit to the mountain does not count as such (Mousavi et al., 2016). However, in recent years, the definition of cultural tourism seems to have become blurred as the term, and tourism itself, developed and evolved. The definition of cultural tourism varied across different journals, articles and books. It appears that to there exist definitions of cultural tourism as there are number of cultural tourism themselves (Mckercher & Cros, 2002). In their 2008 paper title ‘Cultural tourism – concerning the definition’. Rohrscheidt, Milenium and Gniezno highlighted a point in which it said that culture and cultural tourism, first and foremost, is a humanistic phenomenon, and therefore, all and any attempt taken to explain such phenomenon will always be met with conflicting results from the differing opinions of each individual. That being said, numerous papers, journals and research has attempted to define what constitute as cultural tourism, and its definition is anything but lacking.

Among these definitions, some of the most well-known and commonly used are listed in below table.

*Table 2: Cultural Tourism Definition*

DEFINITION	YEAR	AUTHOR
A type of specific <b>interest</b> tourism where the culture of the host country is important to attracting visitors interest, whether intellectual, emotional, aesthetic or psychological	1994	Yvette Reisinger
Visitation that is motivated by <b>interest</b> of people outside the host community, wholly or partly in the artistic, scientific, historical or heritage offerings of a community, group, region or institution	1995	Ted Silberberg

Conceptual: <b>Movement</b> of individuals towards cultural attractions that is away from their original place of residence. Technical: All <b>movements</b> individuals towards a specific cultural attractions including heritage sites, artistic and cultural manifestations, arts and drama that is outside their original residence	1996	ATLAS
The activity of gaining first hand understanding through <b>experiencing</b> customs and traditions by visiting and learning of historic, architectural and archaeological places that is significant to said culture	1997	ICOMOS
<b>Movements</b> motivated by cultural intents in the form of performance arts, festivals, cultural events, study tours, monuments and site visits, and pilgrimages	2004	UNWTO
Cultural tourism is a <b>product</b> borne from out of the motivation of the tourist to get acquainted with new cultures as the supply side and the unique culture and heritage of the destination as the demand's side	2012	Janos Csapo
Cultural tourism is defined as a type of tourism in which tourist's <b>motivations</b> are fundamentally, to experience, discover, consume and learning of cultural products and attractions, whether tangible or intangible	2018	Greg Richards

Few keywords that are most commonly used across these definitions are 'product', 'movement', 'immersion', 'activity', 'experience' and 'interest'. The first few definitions by Reisinger in 1994 and Silberberg in 1995, defined cultural tourism as being motivated by interest in the experience and lifestyle of other cultures, putting emphasize on the 'interest'. Cultural tourists are then traveling based on their interest in a culture they have not previously know about or experienced in advance. To differentiate cultural tourism from other types of tourism then, depends on the interest people had on the cultures that are inherently different than the one they possess or experience on the daily. While Reisinger (1994) highlight the culture of the 'host country', Silberberg (1995) had a broader definition which highlight 'host community'. This could mean that cultural tourism does not only apply to people visiting other countries with immensely different culture, but also within one's country which could also have varyingly different cultures in which the individuals have yet to experience

themselves. These **interests** drive tourists to seek cultures that is completely new and foreign to them. They are interested to learn about these seemingly peculiar cultures that is so different to the one that they are used to in their day to day life.

Association for Tourism and Leisure Education (ATLAS) established a widely used definition that is divided into two categories: conceptual and technical. Conceptually, ATLAS define cultural tourism as a **movement** of individuals that is driven by the intention to learn, and attain new knowledge and experience in order to fulfill their cultural needs. Technically, cultural tourism as a whole is all the movements of people outside their original place of residence, towards a cultural attractions, be it heritage sites, art or cultural manifestation that is unique to them. While ATLAS definition seems to take some common pointers from previous definitions regarding intention and motivation, previous definitions focused on the motivation part of what differentiate cultural tourism from other tourism. Meanwhile, ATLAS, while still mentioned intention of travelling, also put emphasis on the destination of the travel, which is cultural attractions. To sum up, according to ATLAS, cultural tourism is broadly defined as the journey that is taken to encounter cultural asset of any kind, which in this case is driven by cultural goal and the objective to individually experience said culture (Rohrscheidt et al., 2008).

A couple of years later, the definition of cultural tourism seems to have shifted from interest into experience, as defined by ICOMOS in 1997. In this sense, cultural tourism is an understanding and learning of one's cultures and traditions through experiencing said cultures. To experience other cultures, is also to study and understand how other cultures do things, and how much it differs from the cultures that they know back home. Cultural tourism, then, is the experiencing of other cultures through a

multitudes of medium. This can include observing artefacts, visiting archaeological sites or even taking part in said culture's customs and traditions. Later in the years, the definition seems to adapt previous definition by ATLAS, and cultural tourism defined as a movement, that is motivated by cultural intents (UNWTO, 2004). This shifts back its definition's focus from the drive behind cultural tourism, to the outcome of said motivation and interest, which resulted in the movement that cultural tourists execute to satisfy their interest to experience other cultures.

Interestingly, while previous definitions focused on the interest on and movement to a new culture, the newer definition seems to defined it in an economic way, as a product with demand and supply. In this case, the unique culture and heritage of the destination is the demand side, while the motivation of the tourist to get to know new cultures are the supply side (Janos Csapo, 2012).

However, this sentiment is not shared with the latest deifnition of cultural tourism, in which it seems to cite previous research by distinguishing cultural tourism from other types of tourism by, inherently, the motivation of tourists to travel. Richards (2018) state that it is essential for cultural tourism that the motivation of the traveler be to experience, consume, discover and learn of a cultural attraction in a place of touristic origin, whether the object of learning be tangible or intangible. This definition seems to line up with the earlier definitions of cultural tourism by Silberberg (1995) who defined emphasize on the **interest** as the aspect that differentiate cultural tourism from other tourism, and also with the UNWTO (2004) definition which, while focusing on the movement, also emphasize on the motivation of cultural intents.

In defining cultural tourism, one could differ cultural tourism from other types of tourism, and therefore, differ its purpose and focus. By looking at above table, a

summary can be drawn on what cultural tourism is. In this sense, cultural tourism can be defined as the movement towards cultural objects and attractions, motivated by interest and the inclination to experience a foreign or new culture. The act of cultural tourism is one that, as its name suggest, intertwined with cultural product, be it in the form of a tangible object such as artefacts and heritage sites, or in the intangible form of performance arts, festivals and cultural events. Then, according to that definition, any activity which goal includes a specific place, landmark, and/or event of cultural origin as its destination, constitutes as cultural tourism activity.

Cultural tourism depends heavily on cultural heritage. And while cultural tourism might also have an effect on intangible cultural heritage as well, the focus of this research will be its effect on the tangible cultural heritage. Throughout this research, above definition will be cited to explain cultural tourism and its activity.

### **2.3 Cultural Heritage & Tourism**

UNESCO in their 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage defined cultural heritage into three categories: monuments, groups of buildings and sites. Monuments refer to works of architectural, monumental painting and sculpture, structure or elements which have archaeological nature. This also includes any cave dwellings, inscriptions and any combination of said features which, seen from the history, art or science point of view, possess an outstanding universal value. Groups of buildings in cultural heritage are defined as a set of interconnected or separate buildings that when seen from their architecture style, their homogeneity or the place/location of their landscape, and from the perspective of

history, art or science had an outstanding universal value. Lastly, sites refer to sites of archaeological origin and works of man or the combined works of both man and nature which, seen from the history, art or science perspective, possess an outstanding universal value (UNESCO, 1972).

Cultural heritage comes in not only tangible form, but also intangible form. González-Pérez & Parcero-Oubiña (2012) in their paper defined cultural heritage through a series of principles. First, cultural heritage consist of discrete entities, which means that cultural heritage exists as individual things that can be differentiated from each other, instead of one continuous mass. Second, cultural value is designated to things by people/ individuals. The way we understand cultural value is through the importance and value that other people, throughout history, put on specific things; from how important they are in the point of view of history, art and science, from their sentimental identity or continuity, or both. Third, cultural value is distinct and separate to the valued thing. This means that, while one object is highly valued by the culture that assigned such values to them, this might not be the case for other culture, who does not put the same value to that object. Hence, cultural value is objective to the eye of the culture it held. Fourth, cultural value is what makes cultural heritage. There exist endless amount of objects which possess cultural heritage elements, but only a select few of them are considered as cultural heritage. This depends on the cultural value certain cultures put on such objects. Fifth, things and cultural value are in many occasion, represented for convenience. In some instances, things are represented through text, images, sound and other media for convenience, and this includes intangible things as well.

Through those principles, González-Pérez & Parcero-Oubiña (2012) discern that whether a cultural heritage is of value or not depends on the culture which the heritage belongs to.

Cultural heritage is defined as the moveable and immovable artefacts, knowledge items, practices and other things that has been identified as old and important, hence they are deemed worthy of conservation and upkeep from a specialized institution (Wright, 2015). These can come in various forms. For tangible cultural heritage, this can be in the form monuments, temples, historic sites and artefacts (UNESCO, 2017). To visit, experience and learn about these sites in person is an imperative part of cultural tourism. In some cases, these sites are what attracts tourism activity in that area. However, as a previously unknown cultural heritage site gained fame, it is inevitable that the number of tourists visiting these sites will increase as well. Cultural heritage has proven to be an invaluable part of a country's tourism. What tourism did to the cultural heritage assets, however, might not be as positive.

### **2.3.1 The Case of Machu Picchu, Peru**

Machu Picchu is the site of the ancient city of the Inca civilization ruin, located in Peru, South America, perched on a high altitude between two sharp peaks of the Andes mountain range (Britannica, 2021). It's location and its ancient history and cultural significant attracts millions of tourists every year, reaching 1.5 million on 2018 (PROMPERÚ, 2018). To see an example of the relationship between cultural heritage and economy, we can look at how

Macchu Piccu in Peru helped boosting the economy of the country (Connolly, 2017). However, while Macchu Piccu shown to helped the country's economic boon, tourists coming to the sites has been reported to mark up the floors, took stones and perform in a generally bad manner around the site (Connolly, 2017). Tourism combined with bad management practice in Machu Picchu has been rising controversy, as the site failed to balance tourism and conversation. Machu Picchu's over-exploitative approach on raising fund through ticket sales and other tourism activity instead of focusing on conservation and site preservation has been largely contributed to the threat of the site's survival (Zan & Lusiani, 2011). Machu Picchu management is struggling to maintain numerous aspects of its social, economic and environmental factors, as is common in World Heritage sites that is located in developing countries (Regalado-Pezua & Arias-Valencia, 2006; UNEP, 2008).

Climate condition, combined with poor management, has contributed largely to the deterioration of Machu Picchu. The ecosystem on and surrounding Machu Picchu has been found to be extremely fragile; noise pollution and traffic has driven all of its native Andean condors away (Collins, 2006), and the development of tourism and civilization present a threat to habitats of several endangered species (IUCN, 2011; Peyton, 1980). Then, there is the issue of site accessibility. Growth and development in the region surrounding Machu Picchu has been hindered by its remote location, even though its tourism has been growing rapidly (Larson & Poudyal, 2012). Options to build access has been met with strong opposition from environmentalist and archaeologists, as its construction will lead to the inevitable destruction of

essential archaeological sites and forests (Burger&Salazar, 2004). Another pressing issue on Machu Picchu is regarding its local development. Many of the local villages around Machu Picchu are involved in its tourism practice, however, very little of the tourism profit actually reach these locals (Larson & Poudyal, 2012), and social inequalities in these villages are high largely due to the seasonal fluctuation nature of its tourism and the restriction of choices regarding livelihood in the area (McGowan, 2010; UNEP, 2008).

While Machu Picchu's management is aware of its carrying capacity, it did little to limit the number of tourists visiting, and its management is conflicted on the number of actual limit as different stakeholders hold different priorities on the site (Larson & Poudyal, 2012). The extreme use of of Machu Picchu has led to the destruction of important archaeological remains, and the excessive number of visitors on the site has affected the immersion, enjoyment and solitude, as well as imagination that people have while visiting, negatively (Emmott, 2003).

### **2.3.2. The Case of Angkor Wat, Cambodia**

Angkor wat is an ancient Buddhist temple located in a vast religious complex located at Angkor, near Siemreab, Cambodia (Britannica, 2020). The expansive structure and complex of Angkor Wat is among the biggest religious structure in the world, and it attracted thousands of tourists every year. In 1992, Angkor Wat is added to the UNESCO World Heritage list, the first for cultural heritage site in Cambodia (Baniya et al., 2020). While its architectural

grandness and extensive history proof worthy of its World Heritage status, the state of Angkor Wat was poor after Cambodia went through civil war from the late 1960s until early 1990s, and therefore, upon its addition to the World Heritage list, it was also immediately added to the Heritage in Danger list (Baniya et al., 2020; Britannica, 2020; Miura, 2018).

From then on, massive restoration project, followed by changes in management and policies were undertaken in Angkor Wat. One significant changes regarding Angkor Wat were including the emphasize on the importance of Angkor Wat's 'intangible culture' in order to raise awareness from the local community who still use the temple for cultural practices and traditions, and in turn, creating a sense of ownership and responsibility to protect and preserve the temple as their own (Suy et al., 2018). In 2004, after years of restoration efforts, it was finally taken off of the list. In practice, however, the government of Cambodia has been focusing more on the romantic idea and past grandeur of Angkor Wat, and the development and construction of the temple to fit this image has been harmful to the local cultural and traditional practices (Miura, 2018). The commodification of the Cambodian culture for marketing of the Angkor temples has also raised concerned that it came at the expense of the local community of Angkor (Winter, 2004). Among some of the most pressing issues regarding Angkor Wat are the heavy stress visitors put on the structure of the temple, development that is not regulated or controlled, pollution of the sewages, and land development project that displaces local community (Tegelberg, 2010; Barling, 2005; MRC, 2010).

While Cambodia has a large number of untapped tourism opportunities, one of the main problem of its tourism is the lack of qualified human capital and financial constraint, which lead to the low level of meaningful engagement in its tourism practices (Carter et al., 2015). Moreover, as is the issue with many cultural heritage attractions in developing countries, there is a problem of overcrowding, and in most cases this lead to the deterioration of immersive experience and seems to devalue its World Heritage status for visitors (Larson & Poudyal, 2012).

Other examples are including how while Parthenon was a major part that helped improve Greece's economy post-crisis (Smith, 2016), it suffered a similar treatment, as the large number of tourists passing through the site, its stone steps were damaged and eroded (Roberts, 1975). China's Great Wall has shown to have graffities all over parts of its walls (Pile, 2016).

Cultural heritages in developed country might not suffer as bad a fate since they have extensive knowledge and budget on the conservation of these sites. Developing countries, however, might not have the same privilege. A large part of developing countries cultural heritage are undiscovered. Those that are discovered were subjected to exploitation by local government and community alike to rake profits.

## 2.4 Sustainability in Cultural Heritage Tourism

Cultural heritage tourism is an integral part of the tourism industry, as it has been regarded as an opportunity to revitalize the local economy through existing capitals. Yet the tourists with little to no knowledge or care of these cultural heritage site possess a threat to the sustainability of these sites (Weng, He, Liu, Li, & Zhang, 2019).

The concept of sustainability in cultural heritage is not actually new. However, there was an apparent lack of effective measures and planning that encompasses not only marketing appeal, economic factors and conservation techniques, but also manages to balance these aspects in a way that is beneficial to the cultural heritage itself (Du Cros, 2001). A large number of countries are actually experiencing diminishing fund in the management of these cultural heritage sites and thus, they are open to many new innovation for the management and conservation of these sites (Jacobs & Gale, 1994). Cultural heritage site management's goal of not only the economic well-being but also conservation for future generation rises the issue of sustainability planning for cultural heritage.

Cultural heritage tourism should, ideally, bring economic opportunities and benefits to the host communities, and thus providing said community with the means and motivation to safeguard and manage the cultural heritage site and continue with their traditions (Du Cros, 2001). Therefore, in talking about sustainability in cultural heritage, it is imperative that we are not only talking about the sustainability of the heritage site, but also the sustainability of the economy and well-being of the society it

supports. What is also important in the sustainability of cultural heritage site is the cooperation between stakeholders , as to ensure the site will exist for many generations to come (ICOMOS, 1998).

In order to manage and maintain these cultural heritage site sustainably, managers and planners need to follow a set of indicators as a way of monitoring the site (Jurdana, 2004). WTO in 1996 define these indicators as a “the set of measures that provide the necessary information to better understand the links between the impact of tourism on the cultural and natural setting in which this take place and on which it is strongly dependent” (WTO, 1996). A number of research has identify several different set of indicators of sustainability in tourism. The WTO provide a set of core indicators for sustainability in tourism which includes: site protection, stress, use intensity, social impact, development control, waste management, planning process, critical ecosystem, consumer satisfaction, local satisfaction and tourism contribution to local economy (WTO, 1996). While it is important to note that these indicators apply to tourism in general, not just specific to cultural heritage tourism, these indicators apply to cultural heritage site sustainability.

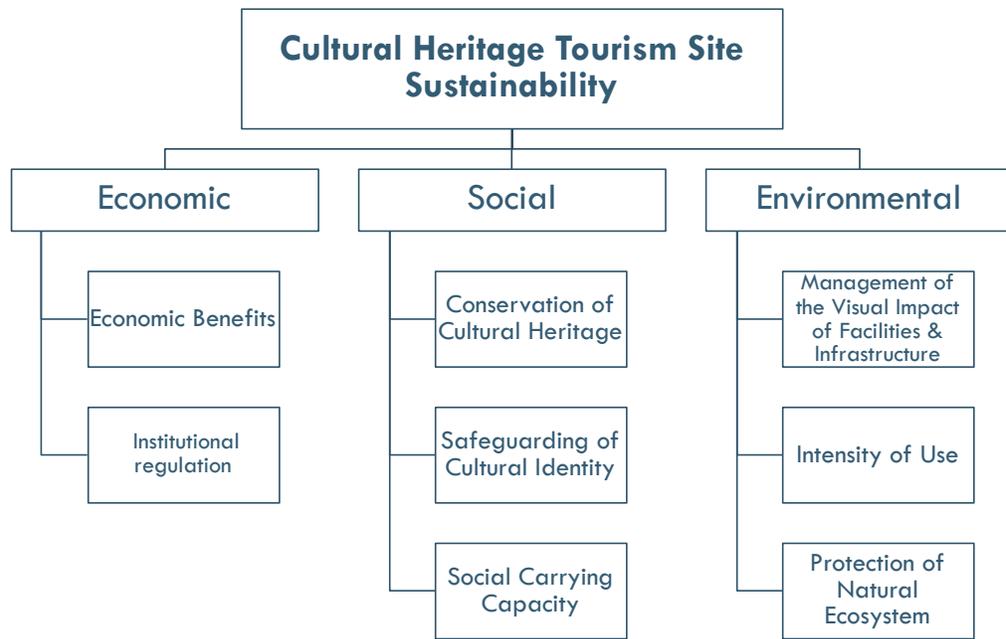
Going through journals and articles mentioning the indicators to measure sustainability of cultural heritage tourism, three common indicators kept showing in most, if not all of them. In their 2011 paper, Hierarchical Sustainable Cultural Heritage Tourism Development , Ngamsomsuke, Hwang & Huang, find their indicators to measure sustainability in cultural heritage tourism by using the case study of the Historic City of Ayutthaya in Thailand. Their research divide the indicators into four main categories: **Economic Activities, Social Support, Management of Cultural Heritage Site, and Surrounding Environment of Cultural Heritage** site. These four

indicators were then expanded into several sub-indicators to better explain the application on the field. The result of their research on Ayutthaya are put in these sub indicators, and sorted based on the weights of objective level. The five sub indicators with the highest weight were found to be architectural character of area surrounding cultural heritage site, urban design of area surrounding cultural heritage site, cultural heritage site preservation condition, maintenance of heritage site and facilities and service provided at cultural heritage site. While among the indicators with the lowest weights are tourists attitude and public awareness of possible criminality at site.

Another study by Ren and Han (2018), on indicators of sustainability of built heritage attraction shows similar indicators. In their research focusing on Anglo-Chinese study, Ren and Han studied 93 built heritage attractions in the UK and China, and came with four main indicators: **Economic, Environmental, Social and Governance**. As with previous research, Ren and Han also used sub-indicators to further explain the main indicators. For example, among them are whether the site provide employment or not, how are the site waste and pollution management, and how does the attraction support local communities. Their finding shows different priorities in the four main indicators, and also between the two countries they focus on: UK and China. In the economic category, providing stable employment to locals, and profit and funding are important for the site sustainability in China, than it is in the UK. In the environment category, the UK management put higher importance on sustainable development than their Chinese counterpart. Continuing on the social indicators, UK attractions put more emphasis on heritage maintenance and authenticity, while China's restoration are more often led by local community, and they put a higher value on local's involvement in restoration projects. Lastly, in the governance dimension,

heritage development problem were addressed faster in China than in the UK, however, they tend to focus more on economic benefit of the attraction, which lead to harmful result to the local community and in some cases, destroy the heritage site.

Similarly, in their 2014 paper on the Indicators of Sustainability in Cultural Tourism, Durovic and Lovrentjev came up with three sets of indicator dimensions, which are **social, economic and environmental**. These were then also expanded into sub-indicators, which among them includes safety of local community, cultural heritage conservation, facilities of cultural site, natural ecosystem protection and waste management. Ideally, according to Durovic and Lovrentjev, social indicators should benefit both local community and culture to be sustainable, whether tangible or intangible. Economically, cultural tourism is only sustainable when tourism activity provide local community with economic possibilities. This can be achieved through various ways, including providing local crafts and products, employment at various museums and galleries, and accommodation and entertainment that exists on and around cultural tourism site. On the environmental dimension, recognizing possible threats to ecosystem and respecting its capacity is important to achieve sustainability. This includes managements of its waste, water and energy system.

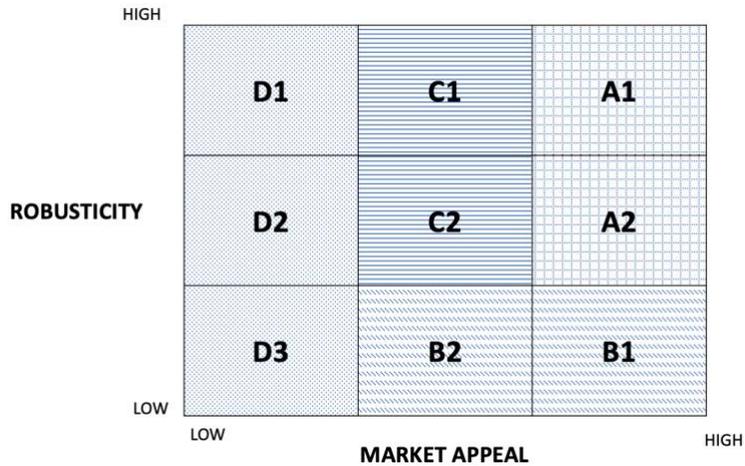


*Figure 1: Cultural Heritage Tourism Sustainability by Durovic and Lovrentjev*

These are mainly adapted from three journals: the Hierarchical Sustainable Cultural Heritage Tourism Development (Ngamsomsuke, Hwang & Huang, 2011), Four Dimensions of Heritage Tourism Impact (Ren & Han, 2018) and Indicators of Sustainability in Cultural Tourism (Durovic & Lovrentjev, 2014). From these journals, there are three main aspects to consider when talking about the sustainability of cultural heritage: economic, social, and environmental. These indicators are then further explained through sub-indicators. All of these indicators affects the cultural heritage site sustainability in one way or another: social dimension has to ensure that tourism benefit both local community and culture, economic dimension need to improve the economy of the local community through tourism, and environmental dimension had to conserve and preserve the ecosystem and eliminate possible threat (Durovic &



The relationship between cultural heritage development and tourism management can be further developed in the form of a matrix, as Du Cros show in figure 4 below.



*Figure 3: Du Cros' Matrix indicating the relationship between the continuums of robusticity and market appeal*

In this figure, the cultural heritage site will be placed based on how much they appeal to the tourists and their robusticity or their ability to withstand high tourists visitation level. For example, in squares A1 and A2, are sites that are high in market appeal and also high in robusticity. This means that they need minimal to moderate conservation management effort, and is a good option for tourism development. Another examples are sites that are high in market appeal but low in robusticity, in this case they would be placed in square B1 and B2, they would need some extra care on the conservation side, and its management have to balance the tourism with conservation to make sure that tourism would not damage any cultural asset of the site.

## 2.5 Literature Summary

Cultural tourism is intertwined with cultural heritage sites, and its sustainability, through not only tourists themselves, but other stakeholders as well. As the term cultural tourism itself stem from the existence of cultural heritage, they undeniably has effects on each other, be it good or bad. From previous case studies, the effect that tourism has on cultural heritage site sustainability varies: tourism provides economic benefits which in turn benefit the local community who can ensure the protection and preservation of the site, and tourism provides cultural education which can ensure the continuity of cultural practices and environment of the heritage site.

On the other side, however, tourism has also brought damage to the heritage site. In the case of Machu Picchu, while on one hand, tourism help to boost economy of the local community and the country, poor tourism management lead to over-exploitation through ticket sales and tourism activity which leads to severe damages to the site. In this sense, Machu Picchu management failed to balance its tourism and conservation side, which lead to negative effect of tourism on the site's sustainability. In Cambodia, government-managed Angkor Wat displaced local community from its cultural practices and instead of preserving its cultural heritage by involving local people, it promotes Angkor Wat's past grandeur and romantic connotation to the tourists. The commodification of the Cambodian culture in Angkor Wat has disconnected the site from its living, breathing culture is harming its local culture and traditional practices.

Tourism's effect on the sustainability of cultural heritage can be dissected mainly through three main dimensions: social, economic and environmental. Achieving balance in all of the sustainability indicators is imperative in achieving heritage site sustainability, not only in the physical sense, but also in the environmental, social and economic sense. Sustainability of cultural heritage site does not only mean the sustainability of its physical build, but also the preservation and continuation of the culture it carries, the safeguard of the environment it is placed in, and the advancement and development of the local community and economy that surrounds it.

## **2.6 Hypothesis**

Should Borobudur management fail to balance its Social, Economic and Environmental dimension, cultural tourism activity on Borobudur will lead to un-sustainable practice which will negatively affect the sustainability of Borobudur as a cultural heritage site.

While cultural tourism could greatly benefit heritage site, it also possess a huge risk of damaging heritage site from overcrowding, poor management and inadequate education of visitors to name a few. Cultural tourism activity on heritage site need not only to benefit conservation of the temple, but also the local community and natural environment surrounding it. Failure to do so will disproportionately benefit one dimension, while harming the other, and in the long run, sustainability will not be achieved.

Borobudur temple is one of Indonesia's most well-known cultural heritage site, receiving millions of visitors each year. Without the formulation of a proper policy

and management of the site, such a large number of visitation will put a strain on not only the temple, but also local community who helps manage the site.

Listed in table 3 below are indicators of sustainability in cultural tourism based on literature reviewed in previous chapter. This table will also serve as a theoretical framework to later be compared against the findings of the research.

*Table 3: Theoretical Framework based on Sustainability in Cultural Tourism Indicators by Ngamsomsuke, Hwang & Huang (2011,) Ren & Han (2018) and Durovic & Lovrentjev (2014).*

<b>Dimensions of Sustainability in Cultural Tourism Indicators</b>			<b>Theoretical Framework</b>
<b>SOCIAL</b>	Conservation of Cultural Heritage	Heritage Use Intensity	Heritage site is used within its intensity limit
		Protection of Cultural Traditions	Cultural traditions practice within the site are conserved for authenticity
	Safe-guarding of Cultural Identity	Authentic Presentation of Cultural Identity	Culture of the heritage site is presented authentically
		Cultural Education	Visitors are well educated regarding traditional cultural practices
	Social Carrying Capacity	Social Carrying capacity of the Destination	Visitors number does not exceed carrying capacity of heritage site
<b>ECONOMIC</b>	Economic benefits	Tourism expenditures and Profit	Tourism activity generate profit for the site
		Employment Generated	Tourism activity generate employment for local community
	Institutional regulations	Laws and Regulation in Regards with Culture	Laws and regulations applied at the site regards and protects cultural integrity of site
		Non-Profit Responds to Cultural Tourism	Non-profit involvement positively influence heritage site
		Government & Private Cultural Organizations	Government and private organizations help fund tourism and conservation activity
<b>ENVIRONMENTAL</b>	Management of the Visual Impact of Facilities & Infrastructure	Erosion	Effect of erosion is minimized and maintained
		Landscape Conservation	Natural landscape of heritage site is conserved and managed well

		Impact of the Road Network	Road access to and from site is well maintained for tourism and conservation
	Intensity of use	Intensity of Tourist Use	Tourism use intensity of the site is within limit of site capability
	Protection of Natural Ecosystem	Protection of Valuable Natural Assets	Natural ecosystem on and surrounding the site are protected and managed

## **3 METHODOLOGY**

### **3.1 Introduction**

This chapter will cover the methodology that will be used within this research. First, the type of research which is Case Study research will be defined and explained. Following that, the data collection strategy, which are interview, netnography and secondary data review will each be explained in sub chapters, further clarify and justify their utilization. Then, some information regarding Borobudur will be described in the Case Study Selection part. Lastly, the Data Analysis method that will be used to explain the result of the data collection will be explained in the last sub chapter.

### **3.2 Research Type**

This research will mainly use qualitative method of case study research as its methodology, a specific method of field research. Case study research analyze a single or group of object(s) and the relationship it has to a specific phenomenon. It is described as the contemporary exploration and investigation or a real-life phenomenon through in depth contextual analysis of a set number of events and conditions (Zainal, 2007). Case study research has also been defined as the investigation of real-life context contemporary phenomenon, when there is no clear evident of a boundary between phenomenon and context and using multiple sources of evidences (Yin, 2009).

Another definition of the case study method explains the method as a comprehensive investigation of a specific location given that a single case can support the need for knowledge which sparks the research in the first place (Becker, 1970). The

advantages of case study method is that it allow a more in-context analysis of data collected, which means that observation will be done within the context of the experiment (Yin, 2009). This method also allows for the collection of a large amount of detailed data, that otherwise would have been difficult to obtain. Another advantage of this method is its flexibility in allowing a number of different data collection methodologies and multiple goals, either theory testing or theory building, though not usually both at the same time. Case study research method is useful in the context of this research as it derives data from descriptive works and can lead to factual conclusions about a specific case within the theory built.

### **3.3 Data Collection Strategy**

There are three data collection strategy that will be used within this research. The first is interview, conducted with the Tourism and Conservation management side. The second data collection strategy used will be *netnography*, to examine the behavior of tourists through online forum, in this case, TripAdvisor. The third is secondary data review from available journals and reports on Borobudur.

#### **3.3.1 Interview**

While there exist numerous data collection strategy to support qualitative type research, Interview is one of the most used methods (Jamshed, 2014). Interview method allows researcher to collect data through unstructured, semi structured, or structured approach depending on the length of time and amount of data needed for

the research. According to Corbin and Morse (2003), unstructured interview allow respondents to express their opinion in a way that is comfortable to them, and in their own pace with minimal restrictions, and this type of interviews can be non-directive, and usually resemble more of a conversation than an interview. Unstructured interview is commonly used in long-term field work.

Structured interviews on the other hand, usually had a set of close-ended questions, and is designed in such ways that there can only be a limited range of answers available (Mathers et al., 1998). In the case of structured interview, researcher prepared a set of questions much like a questionnaire before asking the respondents. Based on their limited nature, structured interviews are relatively brief and simple to conduct though in turn, they provide little 'depth' to the answers (Gill et al., 2008). This type of interview will usually require quite a number of respondents due to the simplicity of the answers it provided.

In this research, there will be two respondents interviewed; Mr. Sugiyono, Cultural Expert at Balai Konservasi Borobudur (Borobudur Conservation Center) and Mr. Ikhsan Tarima, from the Borobudur Management of PT. Taman Wisata Candi. By using interview as the main data collection strategy of this research expect to give direct insights on the management of the temple from both Tourism Management and Conservation sides, and how is it managed directly from the people who manage them. A set of semi-structured interview questions will be made based on analytical framework shown in the hypothesis part of the previous chapter. Structured interview only allows a prepared set of close-ended question, which will restrict any additional information that the interviewee might have, that might be relevant to the research.

For that reason, semi-structured interview is chosen instead. There are several reason for this.

One, semi-structured interview offered a little bit more leeway to the answer and direction of the interview, while still being guided by a set of question that is relevant to the research. It allows some flexibility where structured interview does not. Second, questions for the interview will still be prepared beforehand, which means that the questions can be carefully reviewed first before being asked to the interviewee. This allows researcher to set the pace of the interview, while still allowing the interviewee to add into their answer. Third, researcher will be able to express and ask the question in the format that they prefer. In this case, researcher might find different level of temple officials interviewed to have different level of understanding of not only the language used in the interview, but also of the technical terms used to explain the questions.

At the time of this research, there are recent travel restriction and social distancing measures due to the COVID-19, therefore interviews will be done through online meeting platform. The subject of this interview will be from the two corporation that managed Borobudur, PT. Taman Wisata Candi and the Borobudur Heritage Conservation Office. In addition to this, since on site observation is no longer possible due to the situation with COVID-19, additional observation will be drawn from visitors review from travel websites such as TripAdvisor and Google Reviews. This is to see and take note of the condition of the temple itself, and how the tourism management work in practice through the eyes of the tourists, and will add additional insight on the actual state of the heritage site that can be compared

with the result of the interview with the temple management officials, to see whether there is any discrepancies between them.

### **3.3.2 Netnography**

Netnography is a qualitative method of research that studies online communities and cyber-cultures on websites and social media through electronic devices (Tavakoli & Mura, 2018). The term 'netnography' gained fame and importance with the rapid growth of the internet itself, and the increasing online forum and social media that existed. As the web platform grows in size and importance, and so with it the amount of data the world wide web contains, that in most cases can be obtained free of charge. Netnography especially, in the last decade or so, has been used in tourism research, such that a quarter of research that utilize netnography, are tourism research papers (Bartl et al., 2016).

With the debut of travel-review websites such as TripAdvisor and Google Review, internet users are turning to these websites to express their experience, satisfaction or lack thereof of the places they have visited, instead of taking the complicated and time-consuming route of complaining to the management of themselves. Through these online communities, users are expressing their opinion, either implicitly or explicitly, of what they found satisfactory and lacking of the places they have visited (Tavakoli & Mura, 2018). While the common and more traditional research methods such as observation and focus groups tend to have the risk of taking more time and respondents' reservedness regarding the issue, netnography is simpler, and faster to conduct, and provides a more natural and

objective result that focus groups and interviews (R. V. Kozinets, 2002; Rageh et al., 2013; Wu & Pearce, 2013).

According to Kozinets (2015), there are three types of data collected through netnography. Data collected directly by the researcher, data put together by taking record and captures of online events as described by online communities, and data that is collected as field notes by the researcher themselves. Then, the website and/or online communities that are the subject of netnography method has to fulfill several conditions, which are: relevant, active, interactive, substantial, heterogenous and data- rich (Kozinets, 2015). In this research, the online community that will be the subject of netnography is the travel review website, TripAdvisor. There are a few reasons for choosing this website. The first is that TripAdvisor is one of the largest travel review website that is available on the internet.

The second is that TripAdvisor provide a large number of reviews on Borobudur (7.548 at the time of this research) and is mainly written in English, a language that the researcher is familiar with. There will be a total of 400 reviews randomly chosen and analyzed, taken are from the year 2016-2021, ranging from 1 star review to 5 star review. The reviews which contain targeted promotion to tourists, reviews which contained one or two word answers and in language other than English and Indonesian will be excluded from this research, as it is beyond the language ability of the researcher and translation website does not provide a concise translation that will be relevant to this research.

### **3.3.3 Secondary Data Review**

To supplement and support the data collected from the interview and netnography, secondary data will also be examined through available documents and reports from the park management's official websites, existing journals and official statistical data. This includes the yearly report of Borobudur temple from the year 2014-2020, obtained from the official website of PT Taman Wisata Candi (Temple Tourism Park) which managed the tourism of Borobudur Temple.

### **3.4 Case Study Selection**

Indonesia, as the focus of this research, has more than 17.000 islands, inhabited by no less than 264 million people (Plecher, 2019). As a highly diverse country, there are about 300 ethnic groups spread over its 17.000 island, who speak 580 dialects and possess different cultural heritage and traditions (Evanson, 2016). As of today, Indonesia has five cultural heritage sites recognized by UNESCO, and around a dozen more sitting on their tentative list. One of these heritage sites is Borobudur. (UNESCO, 2019). The massive Buddhist temple complex was built around the 8<sup>th</sup> to 9<sup>th</sup> century, covering a total surface area of 2.500m<sup>2</sup> and consist of three tiers, with one massive stupa on the top (UNESCO, 2019).

Borobudur temple is one of the greatest Buddhist temple in the world, built by the Syailendra dynasty between the 8<sup>th</sup> and 9<sup>th</sup> century AD. The temple is located in the city of Magelang, in Yogyakarta regency, Central Java, Indonesia. Borobudur's main temple is a stupa which had three total level: the base with the shape of a pyramid with

five concentric square terraces, the trunk with the shape of a cone with three platforms which are circular, and at the very top, a massive, monumental stupa overlooking the whole 2.500m<sup>2</sup> complex. At 35m, Borobudur is one of the tallest point in the city of Magelang, overlooking a 360 views of nearby cities, including mount Merapi at a distance. From the year 1980, the management of Borobudur temple fell under PT. Taman Wisata Candi (Temple Tourism Park). Then in 1992, the management was joined by the Borobudur Heritage Conservation Office, to manage better the tourism activity that went on at Borobudur, while also ensuring its heritage conservation.

Borobudur, as a cultural heritage site, since its discovery in 1814 and throughout its numerous restoration projects following, has garnered attention both locally and globally. Through the years, various cultural and tourism activity take place at Borobudur. From regular site visitation, to numerous cultural events and festivals. One of the most well-known events held at Borobudur, however, is a religious event. As the largest *Buddhist* temple in the world, every year between April and May, thousands of devout Buddhists flock to the temple to celebrate Vesak Festival, the Buddhist celebration of the birth, enlightenment and death of Buddha. The festival also garnered attention from non-devout and non-Buddhists visitors, who came for the lantern release event that followed the end of the Vesak Festival.

Since its rediscovery in 1814, the management of Borobudur temple has had the influence of many institutions and organizations; from the Dutch government during Indonesia's pre-independence era, then the Indonesian government under the dictatorship of President Suharto, and now to the election-chosen government of Republic of Indonesia. Government played a big role in Borobudur's management. This can be seen first and foremost from the way Borobudur's management itself is formed,

which is under and reporting to the government as the its main owner. Borobudur temple, without a doubt, belong to the state. Yet it has not always been like that. Since the time of its rediscovery, Borobudur has been utilized by the local community living around it as what its name suggest: a temple. Local population made offerings and held traditional performances on the temple area, they use the Borobudur temple ground as a meeting place for communities and families in major holidays and celebrations of not only Buddhist, but also in the Islam's celebration of Eid al Fitr (Tanudirjo, 2013). In the 1950s however, Borobudur was left in a less than stellar condition after the long tumultuous years of the fight for Indonesia's independence from the Dutch government, and Indonesia's government seek help from UNESCO on Borobudur's restoration in 1955. This restoration program will then only start in 1973 and lasted through until 1982.

In the middle of this long 9 years of restoration program, Japan International Cooperation Agency (JICA) assisted the Indonesian government in establishing a masterplan for managing Borobudur temple complex, which then they came up with the 5 zonation. With the restoration program underway and the zoning system in place, around 381 households from around Borobudur has to be resettled, and area of around 90 hectares were freed from human settlement (Tanudirjo, 2013). While local people will then try to fight their way back into the ownership of Borobudur temple, local community would never have the same ownership and influence over Borobudur as it has in the past anymore. In 1992, the government assigned different institutions to manage zone 1 and 2 of Borobudur temple. Zone 1, which was for protection and preservation of temple, fall under the management of Borobudur Conservation Center. While zone 2, which was used for visitor's facilities and environment preservations, fell

under the management of PT Taman Wisata Candi. This management system is what has been working and applied on Borobudur since then.

In identifying Borobudur's tourism stakeholder, first we must look into its management. Borobudur is managed by two state-owned entities: PT TWC and Borobudur Conservation Center. In regards with tourism and conservation management, the main stakeholder who are responsible for overseeing, as well as making decisions and policy related to conservation and tourism of Borobudur, are these two establishment. The third stakeholders of Borobudur's tourism is the local community. Located in the midst of densely populated area, Borobudur's tourism and management to some extent, depends on local community. The fourth identified stakeholder of Borobudur's tourism is an integral part of tourism everywhere, which is its tourists and visitors.

As one of the most famous temples in Indonesia, Borobudur received around 4 million visitors in 2018, and this number was expected to increase as Joko Widodo, the President of Indonesia, has lay down the plan on making Borobudur Temple complex one of four Priority Tourism destinations (Nursastri, 2019). This plan, however, worried experts with how the increasing number of visitors would damage parts of the temple, as there already appear parts that are worn out from repeatedly being stepped on by visitors (Tempo, 2019). With this issue arising, there need to be a more focused set of regulation to manage the interests of all sides without further damaging the priceless heritage site.

### 3.5 Data Analysis

The data collected will then be analyzed based on the indicators obtained in the literature review. From the literature review, three main dimensions have been obtained: Social, Economic and Environmental. These dimensions were then further explained through indicators, and based on the literatures, then formed into theoretical framework. The data gathered through interview, *netnography* and literature review will then be analyzed based on the dimensions of sustainability in cultural tourism indicators from the theoretical framework explained in previous chapters. Research findings will be matched with the indicators to see whether Borobudur management and on-site condition fit all the indicators, and how they affect each other.

In this research, the term ‘indicators’ are used in a qualitative sense, in which they will be measured through data obtained in the form of words, paragraphs, statements, reports and case studies, collected from interview, *netnography*, and existing literature (INTRAC, 2017). In the previous researches these indicators are based on, both quantitative and qualitative methods are used to gauge how the indicators are met. It is important to note that whether an indicator is qualitative or quantitative depends not on the way it is worded, but on the way it is presented: number for quantitative and words and sentences for qualitative (INTRAC, 2017). The data collected in this research will be presented and explained in words and sentences, therefore, as qualitative indicators.

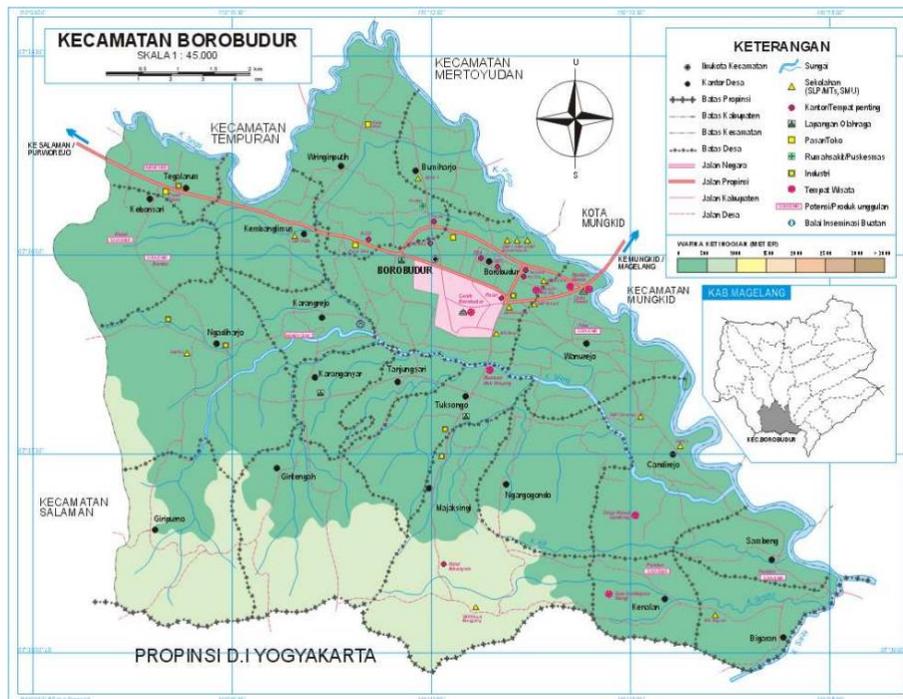
## **4 RESEARCH FINDINGS & DISCUSSION**

### **4.1 INTRODUCTION**

This chapter will explain and analyse the findings of this research. To better support the analysis of the findings, first, background information on Borobudur's will be covered. Following that, the result of the findings will be broken down into parts to first, better understand the individual results of the interviews and netnography, before then being analyzed and compared over the theoretical framework.

### **4.2 BOROBUDUR & LOCAL COMMUNITY**

The way local people, heritage and landscape is closely interrelated with the way it is managed (Tanudirjo, 2013). In looking at the factors of tourism that affect cultural heritage tourism, local community is one integral part of its sustainability. Local community's positive perception on tourism activity has proven to have a positive relationship in the sustainability of a destination (Mathew & Sreejesh, 2017). As tourism activity on cultural heritage site affect local community, how local community perceive tourism benefit, or lack thereof, will affect how they treat the heritage site itself.



*Figure 4: Borobudur Sub-district Map (Source: [magelangkab.bps.go.id](http://magelangkab.bps.go.id))*

Borobudur temple is located within the sub-district of Borobudur in Magelang regency, surrounded by 20 villages. Surrounding the direct vicinity of Borobudur temple is Borobudur village: a village of 4.21km<sup>2</sup> area and 9.430 residents. Of all the villages, the most common line of work is farming, followed closely by private company employees. While located in Magelang regency, Borobudur's management fell under the Central Government, and provincial government is only entitled to collecting parking tax and entertainment tax, which does not include ticket sales (Saputra, 2021)

There has been numerous research done on the effect of Borobudur tourism on local community across the years, and while some yield different results, most research results point towards similar implications of the effect of Borobudur tourism on local community.

Table 4 below shows the summarize findings of the negative and positive effect of tourism on local community, which will be further explained on the following sub-chapters.

<b>NEGATIVE</b>	<b>POSITIVE</b>
State-owned management lead to profit <b>leaking from local community</b>	Contribute to <b>provincial grants, tax revenue and GDP</b>
High level position in <b>management not from local community</b>	Sales of souvenirs, services, food and and drinks go <b>directly to local community</b>
<b>Little to no positive impact to other sector</b>	Tourism <b>generated employment</b>
Household involved in tourism still receive <b>wage way below minimum wage</b>	Local <b>souvenir shops promotes and maintain local culture</b>
<b>High tourism dependency</b>	<b>Local perception</b> towards tourism impacts are <b>positive</b>
Management <b>does not involve</b> and consider <b>local community</b>	Assigning Borobudur cultural village has led to an <b>increase visitor number</b> to the villages
<b>Uncontrolled tourism changes</b> can <b>change the character of villages</b>	Local villages <b>culture and potential is utilized in tourism activity</b>

*Table 4: Positive and Negative Impact of Tourism on Local Community in Borobudur*

#### 4.2.1 Positive Impact

In his 2005 research on heritage, local communities and economic development in Borobudur villages, Hampton (2005) found that Borobudur tourism activity has generated employment opportunities. This is mainly existed within three categories: tourists park employees which consists of on-site workers that includes heritage professionals, private sectors which includes employees of the restaurants and souvenir shops around the temple, and informal sectors, which has the largest

percentage of local people employed and consists of vendors and hawkers selling souvenirs, food and drinks and services around and on Borobudur temple area. The high percentage of locals employed within the informal sector also contributed directly to the economy of local communities, and the profit from the sales of souvenirs, services, foods and drinks are usually flowing directly to locals who made these products. Another benefit of this is that local souvenir shops, owned and operated by local community, helps promote and maintain local culture aside from providing economic benefit. Being state-owned, the profit from Borobudur's tourism activity has also benefited employment and infrastructure by increasing grants given to provincial government.

Another research done by Kausar (2010) supported previous findings, stating that Borobudur heritage tourism has provided a significant contribution to the local tax revenue. Tourism activity has also spurred the growth of local service and tourism related sector which in turn, contribute to the GDP of Borobudur sub-district. Of all the local services and tourism related sector, tourism affected sectors which are directly linked to tourism activity the most, such as souvenir, crafts and tourism villages. This has led to a positive perception of tourism impacts by locals. Similar points are also raised by Purba (2016), affirming previous points that Borobudur's tourism has resulted in increasing employment opportunities, and that local community has perceived positive impacts on tourism activity.

Borobudur tourism has also affected the villages that are located around it, some of which are assigned as Borobudur tourism villages. Tourism activities has caused changes in the landscape of these villages, mainly categorized into five types of element changes: addition, continuation, customization, transformation & repair

(Fatimah, 2014). Out of 7 villages around Borobudur observed in her research, namely Borobudur, Candirejo, Giritengah, Karanganyar, Karangrejo, Wanurejo, Wringinputih villages, Fatimah (2014) found that 'repair' and 'continue' are the most common landscape changes in the villages, suggesting that the villages are still using their own resources to support tourism activity. This has led to the flourish of rural tourism that utilize local village potential, maintaining its cultural values and involving local community in its process. On the points of local villages, research done by Sari & Suwarno (2012) on Klipoh, one of Borobudur's assigned cultural villages, found that assigning the village as a part of Borobudur's cultural villages has increased visitor number to the area.

#### **4.2.2 Negative Impact**

It is inevitable, however, that tourism activity has also yield negative effects on the local community. Most major cultural heritage site in Indonesia, including Borobudur, belong to and managed by the state, signifying them as state-owned property. While this indicate that the state is aware and is taking care of heritage sites, this also mean that sales and profit generated from tourism activity (e.g., ticket price), are flowing back to the government, causing leakage to the local community (Hampton, 2005). Similar claim has also been mentioned by Tanudirjo (2013), who in their research found that since profit obtained from tourism activity goes to the central government, little is left to go to local community development program. As management of the temple fully controlled by the government, local community are left out of its governance, and its development, the policy employed by the

management of Borobudur temple has displace and alienated locals from the area, denying them access to their heritage.

The development of the area on and around Borobudur for tourism has also resulted in little positive impact to the local community employed in the agricultural sector, where tourism has not encouraged growth, and other sectors such as food production and processing has not been positively affected at all (Kausar, 2010). Data obtained from Magelang regency's statistical bureau in 2019 show that out of 35.494 workers in Borobudur sub district, 10.918 are working as farmers. While a major percentage of the community around Borobudur are employed in the agricultural sector, farming condition are hostile, and combined with low level of education, limited job opportunity and poverty, has led to dependency on tourism (Kausar, 2010; Tanudirjo, 2013). However, due to lack of skill, most of the locals who work in tourism resorted to being street vendors and hawkers selling souvenirs and food and beverages, and while food and beverages are mostly locally made using local inputs and ingredients, a lot of the souvenir sold at Borobudur has been found to be mass produced in another region, which add to the leakage of local community (Hampton, 2005). This point also contributes to another issue; while tourism activity in Borobudur has generated employment, the monthly income of the households that are involved in tourism are still below the regional minimum wage (Kausar, 2010; Purba, 2016).

While local community involvement is imperative to the sustainability of the heritage, most high-level management position at the temple employs professionals from the nearby city of Yogyakarta and Surakarta, instead of from the locals of

Borobudur (Hampton, 2005). Lack of local community involvement does not only happen with management, but it also extends to culture, and art presented at the temple. While Borobudur management has claimed that they hire locals to perform cultural performances, more often than not they employ groups from outside of the region instead (Tanudirjo, 2013).

For the local villages that are assigned as part of Borobudur tourism villages, tourism pose another threat of uncontrolled tourism changes, which could cause a significant shift in the village's cultural landscape, and could eventually change the character of the villages (Fatimah, 2014). Merely being assigned as Borobudur tourism village in itself though, is not enough to boost the economy of the villages itself, as research done on Klipoh village has shown that while being a part of Borobudur tourism villages has led to the increase number of visitors arrival, the rate are still low due to low promotion (Sari & Suwarno, 2012). The same research done on Klipoh village also mentioned how government-provided training are limited and therefore, not enough to boost the economy of the village.

### **4.3 BOROBUDUR TOURISM MANAGEMENT**

Since 1992, Borobudur's tourism has been managed separately from its conservation activity. PT. TWC's management does not only cover Borobudur, but also two other temples in the area, which are Prambanan temple and Ratu Boko temple. PT Taman Wisata Candi – shorten into PT TWC, is responsible for the tourism-related management decisions regarding Borobudur temple, including its marketing and operational/ tourists services. PT. TWC has

also been given the authority to plan, develop and utilize services, infrastructures, facilities and other public facilities within the park for tourism use. Therefore, there are several aspects of the indicators of sustainability regarding conservation that PT TWC cannot answer for, and instead directed this to the conservation side, which is managed by Balai Konservasi Borobudur.

Being state-owned, PT. TWC strives for Borobudur as tourists destinations to become a tourist park that are not only cultural, but also educational and recreational. The company is also obliged to optimize the utilization of its resources to produce high-quality and highly competitive goods and/or services. As a business entity that participates in implementing and supporting government policies and programs in economy and national development, PT TWC is also required to generate profits in order to increase the value of the company and foreign exchange.

#### **4.3.1 Social Indicators**

Borobudur temple main site utilization is for tourism activity, which is carried out daily and limited into a certain timeframe. On normal operation, Borobudur is open for tourism from 6 am to 5 pm. However, due to the recent COVID-19 situation, PT TWC has further limit visitation hours to starting at 8am and closing at 4pm in the afternoon.

PT TWC has taken several measures regarding protection of cultural heritage of Borobudur. This comes in the form of rules and regulations that are applied to visitors of the temple. To name some of them: visitors are not allowed to climb parts of the temple building and/or move any of the rock formation in the temple, visitors

are not allowed to bring stationaries such as paint and markers that could be use to mark and scribble on the temple walls, and visitors are not allowed to bring sharp weapons, food and drinks inside the temple ground, and instead, management has provided a deposit counter to put their stuff upon entering the temple ground. To further enforce these rules, management put up signs and conveys information to visitors before they enter temple ground.

On presenting culture authentically, PT TWC provide information to visitors regarding the diversity of the local culture by holding performances of traditional culture and arts on the local community around Borobudur, that is held every weekend and during the holiday period. The application of local culture is also extends to the use of local language (Javanese) to greet visitors who come to visit Borobudur.

Regarding social carrying capacity and conservation system in which Borobudur temple uses, PT TWC has directed the question to the conservation side of Borobudur.

#### **4.3.2 Economic Indicators**

On the economic indicators, two main indicators are highlighted: economic benefits and institutional regulations. The utilization of Borobudur temple as a tourist destination has generate profit economically. PT TWC has mentioned that according to government regulation concerning regional taxes, and also in accord with the ministerial decree, it was stated that ‘Recreational Parks are not subjected to entertainment tax’, which means the profit generated from the sales of Borobudur

ticket is not subjected to regional taxes. Regarding expenses of the temple, PT. TWC is responsible only for the tourism-related expenses such as operational, tourist services and marketing. All expenses that is related to conservation fall under the jurisdiction of Balai Konservasi Borobudur.

Aside from that, Borobudur as tourism destination has also created job opportunities for the surrounding community. This can be seen in both employment in tourism management companies, as well as the work done in the micro sector as service and goods providers. The second category includes souvenir stall, food and beverages, accommodation provision, transportation, and guide services. Additionally, Borobudur temple tourism has also created opportunities for the local communities around Borobudur to create products and travel packages targeted to the visitor of Borobudur.

On non-profit involvement, PT. TWC has said that to help with the realization and maintaining of the preservation of Borobudur temple, a cooperation concerning education, science, and culture was established between Borobudur temple and the United Nation Education, Scientific and Cultural Organization (UNESCO).

### **4.3.3 Environmental Indicators**

Concerning environmental indicators of sustainability, PT. TWC has stated that most of the topics questioned are out of their jurisdiction, and instead refer the questions to Balai Konservasi Borobudur. There are, however, a few points that PT. TWC made from the tourism management part of Borobudur temple. PT. TWC has

applied some regulation efforts regarding the protection of natural environment on and around Borobudur temple. To name some of them;

- Implementing a no-entry measure for vehicles on zone 2 of Borobudur temple in order to prevent pollution, smoke and to reduce carbon emissions. Instead, all vehicles operation inside the temple zone are electric powered
- Waste handling and recycling measure are taken by sorting out materials that can and cannot be recycled based on their type and material, and then to be sent to different landfills outside of the main temple zone
- Maintaining the preservation of trees and plants on the area by enforcing a ‘no chopping down trees’ rule on the temple ground

#### **4.4 BOROBUDUR CONSERVATION MANAGEMENT**

As its name suggested, Balai Konservasi Borobudur (Borobudur Conservation Center) is the institution that is responsible for and has the authority to implement regulations regarding conservation activities on Borobudur temple. Balai Konservasi Borobudur is responsible for implementing regulations on the main temple area of Borobudur (zone 1) and to carry out maintenance and repair activities for the temple building, financed by the government through the Ministry of Education & Culture..

When talking about the conservation of Borobudur, the Law of the Republic of Indonesia Number 11 of 2010 came up several times during the interview. This law concerning cultural conservation was used by Borobudur Conservation Center as a base for their philosophy and policy concerning Borobudur temple maintenance. In the law itself, the term ‘conservation’ was not stated, but rather the term ‘preservation’ or ‘protection’ was used. According to this law, preservation is a dynamic effort to maintain the existence of cultural heritage and its value by protecting, developing and utilizing it. It is also explained that cultural heritage can be in several forms, namely; objects, buildings, structures, sites and areas.

To explain these form of cultural heritage, ‘objects’ refers to natural and/or man-made objects, both movable and immovable, in the form of a unit of group, or parts thereof, or the remnants thereof which are closely related to culture and the history of human development. ‘Building’ is a built structure made of natural objects or man-made objects which meet the criteria of walled and/or non-walled space, and has a roof. ‘Structure’ is a built structure made of natural objects and/or man-made objects which meet the needs of an activity space that is integrated with nature, facilities and infrastructure to accommodate human needs. ‘Site’ refers to the location that is located on land and/or in water, containing cultural heritage objects, buildings and/or structure, as a result of human activities or evidence of past events. Lastly, ‘area’ is a geographical space unit that has two or more cultural heritage sites, which are located close together, and/or show distinctive spatial characteristics. Borobudur temple is classified within the cultural heritage structure criteria.

In defining the term ‘conservation’ itself, the Borobudur Conservation Center refer to the meaning in either a broad or narrow scope. Referring to the broad meaning of

conservation, the scope of conservation means not only limited to object or building, but can extend to the area conservation. Meanwhile in a narrower scope, conservation can be interpreted as an act of maintaining, preserving or treating certain materials that are applied to the cultural heritage itself.

#### **4.4.1 Social Indicators**

Internally, for Balai Konservasi Borobudur, the understanding of cultural heritage conservation tend to be more on the technical activities or maintenance of cultural heritage materials. These activities are more focused on the efforts to clear cultural heritage from the factors that could be causing it damage and weathering, and on efforts to preserve cultural heritage materials to prevent further degradation. The conservation efforts that has been carried out are intended to maintain the existence and physical quality of the cultural heritage, in this case Borobudur, to ensure the continuity of not only its physical existence, but also to preserve its historical and educational value, authenticity and rarity for future generation.

The utilization of Borobudur as cultural heritage site is open to everyone; from the central government and regional government, to the general public, as long as they acquire permit. This utilization can come it the form of religious, social, science, technology, culture, and tourism purposes. The use of Borobudur is not only limited to tourism. As the biggest Buddhist temple in the world, Borobudur is used for the yearly celebration of Vesak- the celebration of the birth, enlightenment, and death of Buddha- by the local and nationwide Buddhist community. This yearly celebration attracted thousands of people each year. Other colossal events held at Borobudur are

including music concerts, and movie shoots. That being said, Balai Konservasi Borobudur claimed that the use intensity of Borobudur is high.

Borobudur temple's carrying capacity is 123 individuals at one time on the main temple building. Ideal space capacity for the temple courtyard is 528 people, and 10.308 people in the garden area. Study done by Balai Konservasi Borobudur in 2009 has shown that in 2009, on the average, around 2500 visitors are on the main temple building every hour. Calculation done in the same study shows that in one hour, Borobudur main temple building can at most, host 1391 visitors. The number of tourists has since increased, as does the stress on the main temple building. In order to ensure that visitor number does not exceed carrying capacity, there are some measures being taken.

First, is to limit the number of visitors. The second, to minimize the chance of overcrowding on the main temple building, management has decided to add attractions on the temple area. With the existence of additional attraction, management hoped to disperse the weight of the visitors into several attractions, instead of being concentrated only on the Borobudur temple itself. Some of these attractions are including elephant rides and park recreational train. On the weekends and school holiday seasons when the number of visitors are the highest, there are traditional cultural arts attractions and performances. The third, is to limit visitation time for large groups. Borobudur temple as a cultural heritage site, receive regular visitations from educational institutions. The visitation time for these large groups are limited to one to one and a-half hour at a time. This system however, this can only be done on the low season, as on the high season, the large number of visitors paired with supervising groups visitation time, overwhelm the management. Hence, as of

the time of this interview, this system has been negated due to its low effectiveness. The fourth effort is to form Balai Konservasi Desa (Village Conservation Hall). This program was formed by the government as state owned enterprise, in accordance to the direction given by the president. This program was created with the hopes of showcasing Indonesia's regional economies. Around Borobudur, there are around 20 Balai Konservasi Desa that has been formed, and sponsored by state-owned enterprises. Each villages had their own unique characteristics, which are promoted to attract tourists. Its purpose, however, is not only the economic well-being of the villages, but also to spread out tourists' visitation.

The efforts being taken to protect the cultural heritage of Borobudur temple has include implementing rules and regulations. These regulations are similar to the aforementioned regulation from PT. TWC, to name some of them; to ensure visitors are not scribbling on relics, to maintain cleanliness and complying with government procedures. In order to protect Borobudur temple as a cultural heritage site, the central government has establish Borobudur temple as national Cultural Heritage, and is therefore subject to protection of historical relics.

#### **4.4.2 Economic Indicators**

Borobudur temple's tourism-related interests are managed by state owned enterprise, in which applied through PT. TWC. As have been previously mentioned, PT. TWC is responsible to utilize available resources in order to generate tourism products and services that not only has cultural, educational and recreational characteristics, but also has strong competitiveness. This effort in the tourism

management part has generated profit. However, this tourism profit is not the only source of funding for Borobudur temple. Being a state owned enterprise, Borobudur receive funding yearly from state budget. Balai Konservasi Borobudur has mentioned that the main expenditure of Borobudur is for maintenance purposes.

#### **4.4.3 Environmental Indicators**

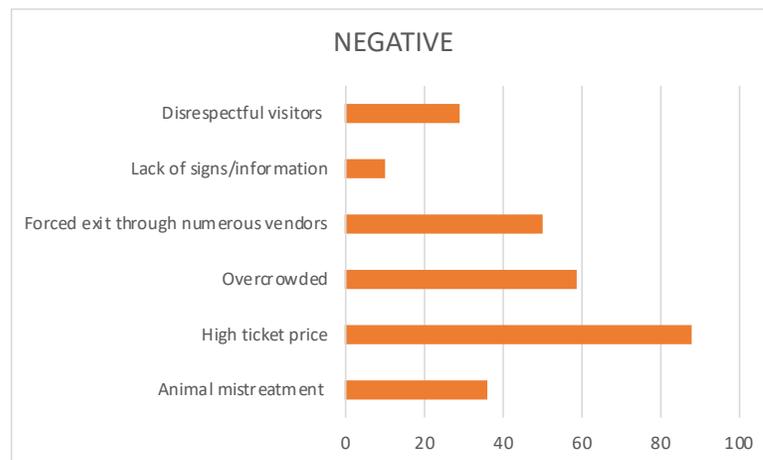
Borobudur temple is located in an area that is prone to natural disaster, including earthquake and volcanic eruption. This poses a high risk of damage to the structure of Borobudur temple. Balai Konservasi Borobudur has developed a standard operation procedure concerning disaster management. Aside from natural disaster, Borobudur temple location which is up on a hill with the height of 15 meters, also poses the risk of erosion and landslide. Balai Konservasi Borobudur is continuously monitoring the condition of the slope for the slope stability from erosion.

Another concerning issue that was mentioned by Balai Konservasi Borobudur is how the large number of visitors are causing wear and tear on the temple steps. Calculations done by Balai Konservasi Borobudur shows that the rate of wear and tear on Borobudur temple is 0.2 millimeters per year, per 2 million visitors. Most recent data on Borobudur visitors shows that in 2019, Borobudur temple received 6.8 million visitors. The most severe wear and tear currently happened on the stairs located on the East side of the temple, which are most frequently used by visitors to reach the top of the temple. Solution taken by Balai Konservasi Borobudur regarding this problem has been to cover the stone stairs with wooden boards to lessen the pressure.

## 4.5 TOURISTS PERSPECTIVE

To observe tourists perspective regarding the indicators of sustainability on Borobudur temple, netnography method was employed. Following data was collected from the website TripAdvisor, taken from 400 comments from the year 2016-2021. From this observation, there are keywords that are mentioned the most, which can be categorized into negative and positive points on Borobudur temple.

While the overall reviews are overwhelmingly positive- out of 7.548 reviews, 7.015 reviews are either Excellent (5 stars) or Very Good (4 stars) review. In comparison, there are a total of 533 reviews that are either Average (3 star), Poor (2 star) or Terrible (1 star).

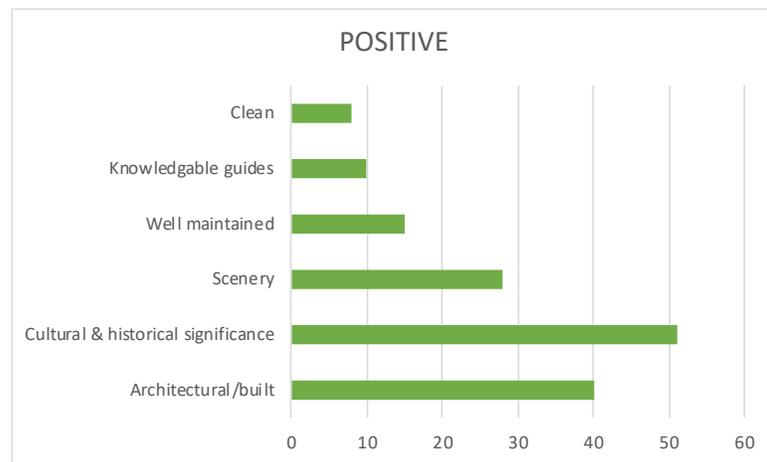


*Figure 5: Negative aspects of visitor experience in Borobudur temple*

Figure 5 above shows the frequently mentioned negative aspects of Borobudur temple tourism. The most mentioned keywords mentioned the high entry ticket price for foreign visitors. As of 2021, the ticket price for foreign visitors is 350.000 IDR, which is seven times the ticket for locals which are 'only' 50.000 IDR. Another frequently mentioned key words are regarding overcrowding and crowd management, as visitors complained that

they cannot enjoy the temple's sanctity and serenity due to the large crowd. The arrangement of the flow of visitation has also received complaints, as in order to exit the temple, visitors are forced to go through a long walkway full of vendors without any alternative exit.

There has also been criticism regarding the additional attraction in the park, which is the elephant and deer enclosure, in which some visitors felt are too small for the animals and the elephants are chained. Visitor's attitude has also been a source of grievance as some claims visitors stop in the middle of crowded walkways to take photograph, and step onto stone *stupa* which are supposed to be off limit. This is followed by the seemingly lack security and minimum signs explaining history and cultural background of the temple.



*Figure 117: Positive aspects of visitor experience in Borobudur temple*

On the positive keywords, most visitors mentioned the cultural and historical significance of Borobudur, implying that most visitors know, or at least aware of Borobudur's history and its cultural heritage. Its impressive architectural built has also been mentioned a lot, along with its cultural and historical significance. One point that stand out is how quite a few visitors mentioned the beautiful scenery from and around Borobudur temple stood out to them. Borobudur temple management offered 'sunrise' and 'sunset' tours along with their

normal visitation, in which visitors has to pay an extra price to enjoy sunrise and sunset times at the temple beyond normal visiting hours. The scenery aforementioned might be one of the pull factor that get tourists who wanted to avoid mid-day crowds to visit.

While previously, it was mentioned how there are little signs explaining the culture and history of Borobudur in the temple area, visitors seems to find the guide at the temple to be very knowledgeable. And while visitors has to pay an extra price for a tour guide, most find the guides to be helpful. For repeat visitors, there are few points which was mentioned: they notice that the area around and on the temple is visibly cleaner than it was a couple of years ago when they visited, and that vendors are better managed; instead of roaming freely and bothering visitors, most are centred in the walkways leading to the exit.

#### **4.6 DISCUSSION**

Based on the data and findings obtained from the interview, *netnography* and literature review, it can be seen that the sustainability of Borobudur temple includes numerous factors that does not only translate to physical sustainability. Sustainability of cultural heritage site can be seen from mainly three dimensions: social, economic and environmental. Table 4.7.1 below summarize the findings of the research on all three dimensions.

	Conservation	Tourism Management	Tourist/Visitor	Local Community
SOCIAL	<ul style="list-style-type: none"> <li>• Conservation focused not only on physical, but also value, authenticity &amp; rarity</li> <li>• High use intensity of temple</li> <li>• Visitors exceed carrying capacity</li> <li>• Add attraction to relieve strain on main temple</li> <li>• Measures to protect temple including limitation of visitor number and hours</li> </ul>	<ul style="list-style-type: none"> <li>• Main utilization for tourism</li> <li>• Measures to protect the temple including limitation on visiting hours and applying regulations</li> <li>• Authentically present culture effort by holding tradition culture &amp; art performances</li> <li>• Using local language (Javanese) to greet visitors</li> </ul>	<ul style="list-style-type: none"> <li>• Majority of visitors aware of Borobudur culture and history significance</li> <li>• Crowd contribute to high use intensity</li> <li>• Lack of information on site</li> <li>• Poor visitor behavior</li> </ul>	<ul style="list-style-type: none"> <li>• Positive perception towards tourism</li> <li>• Utilizing local culture &amp; potential</li> <li>• Increase visitor number</li> <li>• Management doesn't involve local</li> <li>• Promotes and maintain local culture</li> </ul>
ECONOMIC	<ul style="list-style-type: none"> <li>• Yearly funding received from government</li> <li>• Main expenditure for maintenance purpose</li> <li>• Borobudur cultural village help improve economy of local villages</li> </ul>	<ul style="list-style-type: none"> <li>• Tourism generate profit</li> <li>• Tourism created employment opportunities</li> <li>• Tourism profit not subject to tax</li> <li>• Main expenses including operational, tourist service &amp; marketing</li> </ul>	<ul style="list-style-type: none"> <li>• High number of local vendors on site</li> <li>• High entry price for foreigners</li> <li>• Local guides hired are knowledgeable</li> </ul>	<ul style="list-style-type: none"> <li>• Contribute to local GDP &amp; provincial grants</li> <li>• Generated employment</li> <li>• Profit leaking from local community</li> <li>• Wage still below minimum wage</li> </ul>
ENVIRONMENTAL	<ul style="list-style-type: none"> <li>• Location prone to natural disaster</li> <li>• Wear and tear reach 0.6 mm per year at 2019</li> <li>• Worst wear and tear at main tourist access East stairs</li> <li>• Temporary measures taken by installing wooden boards on stairs</li> </ul>	<ul style="list-style-type: none"> <li>• Implementing vehicles no entry measure on certain zones to reduce pollution, smoke and carbon emissions</li> <li>• Waste from tourism handled and sorted based on materials and sent to landfills outside of temple zone</li> </ul>	<ul style="list-style-type: none"> <li>• Clean environment and scenery</li> <li>• Well-maintained structure</li> <li>• Low attention to animal well-being</li> </ul>	<ul style="list-style-type: none"> <li>• Tourism development threat to change character of villages</li> </ul>

*Table 5: Summary of findings on sustainability dimensions*

On the social dimension, research findings shows that local community has positive perception on tourism activity, visitors are aware of the cultural and historical significance of Borobudur and there are effort by stakeholders to present and preserve culture of the heritage site by holding traditional performances, using local language on visitors and implementing rules. However, this awareness of Borobudur is also the factor that attract visitors to the site, and contribute to its overcrowding. In this sense, Borobudur temple as heritage site is used beyond its intensity limit and its carrying capacity.

While there are effort to present cultural tradition authentically and educate visitors on cultural practices, these are only done on certain times and does not reach all visitors.

The lack of signage and information onsite has also contribute to this problem. As tourists who are well educated about the culture and traditional significance of Borobudur visit the site, their expected experience of the grandness of Borobudur is altered poor visitor behavior who only see Borobudur as a tourism object and discard its significance entirely by ignoring rules and stepping on stone *stupas* and taking pictures in crowded and narrow walkways on the temple. The lack of strict measures implemented has only add to this issue. In this case, most indicators on the social dimensions are not met.

On the economic dimension, tourism activity on Borobudur does created employment for the local community, and tourism does generate profit. Tourism in Borobudur creates employment in both tourism management and micro sector providers, including hawkers, souvenir shops, food and beverage, accommodation, transportation and tour guide. This positively contributes to local GDP and increasing provincial grants received by the district. Being state-owned National Cultural Heritage site, Borobudur also receive yearly funding from the government is subject to protection and conservation. However, while tourism provides job opportunities, most high-level managerial position on Borobudur is not occupied by locals, but by professionals from nearby cities instead. Due to low education and poor soil condition around Borobudur, most locals are constrained to work in the micro sector, which does not increase their income significantly. Being state owned, there is also a leakage of profit from local community to the government. This also mean that all events held at Borobudur has to obtain government approval, and local community held little power and influence on Borobudur as a living cultural heritage that they can utilize. While indicators on employment and profit are met, it does not necessarily benefit stakeholders equally and in this sense, local community does not gain much.

Regarding environmental dimension, rules and regulations are placed on Borobudur to protect its natural assets and conserve its landscape. Located in a disaster-prone area, Borobudur management pay close attention to disaster management and contingency plan. It is also closely monitoring the rate of erosion of the hill Borobudur temple is located on. Several other measures including vehicle ban on temple zone and effective waste management has yield results in which can be felt and seen by visitors. Visitors, especially ones who had visited Borobudur more than once, highlighted the cleanness of Borobudur area, and how the temple is well-maintained, which shows that Borobudur management managed to keep the temple area clean.

As visitor number keeps increasing, however, the use intensity of Borobudur has shown to be severe and its causing some direct wear and tear to the main building of the temple. Though it might seem small, Balai Konservasi Borobudur has calculated the wear rate of Borobudur's stone floor to be 0.2mm/ year per 2 million visitors. Latest data obtained on Borobudur's visitor number show that in 2019, there are more than 6 millions tourists visited Borobudur temple. This means that the wear rate has reached 0.6mm/ year. The most severe wear rate happened on the East stairs of Borobudur temple, which is the main access for visitors to reach the top of the temple. The urgency of this issue, however, has only been met with temporary measures by putting wooden boards on the steps to lessen the pressure on the stone.

## 5 CONCLUSION

The following paragraph will explain how this research answer the research questions.

*What factors affect the sustainability of Borobudur as cultural heritage site?*

In discussing the issue of the sustainability of cultural heritage site, it is crucial to pay attention not only on the physical condition of the heritage site, but also on other factors that are affecting and is being affected by the activity of tourism on heritage site. Cultural heritage tourism should, ideally, bring economic opportunities and benefits to the host communities, and thus providing said community with the means and motivation to safeguard and manage the cultural heritage site and continue with their traditions (Du Cros, 2001). Economic benefit has shown to be one of the factor that motivates local community to preserve cultural heritage site, said sites being their source of income. Tourism expenditures and profit, and employment generated from tourism affect the well-being of the local community. Economic benefit also refer to the profit generated by the activity of tourism that went to the government who in the case of Borobudur, is the source of its funding. Laws and regulation applied on Borobudur in regards with its culture, how non-profit responds to cultural tourism and the involvement of government and private cultural organization also affect the sustainability of Borobudur in different degrees.

Another dimension that affect Borobudur's sustainability can be seen from the Social dimension. Social dimension includes aspects related to the conservation of cultural heritage itself, how the management safe-guard its identity, and its social carrying capacity. Borobudur's conservation does not only involve its physical and architectural built, but also include its cultural traditions, identity and education. The social carrying capacity of

Borobudur tells on numerical value the maximum weight Borobudur temple can take in terms of visitor number, while its use intensity tells whether the site is used within its limit.

The third factors that affect Borobudur's sustainability can be seen from the indicators of its environmental dimension. Borobudur's management decision on the visual impact of its facilities and infrastructure shapes visitors perspective on the temple as cultural heritage site, its tourism intensity of use should be within the limit of Borobudur's site capability, and the natural ecosystem on and surrounding the site should be protected and managed. There is also the impact of road network and whether the road access to and from Borobudur is well managed or not, as it give access to not only tourism activity, but also conservation measures. All of these dimensions and indicators affect the sustainability of Borobudur as cultural heritage site, whether directly or indirectly.

*How can these factors affect the sustainability of Borobudur as cultural heritage site?*

As can be seen from the findings, the use intensity of Borobudur, especially on the main temple building, is high. This includes the use of Borobudur not only in tourism, but also as a temple and place of worship with active religious ceremonies, as a place to hold cultural performances and showcase traditional arts and crafts, as a subject of cultural and historical education and as a commercial subject of film and photography. This directly contribute to the number of visitor that Borobudur receive, which lead to the overcapacity of its social carrying capacity. Visitor number has went beyond its ideal space capacity 123 on the main temple, 528 at ground level, and 10.308 on the garden /park area. This does not meet the ideal indicator of heritage use within its intensity limit. Efforts from the management to build additional attraction to lift some weight off of the main temple, and to put time

restriction on visitor hours yield minimum result in spreading visitors weight from the main temple building.

While most tourists visiting are educated, or at least aware of the cultural and historical significance of Borobudur, there is also a lack of signs and information explaining cultural and historical significance of the temple, and most tourist had to hire a guide to get their information on the temple. This also does not meet the indicator of cultural education. Albeit management claim that Borobudur held traditional performances on the weekends and holiday season, research shows that there are evidence that performers hired rarely came from local community, and mostly came from outside of the Borobudur region. Though this might do the job of protecting cultural tradition and presenting it authentically, it does not include local community in its execution. Rules and regulations also did little to manage the crowd and visitor behavior, as visitors still complain about other visitors' improper behavior on Borobudur, such as taking *selfies* on the middle of crowded walkways and climbing stone monuments for photograph. Lenient security also seems to encourage this behavior. The crowdedness of Borobudur has also been a source of complain by visitors, citing that the large number of people lessen the cultural experience and immersion of their visit.

Findings on the economic dimensions shows multiple mention of employment generated from tourism activity, in several sectors including tourism management, private and informal sectors. Tourism activity creates opportunity for the growth of business that can support it, and give room for local community to participate and benefit from its economy. Borobudur tourism also generate profit from its tourism activity, mainly ticket sales, which in turn, encourage growth of local GDP and revenue. Even though international visitors number is still lower than domestic, their entry price which has been placed at seven times the price of local entrance – 50.000 IDR for domestic, 350.000 IDR for international- also

contribute to its profit. This could lead to increasing grant from the state to provincial government, which in turn could be used to benefit the local community through better infrastructure and employment opportunities. As a state-owned heritage site, Borobudur also receive grant from the government each year, and this mostly contributes to its conservation effort.

There is, however, the fact that as Borobudur is owned by the state, most of its profit flow back to the government, causing leakage to local economy. And even though tourism in Borobudur provides employment opportunities, most high position in its management is not from the local community. The informal sector, which includes the largest percentage of local community hire, includes hawkers of souvenirs, food and beverages and services. Though in this sector, input usually came locally which means only small leakage from local, the profit is also small. And as findings shows that local community around Borobudur that is involved in tourism still had below minimum wage, the economic benefit from Borobudur tourism does not seem to include many of its local community. Lack of land availability and quality, low education level and lack of other job opportunity, however, has created a dependency on tourism. Despite this, local community perspective on tourism has been largely positive. This positive perspective will help motivate local community in preserving and protecting Borobudur temple and its tourism, in order to ensure the continuation of their economic benefit.

On environmental dimension, management of natural disaster and erosion risk has been implemented on Borobudur. There is also a lot of attention paid to the conservation and management of the natural landscape on and around Borobudur. Protection came mostly in the form of regulation applied on Borobudur temple and its surrounding. While previous finding on the social dimension show that regulation does not affect visitor number and

behavior by much, on the environmental dimension, the result of the implementation of strict measures on the management and maintenance of natural conservation has yield visible result, seen from tourist's perspective. Natural environment and scenery on Borobudur are conserved and maintain well. Its cleanliness particularly stands out for visitors, especially for repeat visitors. However, this does not help with the fact that Borobudur's increasing number of tourists directly contribute to its wear and tear. Last data obtained in 2019 shows that Borobudur's wear rate is already at 0.6 mm, and interview result does not mention on any other measure to further limit visitor number. One solution management offer regarding this issue is to install wooden board on the worst affected part of Borobudur, which is the east stairs.

*How does tourism activity affect the sustainability of Borobudur temple as cultural heritage site?*

On the positive effect of tourism on Borobudur's sustainability, tourism activity helps sustain Borobudur's cultural identity by educating visitors and showcasing cultural performances. Visitors are made aware or was already aware of Borobudur's cultural heritage significance and tourism activity further enhance that. Tourism activity also help to sustain the livelihood of local community by providing employment on the tourism sector, and tourism profit that went back to the government can help to fund the improvement of employment and infrastructure of the Borobudur area. This could include the fund used for conservation effort on Borobudur temple. Local community's positive perception on tourism impacts also imply that they would be more willing to help preserve and protect Borobudur temple as to not also lose their mean of income.

On the other side, while local community's perspective on tourism impacts is positive, its actual effect is largely negative. Tourism does not help increase local's wage beyond minimum wage, minimally involve local community in its management and activity beyond hawkers and vendors, and little of its profit go directly to local economy. Furthermore, although the large number of vendors at Borobudur are accommodated by putting them in one area, this came at the cost of the comfort of visitors who are forced to exit through a long walkway full of vendors. While at the moment local perspective is still positive, if this condition does not change for the better, local community's perception will shift negatively, and this will affect their attitude towards Borobudur's conservation. Tourism has also contributed largely to the wear and tear of Borobudur temple, and management's minimal effort to curb visitor and manage crowd better will lead to worse wear and tear in the future.

Added to this, while the management of Borobudur temple fall under one umbrella of state-owned organization, PT TWC and Borobudur Conservation Center both have different philosophy and goal when it came to the management and utilization of Borobudur temple. While Borobudur Conservation Center is determined in their effort to protect and preserve cultural heritage, PT TWC operates as a business entity that is focused on utilizing Borobudur temple as a way to generate profit. As PT TWC and Borobudur Conservation Center each are responsible for a different zone of Borobudur temple, either entity cannot intervene to the other. This does not give Borobudur Conservation Center the freedom to apply protection measures to parts of the temple under PT TWC's management, and such is true the other way around. The fact that there is increasing wear and tear on Borobudur temple building also means that conservation management has already failed its own philosophy and goal to 'preserve cultural heritage materials so that further degradation does not occur'.

Tourism's effect on the sustainability of Borobudur has to be seen from the perspective of several measures: namely social, economic and environmental. The balance of all of these indicators are imperative to reach a positive effect of tourism on the sustainability of Borobudur. Borobudur's sustainability cannot only be in one sense of the measure, but in all three. The result of this research shows that there is a lack of balance in the sustainability indicators of tourism in Borobudur temple. While cultural tourism activity on Borobudur temple does have positive impacts on the sustainability of its cultural education and acknowledgement, its negative impact, especially on its physical built, are in need of immediate attention and active preventive measures. Effective actions taken are crucial in ensuring the continuation of the sustainability of Borobudur temple in the future.

## **5.1 POLICY RECOMMENDATIONS**

While it is impossible to separate Borobudur temple from the activity of tourism entirely as it does contribute, to some degree, to its conservation and sustainability, there are some measures that can be taken to ensure tourism activity's impact to Borobudur's sustainability. Below are the specific policy recommendations to government, management, and for further research.

Affiliated Party	Policy Recommendations
Management	<ul style="list-style-type: none"> <li>• Stricter limit on daily visitors number that does not exceed carrying capacity</li> <li>• Offer alternative exit to visitors as to not force them through vendors area</li> <li>• Increased security and sign placed on site ot better inform visitors</li> <li>• Hire more local talents for cultural and art performances</li> </ul>
Government	<ul style="list-style-type: none"> <li>• More integrated management system for tourism and conservation</li> <li>• Putting more locals on Borobudur temple management</li> <li>• Include local community in Borobudur temple management</li> <li>• Invest in local community training to improve employment opportunities</li> </ul>
Further Research	<ul style="list-style-type: none"> <li>• In-depth interview with local community to better understand the degree of tourism effect afflicted upon and by them on Borobudur temple tourism</li> <li>• Include more cultural heritage site in Indonesia such as Prambanan and Ratu Boko temple to give more insight on the issue of tourism effect on sustainability of cultural heritage in Indonesia</li> </ul>

*Table 6: Policy Recommendations*

## 5.2 RESEARCH LIMITATIONS

On the aspect of limitation, it is such that this research is done with case study method, which will limit the result of this research to represent Borobudur temple only. The result of this research might not reflect the condition of other temples. While there are numerous literatures done on Borobudur temple and its effect, the author finds some difficulties in the beginning of the research to find literature on the indicators of sustainability in cultural heritage tourism. Fortunately, the author found

three journals in which result can be triangulated to create an indicator framework this research can be based on.

The result of this research focused on mainly stakeholders, which are Tourists, Tourism management, Conservation and Local Community. Further research might explore the effect of tourism on sustainability of Borobudur from the point of view of other stakeholders such as NPO and Central Government.

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## APPENDIX

### Letter and Interview Questionnaire (ENGLISH)

To GM of Borobudur  
PT. Taman Wisata Candi  
Borobudur Prambanan Ratu Boko  
Jalan Raya Jogya – Solo KM 16 Prambanan,  
Sleman Regency, Yogyakarta 55571

This letter is written in regards with the research done by myself, as a Graduate Student in the Tourism and Hospitality department at Ritsumeikan Asia-Pacific University, which is titled “The Effect of Cultural Tourism on the Sustainability of Cultural Heritage Sites: the case study of Borobudur, Indonesia”. This research intends to identify the effect that cultural tourism activity has on the sustainability of Borobudur temple as cultural heritage site.

With this, we are asking for permission to conduct interview with the management of PT Taman Wisata Candi regarding Borobudur temple. The detail of researcher will be as follows:

Name : Dyah Ayu Indira Hapsari  
Title : Graduate Student of Tourism and Hospitality Division  
Email : [dy19a6rx@apu.ac.jp](mailto:dy19a6rx@apu.ac.jp)

This research is done under the supervising of:

Supervisor Name : Todoroki Hiroshi  
Title : Professor of Tourism and Hospitality Division  
Email : [hstod@apu.ac.jp](mailto:hstod@apu.ac.jp)

The interview time and duration will be following the availability of management. This interview and research will be done following the code of conduct of the faculty and university. If requested, the result of this research will later be shared with the management.

## **Introduction**

1. Introduce the name and position of interviewee

## **Social**

1. What is the conservation system used by Borobudur temple management?
2. How is the use intensity of the temple?
3. What are the measures being taken to protect the cultural heritage of the temple?
4. How do management present the culture authentically and educate visitors about it?
5. Are management aware of social carrying capacity? If yes, what is Borobudur's social carrying capacity? If no, what are their measurement for maximum visitors capacity?

## **Economic**

1. What are the economic benefits from tourism at the temple? (Employment, Profit, Etc)
2. How many visitors do the temple get in a year?
3. What are the main expenditures of the temple management?
4. What institutional regulations are applied to Borobudur and how is it funded? (Government, Donation, NGO, Etc)
5. How is the relationship between temple management and NGO?

## **Environmental**

1. How many constructions has been done on the temple to date? What are they and how do they impact the temple and its surrounding area?
2. What are the impacts of temple location to surrounding road access? How does it affect conservation?
3. How has the temple fare against natural disaster and how is it planning to protect it in the future?
4. Has erosion been a problem to the physical condition of the temple? If yes, how is it managed?
5. How is the intensity of use of the temple changed over the years? Does more tourists cause the temple condition to deteriorate?
6. How do temple management protect the natural environment on and surrounding the temple complex?

## Letter and Interview Questionnaire (INDONESIAN)

Kpd Yth GM Borobudur, PT. Taman Wisata Candi  
Borobudur Prambanan Ratu Boko  
Jalan Raya Jogya – Solo KM 16 Prambanan,  
Sleman Regency, Yogyakarta 55571

Surat ini ditulis sehubungan dengan penelitian yang saya lakukan, sebagai Mahasiswa Pascasarjana Jurusan Tourism dan Hospitality di Ritsumeikan Asia-Pacific University, yang bertajuk “Pengaruh Wisata Budaya terhadap Keberlanjutan Situs Warisan Budaya: studi kasus Borobudur, Indonesia”. Penelitian ini bertujuan untuk mengetahui pengaruh aktivitas wisata budaya terhadap keberlanjutan Candi Borobudur sebagai situs cagar budaya.

Dengan ini kami mohon ijin untuk melakukan wawancara dengan pihak manajemen PT Taman Wisata Candi terkait Candi Borobudur. Rincian peneliti adalah sebagai berikut:

Nama : Dyah Ayu Indira Hapsari  
Titel : Graduate Student of Tourism and Hospitality Division  
Email : [dy19a6rx@apu.ac.jp](mailto:dy19a6rx@apu.ac.jp)

Penelitian ini dilakukan di bawah pengawasan:

Nama Supervisor : Todoroki Hiroshi  
Titel : Professor of Tourism and Hospitality Division  
Email : [hstod@apu.ac.jp](mailto:hstod@apu.ac.jp)

Waktu dan durasi wawancara akan mengikuti ketersediaan manajemen. Wawancara dan penelitian ini akan dilakukan mengikuti kode etik fakultas dan universitas. Jika diminta, hasil penelitian ini nantinya akan dibagikan kepada pihak manajemen.

Atas perhatian dan izin yang diberikan kami ucapkan terimakasih.

## **Pengantar**

1. Perkenalkan nama dan posisi orang yang diwawancarai

## **Sosial**

1. Apa sistem konservasi yang digunakan oleh pengelola Candi Borobudur?
2. Bagaimana intensitas penggunaan candi?
3. Apakah ada tindakan yang diambil untuk melindungi warisan budaya dari Candi?
4. Bagaimana manajemen menampilkan budaya secara otentik dan mendidik pengunjung tentangnya?
5. Berapa ukuran maksimal kapasitas pengunjung Candi Borobudur dalam suatu waktu? Apakah ada tindakan yang di ambil untuk membatasi jumlah pengunjung?

## **Ekonomi**

1. Apa saja keuntungan ekonomi dari wisata di Candi Borobudur? (Lapangan Kerja, Profit untuk Konservasi, dsb)
2. Berapa banyak pengunjung Candi Borobudur dalam setahun?
3. Apakah pengeluaran utama dari pengelolaan Candi Borobudur? (Konservasi, Marketing, Manajemen Candi, dsb)
4. Lembaga manakah yang menerapkan regulasi pada Candi Borobudur? Dan Lembaga manakah yang mendanai operasional Candi? (Pemerintah, Donasi, LSM, dsb)
5. Apakah Candi Borobudur bekerja sama dengan lembaga konservasi non-profit? Jika iya, apakah lembaga tersebut?

## **Lingkungan**

1. Berapa banyak pekerjaan konstruksi yang sudah di terapkan pada Candi Borobudur? Apa saja dan bagaimana pengaruhnya terhadap Candi dan area sekitarnya?
2. Apa dampak lokasi candi terhadap akses jalan di sekitarnya? Bagaimana pengaruhnya terhadap konservasi Candi?
3. Mengingat lokasi yang rawan bencana, apa saja langkah-langkah yang sudah dan akan di ambil untuk melindungi bangunan candi dari bencana alam?
4. Apakah erosi menjadi masalah bagi kondisi fisik candi? Jika ya, bagaimana cara mengelolanya?
5. Bagaimana intensitas penggunaan candi berubah selama bertahun-tahun? Apakah semakin banyak turis menyebabkan kondisi candi semakin memburuk?

6. Bagaimana pengelola candi melindungi sumber daya alam di dalam dan di sekitar kompleks Candi Borobudur?