

## COMMUNITY PARTICIPATION-BASED TOURISM GOVERNANCE IN POST COVID-19 (CASE STUDY ON CONSERVATION IN BOROBUDUR TEMPLE)

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### Abstract

*This research was conducted to provide conceptions of recommendations for sustainable tourism governance. This research focuses on tourism areas in Borobudur. Literature review was conducted to strengthen the scientific arguments. The spatial analysis using a geographic information system (GIS) and In-depth Interviews for analyzing the completed questionnaire data. The research framework is based on the idea that at least four major factors and one auxiliary factor play a significant role in the management of the tourism industry following the Covid-19 pandemic in order to achieve sustainable tourism governance (economic impact, tourism trends and their predictions in the future). The result shows that health protocols have been conducted in Borobudur. However, the temple's physical carrying capacity is vulnerable to damage and need some policy. Nevertheless, Borobudur Temple tourism has undeniably provided numerous advantages such as boosts the local economy. Moreover, this research found that, the sustainability of the temple needs multi-actor cooperation.*

**Keywords:** Community Participation; Sustainable tourism; Borobudur Temple; Covid-19; Conservation

### Introduction

Tourism is a category of human behavior, and the trillion-dollar industry. The last few decades [1], Tourism has experienced sustained growth and increased diversification that makes this sector as one of the fastest growing economic sectors in the world, driving socio-economic progress in countries around the world [2]. In fact, from 2008 to 2017, the tourism sector has contributed an average of 5.3% to global GDP [3]. Sustainability in tourism is essentially based on an industrial or business management perspective [4]. The long-term sustainability of tourism rests on the ability of community leaders and tourism professionals is to maximize its benefits and minimize its costs [5]. While it shows a positive relationship between sustainable tourism development and main dimensions of prosperity, specifically, environmental quality, socio-cultural empowerment, and welfare. There is also a positive relationship between sustainable tourism development and quality of life [6, 7]. In fact, the continued growth of the tourism industry presents serious challenges to environmental protection [8-10].

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The tourism sector in Indonesia is one of the highest contributors to foreign exchange in the Indonesian economy [11]. Recorded from 2008 to 2017, the tourism sector has contributed more than 4.16% of Indonesia's total Gross Domestic Product [12] with total visitors reached above 10 million tourists per year [13]. Even in 2019, Indonesia ranked fourth globally in terms of job creation in the tourism sector at 12,376 thousand workers [14]. This shows that the tourism sector and the creative economy can provide a major stepping effect for economic development [15]. Thus, it is expected that the tourism sector can also drive the people's economy because it is considered the most prepared sector in terms of facilities, infrastructure, and infrastructure compared to other business sectors [16]. In Indonesia, there are at least four types of tourism that can be developed, including nature, culture, artificial tourism, and special interest tourism [17].

Regarding Cultural Tourism specifically, it can be understood that essentially the phenomenon is a tourism activity that offers both tangible and intangible cultural attractions, and the cultural heritage of the past as a main attraction. The elements that can be used as attractions include certain ethnic traditions, religious ceremonies, rituals, performing arts, and so on. As for cultural heritage, the attractions offered include historical and archaeological relics, cultural landscapes, and so on. The elements that can be used as attractions include certain ethnic traditions, religious ceremonies and rituals, performing arts, and so on. As for cultural heritage, the attractions offered are historical and archaeological relics, cultural landscapes, and so on [18]. Cultural tourism has three distinctive characteristics, including: (i) Highly institutionalized culture such as museums, exhibitions, visual arts, historical sites, theater, performing arts, literature, science, and technology centers; (ii) Popular folk culture such as movies, entertainment, sports, mass media, shopping, events, food, production, crafts, customs, and traditions; (iii) Symbolic ethnic culture such as folkways, vernacular architecture, education, transportation, religion, clothing, language, and work patterns [19]. The demographic condition of Indonesia, which consists of more than 600 tribes [20] making it one of the countries with the greatest cultural diversity and heritage, which has the logical consequence of being one of the most attractive cultural tourism destinations in the world.

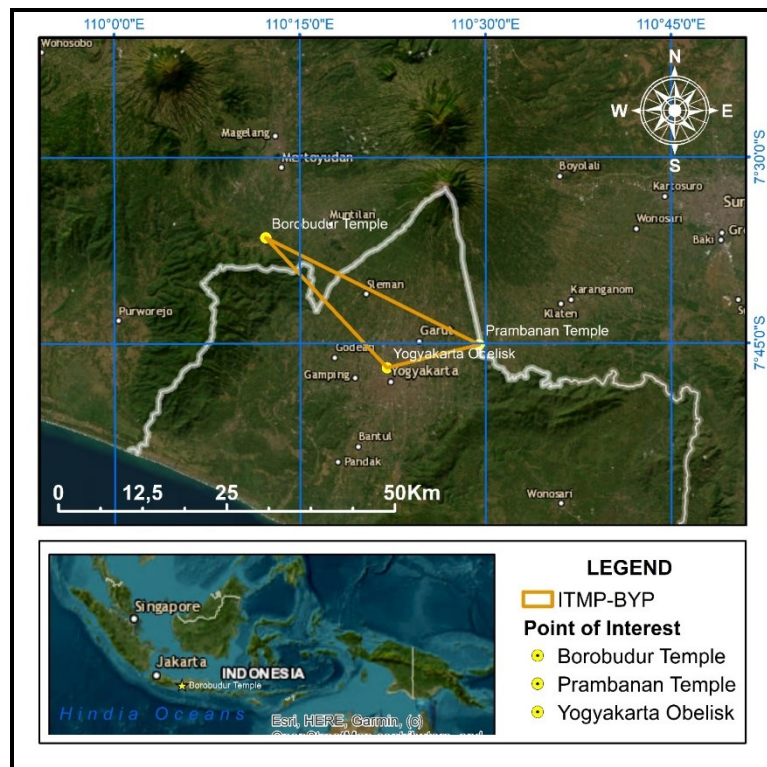
One of the most popular cultural tourism destinations in Indonesia is Borobudur Temple, which is one of the 50 national tourism destinations in the Presidential Regulation of the Republic of Indonesia Number 50 of 2011 concerning the National Tourism Development Master Plan for 2011-2015. Borobudur is widely known as the largest Buddhist temple in the world that was built during the era of the Sailendra Kingdom that ruled Java for five centuries [21]. Borobudur Temple is believed to have been built between the eighth and ninth centuries. This temple disappeared from view because it was buried deep under a layer of ash from the eruption of Mount Merapi. Moreover, it began to be abandoned by the community around the fourteenth century after the decline of the influence of Buddhist and Hindu kingdoms in Java [22]. Borobudur was a center of Buddhist teaching in the eighth to fourteenth centuries, until today, Borobudur itself is a center of Buddhist studies that influences many pilgrims from Indonesia and abroad [23]. The Borobudur area is dominated by agricultural land, hence it can be categorized as a cultural landscape composed of agricultural land, the ongoing culture of rural communities, regional architecture, and natural forms [24]. Scraping data results of the Borobudur Temple visitor review obtained a proportion of 47.06% positive sentiments, 9.25 neutral sentiments and the rest at 43.69 have negative sentiments [25]. Referring to the facts above, Borobudur has a great opportunity to be imaged as a cultural tourism destination with the advantage of a unique identity because it includes an exotic context of historical criteria [26].

During the Covid-19 pandemic that has hit the world since 2020, the tourism destination Borobudur Temple Park is temporarily closed to the public from tourism activities [27]. As a result, many workers supporting tourism in the Borobudur Temple Tourism Park have lost their jobs and become unemployed or changed jobs to survive [28]. This situation also has an impact

on the decline in economic growth rates at various regional levels, increasing open unemployment and increasing the number of poor people [29-34]. This is a serious obstacle to achieving the 2030 sustainable development goals (SDG's) agenda [35-39]. Although there have been many academic reviews that have examined the situation and contribution of the tourism sector to the socio-economic conditions after the Covid-19 pandemic [40-46], but not many have made comparisons with the perspectives of tourism actors and then elaborated on the policy aspects taken by policy makers in it. Therefore, this research was conducted to be able to reveal facts and provide a conception of recommendations for sustainable tourism governance with community involvement in it by focusing on the Borobudur Temple Tourism Park object as the center of the Central Java - Yogyakarta Special Region tourism cluster which is also one of the super priority tourism destinations in Indonesia.

**Experimental part**

This research focuses on the study of tourism areas in the Central Java and Yogyakarta Special Region area with a focus on the "golden triangle" tourism area in the region. The term golden triangle refers to the tourism center area named Integrated Tourism Management Plan – Borobudur-Yogyakarta-Prambanan/ ITMP-BYP (Fig. 1) initiated by the National Development Planning Agency (BAPPENAS), Ministry of Public Works and Housing (KemenPUPR), Ministry of Tourism and Creative Economy (Kemenparekraf) as a leading tourist area centered on clustering between Borobudur Temple in Magelang Regency, Yogyakarta Special Region, and Prambanan Temple in Sleman Regency [47].



**Fig. 1.** Map of Integrated Tourism Management Plan – Borobudur-Yogyakarta-Prambanan/ ITMP-BYP

This research using a multidisciplinary scientific paradigm with a mixed method approach, this research tries to measure the level of recovery of the tourism sector after the Covid-19 Pandemic. Then, it will dissect the facts behind the ongoing tourism phenomenon and formulate possible recovery acceleration strategies to achieve sustainable tourism governance with community involvement in it. The multidisciplinary paradigm was chosen because it is considered to be able to provide a broader picture of the object of research from various scientific perspectives. In this sense, it is expected to present a more comprehensive insight. Meanwhile, the mixed method approach used aims to be able to upload research facts from the socio-community perspective as Objects and Subjects as well as implicit facts obtained from various related statistical data.

The research framework is based on the view that the management of the tourism sector after the Covid-19 pandemic to realize sustainable tourism governance is strongly influenced by at least four main factors and one supporting element. The four main factors include socio-economic conditions that include aspects of economic impact, tourism trends and their predictions in the future. The second factor is community literacy that forms a perspective on related tourism objects where aspects of the historical value of tourism objects and narratives that surround them will have a very significant influence. The situation after the Covid-19 pandemic is the third factor that will be a differentiator where aspects such as tourism sector planning, perceptions of tourism actors and tourism strategies have a very vital role. The fourth is physical factors with architectural, physiographic and land cover influences that are quite dominant. Meanwhile, one supporting element that has a huge influence is government policy. Overall, the four main factors and one supporting element summarize the general social situation of the community as the main actor of tourism supported by physiographic conditions, tourist comfort and main attractions as tourism attractions (Fig. 2).

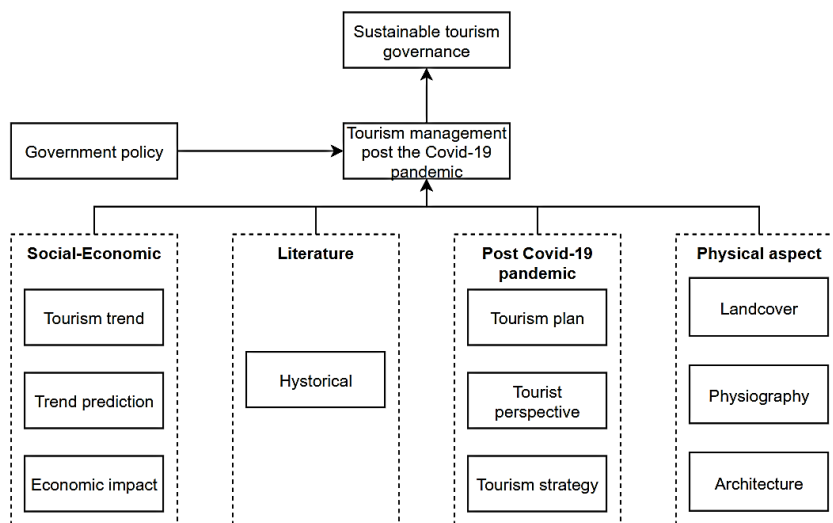


Fig. 2. Research Thinking Framework

The data collection method used is by conducting a field review of the object of study to obtain the required primary data in the form of interview results with Tourism Actors. The Tourism actors who are the Object of research include Traders (food-beverages and clothing), Service Providers (Tour Guides, Accommodation, Transportation), and the General Public. Meanwhile, secondary data collected included statistical data on visitors, spatial data on tourism objects and also supported by various related literature. The whole data is then elaborated with various analysis methods to get conclusions on each research focus. The research focus used

consists of four analyses which include literature review, this analysis includes several points of concern, including historical value, architecture, tourism trends, tourism planning and strategy, and the economic impact caused. The second research focus is spatial analysis using a geographic information system (GIS) that includes points of orientation of the land cover area and the physiographical area of the research object. Statistical analysis is the third research focus; this aspect is important because it tries to reveal the trend of tourism visits in the object of research in the future where it is the lifeblood for the running of the tourism sector. Modeling the trend of tourism visits is done by utilizing prediction facilities in business intelligence data software. Meanwhile, the research focus on the perspectives of Tourism Actors was carried out by conducting In-depth Interviews and analyzing the completed questionnaire data statistically and translating it into a narrative format so that it can be fully understood. The technical analysis and the interrelationship between the research focus can be seen in figure 3.

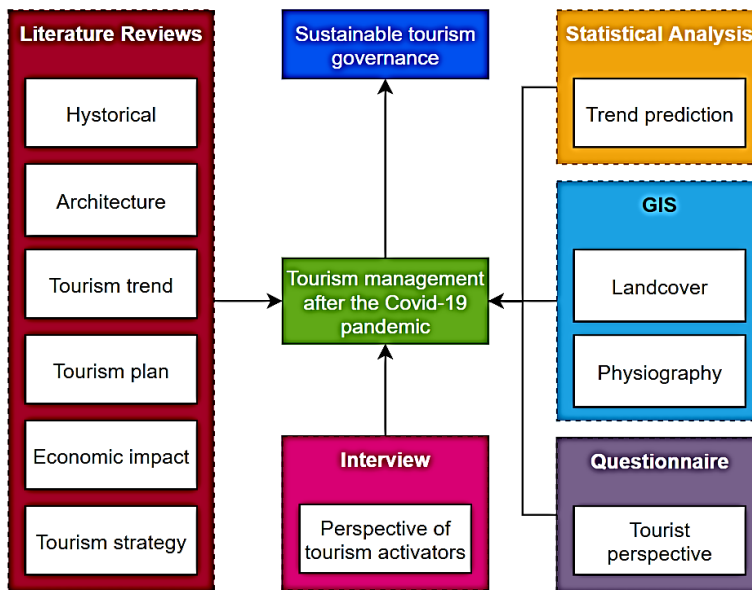


Fig. 3. Analysis techniques and linkages between research focuses

**Results and discussion**

*Physical Aspect (Spatial and Architectural)*

Administratively, Borobudur Temple is located in Borobudur Village, Borobudur District, Magelang Regency, Central Java Province, Indonesia. Astronomically, the center of the Borobudur Temple building named Main Stupa is at latitude 110°12'13.779 "E and 7°36'28.474 "S, while the main building of the temple as a whole is at astronomical lines 110°12'13.961 "E; 7°36'26,82 "S - 110°12'13,678 "E; 7°36'30,542 "S and 110°12'15,823 "E 7°36'28,616 "S - 110°12'11,61 "E 7°36'28,47 "S. Borobudur Temple tourist area is almost 86.74 hectares with astronomical location at 110°11'54.678 "E; 7°36'3.549 "S - 110°12'10.365 "E; 7°36'41.701 "S and 110°12'36.308 "E; 7°36'20.641 "S - 110°11'53.373 "E; 7°36'8.393 "S. The relative location of Borobudur Temple is located on the West side of Mount Merapi and Southeast of Mount Merbabu. At a distance of about 1.98km to the east of Borobudur Temple, there is the Progo river which has its headwaters on Mount Sindoro and Mount Sumbing with its downstream in the Indian Ocean. In the Borobudur temple area, there are several temples with other Buddhist patterns, namely Pawon Temple at almost 1.74km and Mendhut Temple at almost 2.91km.

Borobudur Temple as one of Indonesia's super priority tourist destinations, is located roughly 3.59km from the center of Magelang Regency Government (Magelang Regent Office), almost 98.4km from Semarang City which is the capital of Central Java Province, about 99.9 Km from Surakarta City, and 41.1km from Yogyakarta City. The existence of the three cities is important considering the availability of adequate transportation facilities and infrastructure to access Borobudur Temple both by air and land. In spatial calculation, Borobudur Temple is about 107km from Ahmad Yani International Airport and almost 104km Semarang Tawang Grand Railway Station in Semarang City, 82.2km from Adi Sumarmo International Airport, 90km from Solo Balapan Railway Station in Surakarta City, 60km from Yogyakarta International Airport or about 45.54km from Adi Sutjipto International Airport, and about 40 Km from Yogyakarta Railway Station. Thus, it becomes clear that the integration of tourism governance of Borobudur Temple as one of Indonesia's super priority tourism destinations, Prambanan Temple and other tourist objects in the Special Region of Yogyakarta and the former Surakarta Prefecture is an integral part of tourism governance in general.

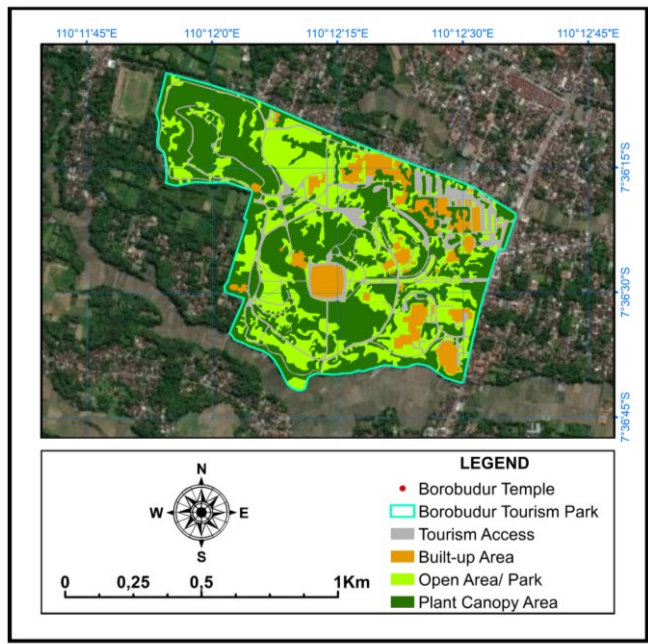
Spatial analysis in this research is the aspect of the historical cultural density locations in the Borobudur Temple buildings of the Hindu and Buddhist ancient era. This area is part of Java Island which also shows that the Borobudur Temple area was once the center of civilization. This is indicated by the discovery of at least 54 historic temple sites within a radius of 40km from Borobudur Temple. However, the density of distribution is indeed more in the Southeast to South of Mount Merapi, which is now known as the administrative area of Klaten Regency and Sleman Regency (Fig. 4).



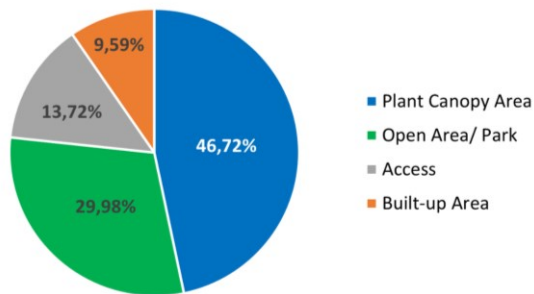
Fig. 4. Area Map and Tourist Facilities of Borobudur Temple Park.

In the aspect of Borobudur Temple area management, it can be seen that the Manager of this place is trying to integrate the concept of cultural tourism and nature tourism

simultaneously. This is showed in the aspect of land cover which is dominated by land cover in the form of perennials or shady areas. This area reaches almost half of the Borobudur Temple tourist area at almost 40.52ha. While the second largest land cover about 26ha in the Borobudur Temple area is an open area in the form of parks that are arranged in such a way as one of the tourism attractions as well as an activity area when a mass Buddhist worship ceremony is held at Borobudur Temple. The rest of the land cover in the Borobudur Temple area is a road or tourist access area of ±11.9ha and a built-up area of ±8.32ha (including Borobudur Temple buildings in it). Some supporting objects of tourist attractions besides the Borobudur Temple building in the Borobudur Temple tourism area include the Museum, Amphitheater, Interactive Cinema, Storage area for temple ornaments whose partners have not been identified, and the existence of the Boddhi Tree which is believed by Buddhists to be a tree that houses the Gautama Buddha meditating and achieving enlightenment (Fig. 5).



(A)



(B)

Fig. 5. (A) Land Cover Map of Borobudur Temple Tourism Park Area; (B) Proportion of Land Cover Area of Borobudur Temple Tourism Park Area

Borobudur Temple was designated as one of the world cultural heritage sites by UNESCO on September 13, 1991. The determination is based on the results of an assessment stating that Borobudur Temple has met at least three of the ten criteria based on the Operational Guidelines for the Implementation of the World Heritage Convention. Some of these criteria include criteria: (i) Representing works of human creative genius because the Borobudur Temple Complex with its stepped and unroofed pyramid consisting of ten towering terraces, crowned by a large bell-shaped dome is a harmonious blend of stupa, temple, and mountain which is a masterpiece of Buddhist architecture and monumental art. (ii) Exhibiting important exchanges of human values, over a span of time or in the world cultural region, in the development of architecture or technology, monumental art, urban planning or landscape design. It is fulfilled by Borobudur Temple because the Borobudur Temple Complex is an outstanding example of Indonesian art and architecture that had a major influence on the architectural revival between the mid-13th and early 16th centuries. (iii) Having a direct or real connection with events or living traditions, with ideas, or with beliefs, with works of art and literature that have extraordinary universal meaning. It stated that the arrangement in the form of a lotus (sacred Buddhist flower), the Borobudur Temple Complex is an extraordinary reflection of the fusion of the central idea of original ancestor worship and the Buddhist concept of achieving Nirvana [48]. The ten mounting terraces of the entire structure correspond to the successive stages that a Bodhisattva must reach before attaining Buddhahood (Fig. 6) [49].



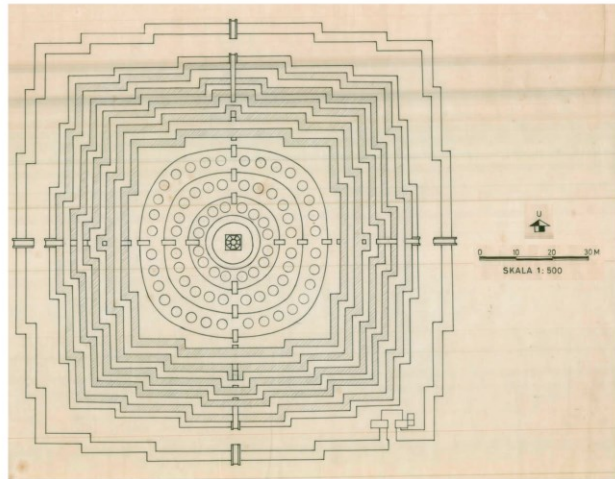
**Fig. 6.** Borobudur Temple [50]

Technically, Borobudur Temple is not a massive pile of stones, but built on a hill with a foundation in the form of a mound of soil. The type of stone used as the main material of the temple is andesite stone with a total volume of almost 55,000m<sup>2</sup> consisting of at 2,000,000 pieces of stone. The architectural style of Borobudur Temple is "Mandala" style which reflects the universe in Buddhist belief with a square shape and equipped with stairs on each side facing the four cardinal directions. The dimensions of Borobudur Temple are ±121.66 meters long, 121.38 meters wide and 35.40 meters high.

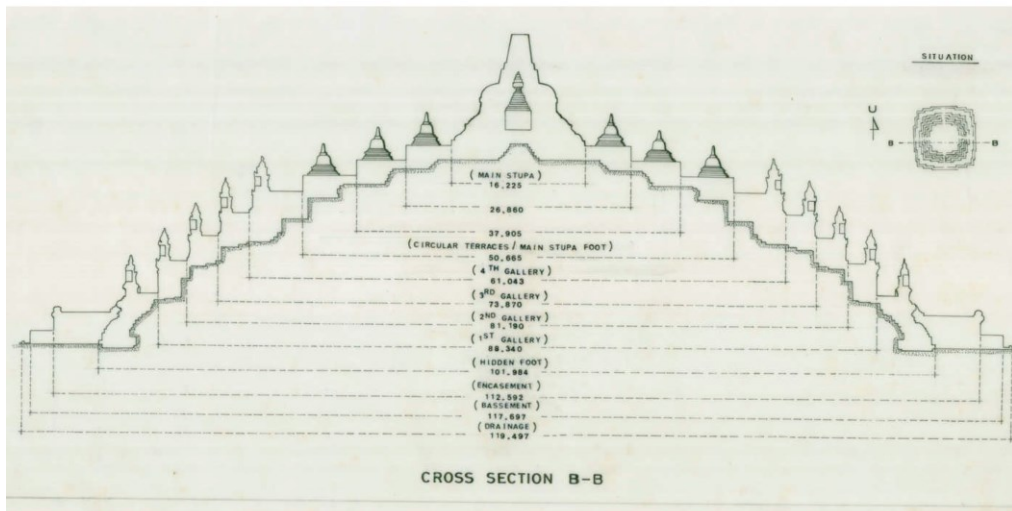
The architectural zoning of Borobudur Temple is divided into three parts consisting of ten levels. The ten levels of the building have different characteristics, namely square-shaped at levels I to VII and circular at levels VIII-X. The three zones are called Kamadhatu (temple foot), Rupadhatu (temple body), and Arupadhatu (temple head). The Kamadhatu section in



detail consists of railings, undags and stairs, while the Rupadhatu section consists of a balustrade arrangement of five pieces forming four hallways, while the Arupadhatu section consists of three rows of stupas with a total of 72 stupas encircling the temple with the highest peak / center of the temple in the form of one giant stupa (Fig. 7) [51].



(A)



(B)

Fig. 7. (A) Cross-section of Borobudur Temple from above/Plan C [52];  
(B) Cross section (West-East side cut) of Borobudur Temple [50]

The design of the Borobudur Temple building is complemented by 432 Dhyani Buddha statues scattered on each terrace of the Temple Building. The number of statues on each terrace includes 104 statues on Terrace I and Terrace II, 88 statues on Terrace III, 72 statues on Terrace IV, 64 statues on Terrace V, 32 statues on Terrace VI, 24 statues on Terrace VII and 16 statues on Terrace VIII. In detail, there are differences in the form of the statues on Terraces I to IV that are quite basic in the attitude of the hands, depending on the direction of the side of the temple. On the side of the terrace facing the east wind direction, there is a statue called Dhyani

Buddha Aksobya with the Bhumisparśamudra hand gesture, which means the earth is called as a witness. On the side of the terrace facing the south wind direction, there is a statue called Dhyani Buddha Ratnasambhawa with the hand gesture of Waramudra, which means giving grace/blessings. The statue facing the west wind direction is called Dhyani Buddha Amitabha Statue with Dyanamudra hand gesture, which means silence. The statue facing the west wind direction is called Dhyani Buddha Amoghasidha or Amoghasidhi statue with Abhayamudra hand gesture which means no fear of danger. Meanwhile, on Terrace V in all four cardinal directions, there is a statue of Dhyani Buddha Wairocana with the hand gesture of Witarkamudra, which means teaching or speaking. Another statue at the Arupadhātu level is decorated with a Dhyani Buddha Vajrasattva or Vajrasattva statue with a Dharmacakramudra hand gesture, which means turning the wheel of dharma (law or teaching the truth) [53].

In addition, based on figure 8, to the presence of statues, the design of Borobudur Temple is also beautified by the presence of 1,460 story relief panels and 1,212 ornamental relief panels installed along 11 rows around the temple building (at the Kamadhātu and Rupadhātu levels). Philosophically, the reliefs installed at the Kamadhātu level depict the behavior of human groups who are filled with worldly desires (describing cause-and-effect relationships) called the Karmawibhanga relief panels (160 relief panels), while the reliefs installed at the Rupadhātu level are depictions of human behavior that has begun to leave worldly desires, but is still bound to the real world (intermediate world) called the Lalitavistara, Jataka, Avadana, and Gandawiyuha relief panels (1,300 relief panels).



**Fig. 8.** (A) One of the panels (No. 47) of the Karmawibhanga Relief [60];  
 (B) One of the relief panels on the Rupadhātu level [61];  
 (C) One of the Lion Statues in Borobudur Temple [54]

Borobudur Temple is also equipped with 32 Lion statues that are located separately from the core temple building. The lion statue depicts a figure 8 (lion) that is accompanied by the

Buddha when traveling to heaven, as well as a symbol of the power to repel evil influences that can pollute the sanctity of Borobudur Temple (Fig. 8) [55].

### *Post Covid-19 Pandemic*

Covid is the biggest scourge of the 21st century, a number of public place closures, restrictions on activities, as well as economic decline. All tourist attractions are victims of covid. Borobudur cannot be separated from the impact, for 6 months from March-August 2020 there was a closure of the tourist area. A drastic decrease in the number of visitors to Borobudur by 75% from the previous year, with the number of visitors in 2020 totaling 997,250 as well as a decrease in reported income [56]. The decline in the number of covid cases opens up new opportunities for the tourism sector to redevelop its tourism.

Indonesia has opened the gates for foreign travel after a period of lockdown. Various forms of readiness are carried out by the government to welcome tourists. Over time, the tourism sector began to revive. A number of tourist attractions began to clean up and prepare to reopen. Managers are revitalizing tourist sites, they are cleaning, spraying disinfectants and improving facilities to get to new normal conditions. Efforts to welcome back post-covid tourists. Building a sense of comfort and safety to be able to travel in Borobudur. Various health protocols are implemented to minimize the spread of covid.

Towards the new normal phase, several regulations have been prepared. Borobudur Tourism is preparing to receive a number of tourists. The condition of tourist attractions has been improved by preparing destinations with CHSE (Clean, Health, Safety and Environment) protocols. The protocol is a readiness for the new normal. The government is also promoting the BISA movement (Clean, Beautiful, Healthy and Safe). This movement is a form of protection from the government for the protection of tourism and creative economy businesses. The movement is to introduce that business actors have made efforts to minimize covid exposure. After covid, the government issued the BISA movement [57]. Which is used to prepare tourist villages to be healthier and hygienic, safer and more secure. The BISA movement program has attracted 20 villages to be involved in the activities.

Stakeholders invite the community to take part in the new normal effort, restoring Borobudur tourism conditions. ready for safe tourism campaign [58] initiated by TWC as the Borobudur tourism manager to collaborate with active tourism actors in health protocols in tourism sites. These efforts are brought to tourist attractions by implementing health protocols such as checking the temperature of tourists, wearing masks, physical distancing rules by limiting the number of visitors. This is done to maintain cleanliness and health. New normal conditions are the starting conditions for the re-development of the tourism sector. Adapting to post-covid conditions, by implementing several new protocols. Limiting the number of visitors, preparing hygiene facilities such as hand washing stations, rules for wearing masks.

In some tourist attractions, there has been an increase in tourists. Tourist attractions are starting to compete to attract tourists with their respective strategies. Borobudur offers a variety of activities to attract tourists to visit again. Even the supporting sector provides tour package promotions to invite tourists to visit. For some parties, the opening of a number of tourist attractions gives fear of the potential for overtourism. Overtourism occurs when the number of tourists visiting exceeds the capacity of the tourist attractions, thus providing a large burden. This condition also threatens tourism in Borobudur. especially since it has been closed for a certain period of time, providing the potential for an increase in tourists.

Covid 19 has been a dark time for the world in general. A decrease in the number of tourists and the closure of a number of places. But it turns out that the existence of covid provides benefits, covid as a condition to help temple recovery. The high pressure exerted by tourists on the temple, has the potential to damage the condition of the borobudur temple. covid has helped managers to be able to make maximum efforts to conserve cultural heritage. Closing the borobudur area without visitors facilitates conservation efforts.

### ***Socio-Economic***

Borobudur tourism has played an important role in regional and community development. A number of surrounding communities depend on this sector for their income. They become craftsmen, tour guides, culinary industry openers, hotels, accommodation and others. It is undeniable that the development of Borobudur as a mainstay tourist destination in Indonesia has encouraged a number of surrounding areas to develop the potential of the region. A total of ten villages around Borobudur have been developed as buffer areas for Borobudur tourism. Several new tourist destinations have emerged and are able to attract a number of tourists.

For the surrounding villages, Borobudur has given hope for the region to progress. The community began to empower themselves, advancing their region to develop. From the field of hospitality, trade and services are developing. Many people who work as tour guides, souvenir sellers, or tour operators also open businesses such as restaurants. Borobudur tourists expand their potential to surrounding tourism. The surrounding community began to build tourism facilities such as the construction of small shelters, building paths to tourist access, renovating local heritage sites [59]. Some tourist villages offer artisan tourism destinations, bamboo and stone handicrafts. A wide variety of woven bag crafts can attract a number of tourists.

Economic improvement can be seen from the income of people who work in Borobudur or around the tourist village. Karang Rejo village has an income of more than Rp2.7 billion per year from its tourism sector [60]. Candirejo village is also affected by Borobudur tourism. The area that used to have a deprived, unkempt environment began to be developed into a tourist village. The community developed homestays and tourism potential there. Community empowerment is carried out to improve the environment. Spatial planning and sanitation improvements have made this area better [61]. Borobudur temple tourism has encouraged the formation of tourist villages around it. This has formed a diversity of tourism destinations in the borobudur area, so that tourists are not only centered on borobudur temple. tourists have many tourism options around borobudur.

More than 50% of the community has become dependent on the tourism sector. The occurrence of covid 19 has changed a large part of society. Communities that depend on their income from tourism have experienced a drop in their income. Community involvement in developing tourism conditions needs to be done. The goal is to restore the economic conditions of the community to be resilient to the crisis. The pandemic has encouraged a number of business actors in the tourism sector to adopt new skills. business actors make various efforts to attract tourists. New normal enlightens the community about the potential for increased tourism.

It is undeniable that Borobudur tourism has attracted a number of investors. The government is targeting 2019 the amount of investment obtained by the Borobudur area is IDR 500,000,000,000.00 [62]. Investment is driving the revival of various tourist villages around Borobudur. The revival of tourism villages symbolizes the increase in tourism in Indonesia. Tourism villages have sustainable competitiveness and are able to encourage regional development and improve community welfare. Tourism villages offer various potentials, such as rural atmosphere, local wisdom, customs, culinary as well as crafts. For the development of tourist villages, assistance is provided to develop potential. The government provides assistance between Rp 100 million and Rp 1 billion. [63]. The revival of villages as tourism has developed communities to be resilient and sustainable. Local products are becoming popular handicrafts. This creative industry product is a stepping stone in sustainable development. Being able to empower the community is also able to improve the economy and welfare. Some of the businesses around tourists that develop in the Borobudur area are handicraft making, ceramic making, culinary. Art performances and lodging [64].

**Tourism Policy**

Borobudur Temple is the biggest magnet in attracting a number of tourists both foreign and domestic. But the physical condition of Borobudur temple is starting to worry. The temple, which has stood for more than 10 centuries, is no longer young, fragile conditions are starting to be found in some parts. Several problems arise related to conservation efforts towards borobudur. these conditions threaten the sustainability of borobudur tourism.

PT TWC as the manager of Borobudur has issued regulations related to the carrying capacity of Borobudur. To keep the temple in good condition, several policies are implemented. Such as limiting the number of visitors due to the threat of overtourism. Visitors become actors who play a role in damage. The number of tourists who visit (Fig. 9), puts more pressure on the old building. The stairs at the top of the temple have suffered from wear and tear. The wear and tear are caused by the frequent passing of the stairs by tourists, causing 5cm of stone wear [65].

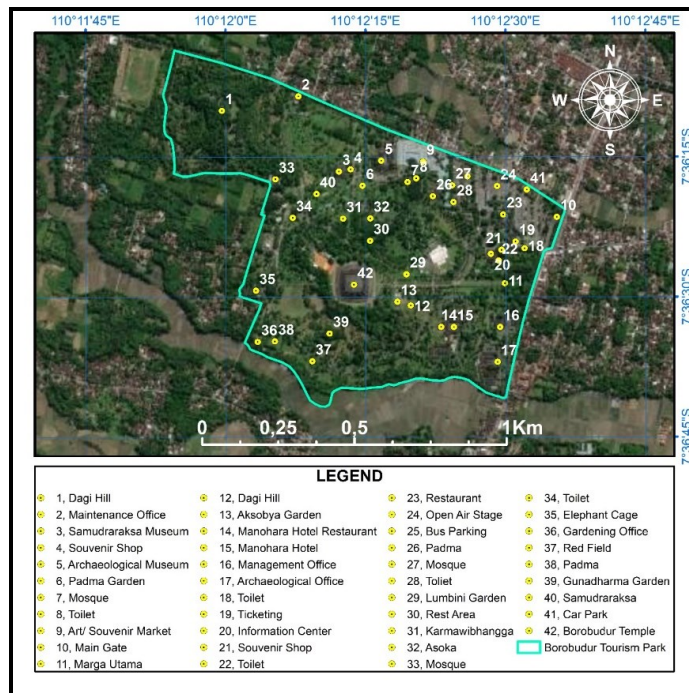


Fig. 9. Area Map and Facilities of Borobudur Temple Tourism Park

Borobudur tourism managers once gave a discourse to increase the cost of Borobudur entrance tickets. tickets are priced at 750 thousand rupiahs, doubled. This is one of the strategies of the manager to limit the number of visitors. The increase in ticket prices is one of the steps in conservation policy. because the old age of Borobudur is not able to bear too much burden, cheap tickets make many tourists visit, and going up to the stupa adds to the burden. But this discourse is opposed by many parties, because they consider it unaffordable for the wider community.

In one day, the Borobudur temple has supported thousands of tourists, even though this temple is thousands of years old. In 2022 the number of visitors reached 1.2 million and the number of visitors could reach 2000-3000 tourists [66]. This number will increase on weekends. December-January is the peak time for tourists to visit, due to public holidays and religious events.

The carrying capacity of Borobudur temple has given attention to many parties. One research by Iman et al. in 2022 [67], analyzes the maximum capacity of the temple. The analysis of carrying capacity refers to facility, ecological, sociological and psychographic conditions. The physical carrying capacity of Borobudur temple has exceeded the maximum limit. The number of tourists has exceeded the carrying capacity which causes damage to facilities. Another major problem found at Borobudur temple is vandalism. Gum graffiti and stains were found in a number of temple stupa spots. A number of damages were done by tourists. The act of andalism has damaged the aesthetics of the temple.

Efforts that can be made to avoid the accumulation of tourists are the Borobudur tourism manager controlling operating hours. Efforts are made to avoid the accumulation of a number of tourists. Then, the number of tourists allowed is calculated based on the hour shift. In addition, the construction of facilities in several spots helps reduce visitor crowds. Tourism manager PT TWC has built several additional facilities. If Zone 1 of Borobudur experiences more crowds, the manager will divert some activities in Zone 2. This is done to reduce the number of tourists in Zone 1. Zone 1 is the temple courtyard area, while Zone 2 is the tourist park area.

## Conclusions

Spatially, the position and governance, and attractions from the aspect of the uniqueness of the Borobudur Temple Tourism Park are quite attractive. A review of the location aspect shows that the position of Borobudur Temple is located in a place with an adequate level of accessibility as one of the super priority tourist destinations. Meanwhile, the governance aspect shows that with the composition of land cover dominated by plant canopy areas and open areas/parks, it can create a fairly good impression and comfort for tourists. While the analysis on the aspect of architectural uniqueness becomes less magical to attract tourists after the policy on the prohibition of entering/climbing the main building area of the temple. The post covid situation is an opportunity for Borobudur tourism to increase the potential of cultural and historical tourism again. Efforts towards new normal are made by managers by implementing health protocols. The threat of overtourism in Borobudur haunts the sustainability of tourism. The physical carrying capacity of the temple building is fragile, and vulnerable to damage. Nevertheless, Borobudur Temple tourism has undeniably provided many benefits. This tourism provides jobs, encourages the formation of creative industries, and encourages the development of surrounding tourist villages. Economic improvement for the surrounding community who depend on this sector for their livelihood. The pandemic has caused a halt in tourism activities and has had a significant impact on the community. Nonetheless, Threats that come naturally from nature and from human pressure. Anxiety about overtourism, causing the sustainability of the temple to be threatened. Managers need immediate policies to reduce pressure from tourist visits. Multi-actor cooperation is needed to achieve the goal of sustainability. Various efforts can be made to reduce the pressure obtained by the Borobudur temple.

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## References

- [1] R. Buckley, *Tourism and environment*, **Annual Review of Environment and Resources**, **36**(3), 2011, pp. 397–416.

- [2] \* \* \*, *Sustainable Tourism for Development Guidebook - Enhancing capacities for Sustainable Tourism for development in developing countries*, Madrid, **DCI-MULTI-2011/280-663**, World Tourism Organization, 2013.
- [3] \* \* \*, *Global and regional tourism performance*, UNWTO, Madrid, Nov. 2022. Accessed: Nov. 27, 2022. [Online]. Available: <https://www.unwto.org/tourism-data/global-and-regional-tourism-performance>
- [4] Y. Kristiana, T.C. Nathalia, *Tourism Stakeholders: Towards Sustainable Tourism Development, 15th APacCHRIE Conference*, 2017.
- [5] G. Kreag, **Impacts of tourism**, Minnesota, 2019. DOI: 10.23912/9781911396734-4244.
- [6] E. Falatoonitoosi, V. Schaffer, D. Kerr, *Does Sustainable Tourism Development Enhance Destination Prosperity?*, **Journal of Hospitality and Tourism Research**, **46**(5), 2022, pp. 1056–1082.
- [7] P. Vukadinovic, A. Damjanovic, Z. Jovanovic, *Position of tourism in global economy and its impact on GDP, employment and investments*,” **Vojno delo**, **69**(4), 2017, pp. 263–278.
- [8] R.F. Dasmann, *The environmental impact of tourism*, **The Impact of Tourism Development in the Pacific. Conference**, Papers 1978, 1982. pp. 48–52.
- [9] T. Davies, S. Cahill, **Environmental Implications of the Tourism Industry**, 2000, <http://www.rff.org>.
- [10] J. W. Lee and A. M. Syah, *Economic and environmental impacts of mass tourism on regional tourism destinations in Indonesia*, **Journal of Asian Finance, Economics and Business**, **5**(3), 2018, pp. 31–41.
- [11] H.F. Hariyani, *Tourism Sector Performance on Indonesia’s Economic Growth*, **Jurnal Ekonomi Pembangunan**, **16**(1) 2018, DOI: <https://doi.org/10.22219/jep.v16i1.8184>.
- [12] \* \* \*, *Indonesia Tourism direct GDP as a proportion of total GDP 2008-2017*, UNWTO, Madrid, 2019. Accessed: Nov. 27, 2022. [Online]. Available: <https://unstats.un.org/sdgs/metadata/files/Metadata-08-09-01.pdf>
- [13] \* \* \*, *Implications of the global economic crisis for tourism employment : case study for Indonesia, Job Opportunities for Youth (JOY) Project*, **ILO**, 2009.
- [14] \* \* \*, *Travel & Tourism Economic Impact 2022*, Global Trends, London, Aug. 2022. Accessed: Nov. 27, 2022. [Online]. Available: <https://wttc.org/Portals/0/Documents/Reports/2022/EIR2022-Global%20Trends.pdf>
- [15] *Boosting Productivity in the Aftermath of Covid-19*, IMF, Washington, D.C., 2021. [Online]. Available: <https://www.imf.org/external/np/g20/pdf/2021/061021.pdf>
- [16] D.P. Ernawati, *Development of the Tourism Industry as the Motor of Economic Growth in Indonesia*, **International Journal of Science and Society**, **1**(4), 2019, [Online]. Available: <http://ijsoc.goacademica.com>
- [17] A. Naldi, Interaction Analysis of Youth Participation with the Household Waste Management System Regarding the Existence of Local Waste Treatment Facilities, **Interaction, Community Engagement, and Social Environment**, **1**(1), 2023, pp 40-51. DOI: 10.61511/icese.v1i1.2023.186
- [18] W.R. Murhadi, *The Cultural Tourism: An Indonesian Perspective*, **Culture and Tourism in Integrated World Conference**, 2017. [Online]. Available: <http://repository.ubaya.ac.id/id/eprint/30387v>
- [19] I. Gede Mudana, N.M. Ernawati, M. Voda, *Analysis of The Evolving Cultural Tourism Implementation in Bali Indonesia*, **Multicultural Education**, **7**(6), 2021, DOI: 10.5281/zenodo.5035637.
- [20] E.N. Arifin, A. Ananta, D.R. Wilujeng Wahyu Utami, N. Budi Handayani, A. Pramono, *Quantifying Indonesia’s Ethnic Diversity: Statistics at National, Provincial, and District levels*, **Asian Population Studies**, **11**(3), 2015, pp. 233–256, DOI: 10.1080/17441730.2015.1090692.

- [21] Y. Hartijasti, J. Tapiheru, P. Santoso, *Borobudur: Commodification Within A Poor Knowledge Conservation*, **Indonesia Heritage Tourism Forum 2019 (IHTF 2019)**, 2019, vol. 4, Article Number: 00019. DOI: 10.29037/digitalpress.44366.
- [22] U. Dokras, **Celestial Mysteries of the Borobodur Temple**, 1st ed. Nagpur University; Queen's University; Stockholm University, 2020.
- [23] M. Tuhri, *Borobudur Temple and The Sacred Heart Shrine: Studying the Buddhism and the Catholic Pilgrimage Sites in South Java*, **Al-Adyan: Journal of Religious Studies**, 1(2), 2020.
- [24] F.D. Ekarini, *The Landscape of Borobudur Temple Compounds and its Environment*, **Journal of World Heritage Syudies**, 2017, [Online]. Available: <http://whc.unesco.org/en/list/592>
- [25] E. Widodo, G.D. Nursyafitri, O.N. Putri, Y. Nurmallasari, *Sentiment Analysis of Visitors in Borobudur Temple with Support Vector Machine Based on TripAdvisor Review*, **Atlantis Press: Proceedings of the 2nd International Seminar on Science and Technology (ISSTEC 2019)**, 2020.
- [26] I. Ketut, S. Diarta, *Promotion Strategy of Borobudur World Cultural Heritage Site for International Tourists*, **Udayana Journal of Social Sciences and Humanities**, 1(2), 2017, pp. 190-194.
- [27] T. Fatimah, *The impact of Covid-19 Pandemic on Rural Living in Borobudur, Indonesia Borobudur Cultural Landscape View Project Green Kampong Management Using a Participatory Community Approach View project*, 2020. [Online]. Available: <https://www.researchgate.net/publication/350412355>
- [28] J.M. Wibowo, S. Hariadi, *Indonesia Sustainable Tourism Resilience in the COVID-19 Pandemic Era (Case Study of Five Indonesian Super- priority Destinations)*, **Millennial Asia**, 2022, pp. 1-23.
- [29] Bahri, Muhamad, *The Impacts of Covid-19 on Indonesian Poverty and Unemployment*, **Preprints**, 2020.
- [30] A. Suryahadi, R. Al, I.D. Suryadarma, **The Impact of COVID-19 Outbreak on Poverty: An Estimation for Indonesia**, Smeru Research Institute, 2020. [Online]. Available: [www.smeru.or.id](http://www.smeru.or.id).
- [31] C.-Y. Park *et al.*, An Updated Assessment of the Economic Impact of COVID-19, **Asian Development Bank**, 2020. DOI: 10.22617/BRF200144-2.
- [32] \* \* \*, *Analysis of the Social and Economic Impacts of COVID-19 on Households and Strategic Policy Recommendations for Indonesia*, SMERU, PROSPERA, UNDP, and UNICEF, Jakarta, May 2021.
- [33] A. Wicaksono, *The Impact Analysis of Flood Disaster in Dki Jakarta: Prevention and Control Perspective*, **Journal of Physics: Conference Series**, 1339, 2019, pp. 1-6. DOI:10.1088/1742-6596/1339/1/012092
- [34] \* \* \*, *Socioeconomic Impact of the COVID-19 Pandemic on Households in Indonesia: Three Rounds of Monitoring Surveys*, UNICEF, UNDP, Prospera, and SMERU, Jakarta, 2022.
- [35] B. Abidoeye, J. Felix, S. Kapto, L. Patterson, **Leaving No One Behind: Impact of COVID-19 on the Sustainable Development Goals (SDGs)**, Flagship publication See also the associated Foundational Research Report: With generous support from the Republic of Korea, UNDP, 2021. [Online]. Available: <http://hdr.undp.org/en/hdp-covid>
- [36] V.J. Clemente-Suárez, S. Rodriguez-Besteiro, J.J. Cabello-Eras, A. Bustamante-Sanchez, E. Navarro-Jiménez, M. Donoso-Gonzalez, A.I. Beltrán-Velasco, J.F. Tornero-Aguilera, *Sustainable Development Goals in the COVID-19 Pandemic: A Narrative Review*, **Sustainability**, 14(13), 2022, Article Number: 7726. DOI: 10.3390/su14137726.



- [37] Y. Safitri, R.D. Ningsih, D.P. Agustianingsih, V. Sukhwani, A. Kato, R. Shaw, *Covid-19 impact on sdgs and the fiscal measures: Case of Indonesia*, **International Journal of Environmental Research Public Health**, **18**(6), 2021, pp. 1–22.
- [38] M. Habibi, D.A. Pratama, *Dampak pandemi COVID-19 terhadap capaian Sustainable Development Goals (SDGs) (The impact of the COVID-19 pandemic on the achievement of Sustainable Development Goals (SDGs))*, **Journal of Government Science (GovSci)**, **2**(2), 2021, pp. 68–80.
- [39] E.B. Barbier, J.C. Burgess, *Sustainability and development after COVID-19*, **World Development**, vol. 135. Elsevier Ltd, Nov. 01, 2020. DOI: 10.1016/j.worlddev.2020.105082.
- [40] \* \* \*, *Thinking-Ahead-Indonesia's-Agenda-on-Sustainable-Recovery-from-COVID-19-Pandemic*, LPEM FEB UI and BAPPENAS, 2020.
- [41] B.M. Eppang, A. Puad, M. Som, M. Azinuddin, S. Rijal, M. Ridwan, **The Impacts of the Covid-19 Pandemic on the Tourism Economy in South Sulawesi, Indonesia**, 2021. [Online]. Available: [www.psychologyandeducation.net](http://www.psychologyandeducation.net)
- [42] A. Orîndaru, M.F. Popescu, A.P. Alexoaci, Ş.C. Căescu, M.S. Florescu, A.O. Orzan, *Tourism in a Post-Covid-19 Era: Sustainable strategies for industry's recovery*, **Sustainability**, **13**(12), 2021, Article Number: 6781. DOI10.3390/su13126781.
- [44] A.R.A. Arokiasamy, P.M R. Smith, T. Kijbumrung, *Conceptualizing post-covid-19 malaysia's tourism recovery: An auto-regressive neural network analysis*, **Emerging Science Journal**, **5**(Special issue), 2021, pp. 119–129.
- [45] C. Seabra, K. Bhatt, *Tourism Sustainability and COVID-19 Pandemic: Is There a Positive Side?*, **Sustainability**, **14**(14), 2022, Article Number: 8723. DOI10.3390/su14148723.
- [46] T.V. Skryl, M. Gregoric, *Tourism in the Post-COVID Age*, **Post-COVID Economic Revival**, Springer International Publishing, Vol. 2, 2022. pp. 239–254.
- [47] F. Ilmy Avicenna Ralinas, H. Jatmiko, *Recovery Strategies of Tourism Businesses in COVID-19 Pandemic in Indonesia*, **Jurnal Kepariwisata: Destinasi, Hospitalitas dan Perjalanan**, **6**(1), 2022, pp. 44–52.
- [48] \* \* \*, *Integrated Tourism Master Plan Borobudur-Yogyakarta-Prambanan (ITMP-BYP)*, 2020. [https://bpiw.pu.go.id/uploads/itmp/TOR\\_ITMP\\_Borobudur-Yogyakarta-Prambanan.pdf](https://bpiw.pu.go.id/uploads/itmp/TOR_ITMP_Borobudur-Yogyakarta-Prambanan.pdf).
- [49] \* \* \*, **Borobudur Temple Compounds**, UNESCO, <https://whc.unesco.org>. <https://whc.unesco.org/en/list/592/> [accessed Nov. 25, 2022].
- [50] \* \* \*, **The Criteria for Selection**, UNESCO, <https://whc.unesco.org>. <https://whc.unesco.org/en/criteria/> [accessed Nov. 25, 2022].
- [51] \* \* \*, *Borobudur Temple - Profile*, **Borobudurpark**, 2016. Available <https://borobudurpark.com/temple/borobudur/> [accessed Nov. 26, 2022].
- [52] \* \* \*, **Arsitektur Candi Borobudur (Borobudur Temple Architecture)**, Borobudur Conservation Center, Ministry of Education and Culture, Magelang Regency.
- [53] \* \* \*, **Denah C Borobudur Candi Borobudur (Plan C of Borobudur Borobudur Temple)**, 1973. Available: <http://arsip.borobudurpedia.id/index.php/denah-c-borobudur-candi-borobudur> [accessed Nov. 27, 2022].
- [54] \* \* \*, **Arca di Candi Borobudur (Statue at Borobudur Temple)**, Borobudur Conservation Center, Ministry of Education and Culture, Magelang Regency.
- [55] \* \* \*, **Relief Bangunan Kayu di Candi Borobudur (Relief of Wooden Buildings at Borobudur Temple)**, 2017. <https://kebudayaan.kemdikbud.go.id/bkborobudur/relief-bangunan-kayu-di-candi-borobudur/> [accessed Nov. 27, 2022].
- [56] \* \* \*, **Relief dan Arca Buddha Candi Borobudur (Reliefs and Buddha Statues of Borobudur Temple)**, Borobudur Conservation Center, Ministry of Education and Culture, Magelang Regency.

- [57] \* \* \*, **Belajar Pendidikan Budi Pekerti dari Relief Jataka Candi Borobudur (part 1) (Learning Moral Education from the Jataka Relief of Borobudur Temple (Part 1)**, 2017. <http://kebudayaan.kemdikbud.go.id/bkborobudur/belajar-pendidikan-budi-pekerti-dari-relief-jataka-candi-borobudur-part-1/> [accessed Nov. 27, 2022].
- [58] C.M. Annur, *Imbas Pandemi Covid-19, Pengunjung Candi Borobudur Merosot Tajam pada 2020*, **Databoks**, 2022. <https://databoks.katadata.co.id/datapublish/2022/06/07/imbaspandemi-covid-19-pengunjung-candi-borobudur-merosot-tajam-pada-2020> [accessed Feb. 11, 2023].
- [59] \* \* \*, **Kementerian Pariwisata dan Ekonomi Kreatif/Badan Pariwisata dan Ekonomi Kreatif (Kemenparekraf/Baparekraf) melibatkan 20 desa wisata di Kabupaten Magelang**, Jawa Tengah, untuk mengikuti gerakan Bersih, Indah, Sehat, Aman (BISA) sebagai bentuk dukungan bagi para pelaku pariwisata dan ekonomi kreatif yang terdampak COVID-19. 2020.
- [60] \* \* \*, **Disiplin Penerapan Protokol New Normal Menuju ‘Ready for Safe Tourism**, TWC, 2020.
- [61] B. Rhama, F. Setiawan, Sustainable Development Goals In The Tourism Industry (Case Study of The Hospitality Industry In Central Kalimantan, Indonesia), **Journal of Environmental Science and Sustainable Development**, 5 (1), 2022, pp. 165-175. DOI: 10.7454/jessd.v5i1.1148
- [62] T.J. Permata, *Di Balik Kemegahan Desa Wisata Borobudur Magelang*, Surya, 2023.
- [63] T. Fatimah, *Community-based spatial arrangement for sustainable village environmental improvement - Case study of Candirejo Village, Borobudur, Indonesia*, **Energy Procedia**, 153, 2018, pp. 389–395.
- [64] C.S. Pradana, C. Iban, R. Setyastama, *Tourism Impact on Conservation and Utilization of Borobudur Temple After Being Declared as Ten New Bali Tourist Destination in Indonesia*, **Journal of Indonesian Tourism and Development Studies**, 8(2), 2020, pp. 79–84.
- [65] M. Nagaoka, *Revitalization of borobudur*, **Icomos**, 3, 2011, pp. 658–668.
- [66] \* \* \*, **Physical Carrying Capacity of Borobudur Temple for Sustainability and Utilization**, 2022. Available: <https://kemenparekraf.go.id/en/articles/physical-carrying-capacity-of-borobudur-temple-for-sustainability-and-utilization> [accessed Feb. 11, 2023].
- [67] \* \* \*, **Pengunjung Candi Borobudur Terus Meningkat**, 2022. Available: <https://pedulicovid19.kemenparekraf.go.id/pengunjung-candi-borobudur-terus-meningkat/> [accessed Feb. 11, 2023].
- [68] H.K. Iman, A. Amalia, I.S. Ramadhani, I.G.A. Andani, *Study of Physical Carrying Capacity of Tourism Objects in Anticipating Post-Pandemic Over-tourism in Magelang Regency (Case Study: Borobudur Temple and Mendut)*, **Proceedings of the 2nd ITB Graduate School Conference**, 2022, pp. 265–280.

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