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### Evaluation of visitor reviews and implementation of initiatives to enhance the cave experience: a case study on the Kek Lok Tong Cave in Malaysia

Kah Choon Ng, Sui Chai Yap, Dag Øivind Madsen, Anil Kumar

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# Evaluation of visitor reviews and implementation of initiatives to enhance the cave experience: a case study on the Kek Lok Tong Cave in Malaysia

## Kah Choon Ng

Faculty of Arts and Social Sciences, University of Malaya, 50603 Kuala Lumpur, Malaysia Email: kahchoon.15@gmail.com

## Sui Chai Yap

School of Housing, Building and Planning, Universiti Sains Malaysia, 11800, USM Penang, Malaysia Email: yapsuichai@gmail.com

## Dag Øivind Madsen\*

USN School of Business, University of South-Eastern Norway, Bredalsveien 11, 3511 Hønefoss, Norway Email: dag.oivind.madsen@usn.no \*Corresponding author

## Anil Kumar

Department of Tourism and Hotel Management, Central University of Haryana, # 24, 1st Floor, Academic Block-1, Mahendergarh, 123031, India Email: anilkumar@cuh.ac.in

**Abstract:** Cave temple tourism is the practice of visiting and exploring cave temples. In this paper, a case study of the Kek Lok Tong Cave in Malaysia is conducted in order to explore visitor reviews and based on these comments and secondary data on the safety of the temple, initiating initiatives to improve the cave experience. This study helps to understand the concept of cave tourism in Southeast Asia and provides some insight into the various tourism activities that take place in that region. The findings of the case study highlight the functions and perspectives of visitors to a touristy limestone temple to increase current knowledge and understanding of the protection and management of karst caves. The case study of Kek Lok Tong contributes to the currently small literature on cave temple tourism and is an illustration of cave tourism in Southeast Asia. The study also has practical implications for the local and regional tourism industry on how to manage and develop cave temples.

Keywords: cave tourism; cave temple; cave experience; visitor reviews; Malaysia.

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**Biographical notes:** Kah Choon Ng is a researcher and Master's graduate from the University of Southampton, UK. His main research interests include social sciences and environmental issues in Malaysia and Southeast Asia.

Sui Chai Yap is a researcher and Master's graduate from the University of Science, Malaysia. Her research interests focus on tourism management and issues in Southeast Asia.

Dag Øivind Madsen is a Professor at the University of South-Eastern Norway. His research interests include management control systems and organisations' use of management tools and techniques.

Anil Kumar is an Assistant Professor in the Department of Tourism and Hotel Management at Central University of Haryana in India. His research interests include tourism development and community-based tourism.

#### 1 Introduction

#### 1.1 Cave temple tourism

Cave tourism, sometimes referred to as caving or spelunking, is the practice of visiting, exploring, and enjoying natural caves (Kim et al., 2008). Cave temple tourism is a type of cave tourism where tourists explore and visit cave temples. These are religious or spiritual places located within natural caves and can be found in various cultures and religions around the world. They are often considered sacred and important. An example is cave tourism at the Batu Caves in Kuala Lumpur (Mohamed et al., 2021; Musa et al., 2017; Paniandi et al., 2018).

There are opportunities and disadvantages associated with cave temple tourism. Beginning with the positive aspects, cave temple tourism offers people the opportunity to enrich themselves spiritually and culturally, as well as the opportunity to educate themselves about the history and significance of cave temples. Cave temple tourism can also bring important economic benefits to local communities as it generates revenue from tourism and related businesses (Buonincontri et al., 2021). On the negative side, cave temple tourism can damage caves, which are fragile and sensitive environments. For example, in previous research, it has been pointed out that the stone carvings and limestone of cave temples, such as the Lingquansi Cave Temple in China, are being eroded by environmental factors (Yan et al., 2001) and the changes of invertebrate species (Pacheco et al., 2021). Other research also suggested that tourism had an impact on the microorganisms in the caves (Bontemps et al., 2022).

Therefore, it is important that the local tourism industry put in place proper regulations and guidelines to ensure that caves are protected and preserved for the future. In addition, another important consideration is safety. Since caves tend to be dark, damp, and slippery, it is important that tour operators train guides and that visitors follow the guidelines to prevent accidents, as such incidents in addition to human costs will have a negative impact on visitor satisfaction and future tourism activity.

In this study, we examine the Kek Lok Tong Cave in Kinta Valley, Malaysia. A feature of this area is karst, which is a landscape formed by the erosion of calcium carbonate limestone. The extensive weathering of carbonate rock in the Kinta Valley has resulted in the formation of diverse karstic features such as tower karst, dolines, caverns, caves and pinnacles. They are the product of both allogeneic (from the adjacent granite hills) and autogenic (from percolating rainwater) streams (Kassa et al., 2012). Limestone caves are a form of nature tourism or ecotourism that can attract tourists and are becoming increasingly popular in Europe (Chiarini et al., 2022) and Asia (Lim et al., 2018).

The Kek Lok Tong Cave is located in Perak, a state in Malaysia. Tourism is an important industry in this region (Hengky, 2011), and Perak received approximately 15–20 million visits from 2015 to 2019. The COVID-19 epidemic in 2020 reduced the number of visitors in this state to 4.5 million in 2021 (Figure 1). The state of Selangor received the highest number of domestic tourists in 2020, with 19.7 million visitors, followed by Perak (13.2 million), Kuala Lumpur (12.4 million), Sabah (10.3 million), and Kedah (10.1 million) (Department of Statistics Malaysia, 2021). According to the chairman of the Perak Tourism Committee, the state of Perak is expecting to welcome 6.0 million visitors in 2022 (Loh, 2022).



Figure 1 Number of visitors in Perak (see online version for colours)

Source: Department of Statistics Malaysia (2021)

Kek Lok Tong is a tourist attraction in Ipoh that is well known for its tranquillity inside the cave and an inviting man-made Zen Garden at the back of the limestone cave temple. Although the cave temples in the Kinta Valley are one of the main attractions, they have been subject to few studies. In recent years, the park has taken more active steps to improve the visitor experience. To attract new and returning guests, the park has begun to provide activities such as boating on the small river and cycling in the park. In addition, the park is also utilising social media to a greater extent for marketing purposes. The growing trend of using social media to share instagrammable images is growing rapidly in order to attract the attention of social media users for tourism promotion and destination branding (Fatanti and Suyadnya, 2015). Academics from numerous sectors, including environmental management and natural tourism, have investigated issues related to selfies and instagrammable photographs on social media (Hochman and Manovich, 2013; Leaver et al., 2020). According to a previous study, the bright and colourful features of an instagrammable background can provide indirect advertisement for the cave temple (Campbell et al., 2022).

#### 1.2 Purpose and contribution

Although cave temple tourism is an important type of tourism activity in several parts of the world, there is still a paucity of research on cave temple tourism. This is also the case for Southeast Asia, and most of the existing research on cave tourism and rockfall hazards in Malaysia has concentrated on the famous cave temples in Kuala Lumpur, such as Batu Caves (Mohamed et al., 2021; Musa et al., 2017; Paniandi et al., 2018).

Therefore, this study provides a contribution to the currently small literature on cave temple tourism and an illustration of cave tourism in Southeast Asia. These findings highlight the functions and perspectives of visitors to a touristy limestone temple to increase current knowledge and understanding of the protection and management of karst caves.

#### 1.3 Structure

The remainder of this paper is structured as follows. Section 2 provides a brief overview of the methods and data used in this study, and an introduction to the Kek Lok Tong Cave, which serves as the empirical context for this study. Section 3 presents the findings of the empirical study. Section 4 discusses the methods and data utilised in the study. Then in Section 5, we conclude the paper and provide several recommendations.

#### 2 Materials and methods

#### 2.1 Research methods and data sources

This study draws on several research methods and data sources, such as field observations and analyses of available secondary data, such as visitor reviews and information about the cave. For example, we searched for previous research on the geological and safety aspects of the temple. The following search procedure was followed. We searched on Google Scholar using relevant keywords such as 'Kek Lok Tong Cave' and 'Ipoh Cave Temple'.

Visitor reviews are important in ecotourism and cave tourism, and these reviews constitute an important source of data in this study. We chose to examine data on the website TripAdvisor.com since this website is a common source of data in research on

tourism and hospitality (Banerjee and Chua, 2016; Molinillo et al., 2016; Yoo et al., 2016). In previous research, it has been suggested that TripAdvisor is an important and reliable and trustworthy source to study the reviews of the tourism industry (Chua and Banerjee, 2013). TripAdvisor contains more than 75 million reviews and is recognised as a key source for travel planning among tourists (Chung and Buhalis, 2008). It is also important to note that TripAdvisor has been widely used to research the growth and implications of the Southeast Asian tourism industry. For example, qualitative analysis of hotels in Malaysia (Taw et al., 2022), machine learning techniques and sentiment analysis was used to analyse tourist reviews in Phuket, Thailand (Sangkaew and Zhu, 2022; Taecharungroj and Mathayomchan, 2019).

A search was carried out on the TripAdvisor website using the random sampling method. There were a total of 767 reviews published by visitors on 100 pages of reviews as of 23 November 2022. Random Generator was used on the Research Randomizer website to select 12 comments from the TripAdvisor website at random from 1–100 page numbers within the period 2017–2022. Reviews were categorised by location, service and other comments. Other comments are only included if they are meaningful for discussion and related to conservation and administration.

#### 2.2 Empirical context

Ipoh is the capital of Perak and the third largest city in Malaysia. It is located in the Kinta Valley. The Ipoh caves are important tourist attractions that attract both local and foreign visitors to this city. During the prehistoric period, aboriginal people lived in these limestone caves and caverns. After the 1900s, Ipoh became famous as a tin mining town, with southern Chinese migrating to the Kinta Valley and dominating the tin mining industry. They also brought their cultures and beliefs with them and built temples in the limestone caves of the Kinta Valley. A recent study by Boay (2021) describes the history, interior characteristics, and current state of all identified cave temples in the Kinta Valley.

The fossils in the Limestone Hills indicate that the Kinta Valley could range from late Devonian and Permian in age; however, there has been little research on the archaeological evidence of these studies. Although the tin mining industry was the dominant economic industry in the 1980s and 1990s, the geological characteristics and limestone caves in Perak have received little attention (Suntharalingam, 1968). The development of Perak's tin mining industry began with Long Jaafar's discovery of tin ore in Larut in the 1840s and the Pangkor Agreement in 1874, which marked the beginning of the state's modern history. The development transformed the scene of communal habitation from riverside villages with attap roofs to towns and cities with concrete structures (MBI, 2022).

The Kek Lok Tong Cave Temple is located in Gunung Rapat, Kinta Valley, Ipoh (Figure 2). It is a 4.6 km<sup>2</sup> limestone cave with an elevation of 80 metres. This cave is highly irregular in shape, with many appendages protruding from the centre cave basin. Mining activities have eroded the alluvial cover in some sections of the limestone cave, exposing key subsurface features (Fatihah and Beng, 2000).

Figure 2 The location of the Kek Lok Tong Cave Temple in Ipoh, Perak, Malaysia (see online version for colours)



#### **3** Findings

#### 3.1 Issues related to this cave

A mountain rock mining area can be seen at the end of the garden, which is on the opposite side of the river. On the other side of the river, we could see small rock pieces floating on the river and accumulating on the riverbank. Rock mining in the adjacent mining industry is a major concern that has caused environmental damage, and at times, massive rock mining activities have been carried out in the afternoon. Until now, there have been no public complaints about the mining sector damaging the natural environment of limestone caves in the vicinity, the same as the case reported by Widowaty et al. (2021), which has resulted in the degradation of the quality of the environment and travel experiences.

The orientation of the cave passage was subject to the regional morphological structure of Peninsular Malaysia. The karst hills of the Kinta Valley are experiencing high rates of erosion and kartistification due to exposure to high precipitation (Tsegab et al., 2019). Research using terrestrial LiDAR revealed that Kek Lok Tong has a high chance of failure towards the east (Hellmy et al., 2019).

Murals and Buddha sculptures are important aspects of the Kinta Valley cave temples. Some of these components have been eroded over time by weathering agents such as water and soluble salts from rainwater. There are also some geological and safety aspects of the cave that should be considered, such as the accessibility and supporting infrastructure ready for tourists (Tang et al., 2020). Special facilities for the disabled and the elderly are less available at most natural attractions in Malaysia, such as Johor, where there are limited pedestrian crossings and some basic facilities available to these minor visitors because most basic facilities are not available. Facilities are not available due to high expenses and difficulty in establishing the general public's need for disability facilities (Sanmargaraja and Wee, 2013).

#### 3.2 Visitor reviews on cave temple

Table 1 provides an overview of the visitor reviews. Table 1 provides an overview of the review data, nationality of the tourist, rating [asterisk (\*) represents the rating given by the tourists], and the comments.

There were 766 visitors who had commented on TripAdvisor.com as of 17 November 2022. The average TripAdvisor rating by reviewers in Kek Lok Tong is 4.5 from 2017–2022. 355 visitors stated that the overall travel experience of the study area is 'excellent', while another 344 visitors commented that it was 'very good'. Figure 3 shows the distribution of visitor ratings on TripAdvisor.com.

Review date	Country	Rating	Comment
Jan. 2017	Malaysia	**	Too hot in the Zen Garden is a lack of maintenance what a big disappointment it was excellent ten years ago but now
Jun. 2018	USA	**	Many years ago, this location was a beautiful getaway. Quarrying activities at the back of the cave have recently harmed its tranquillity. What a pity. The cave is completely free to access. Calling on the local government to put a stop to such environmental degradation in this wonderful location and restore the natural green spaces. During a sweltering day, the cave itself provides a cool retreat.
Dec. 2018	Singapore	**	This impressive temple cave is only a short drive from Ipoh town. The vast limestone building is crammed with deities and statues of Gods. So go with minimal hopes of enjoying nature because most spots are now mostly man-made, with the exception of higher spots and ceilings. Similarly, the lotus pond, foot reflexology trail, and botanical landscapes are mostly man-made. They are in the process of erecting more statues (18 in total), and the area is becoming an eyesore with rubbish and materials strewn about. This is far from Zen.
Feb. 2022	-	***	Unfortunately, Kek Long Tong Cave Temple finds a much lower place in most of the top to-do lists for Ipoh. It is a very large cave and well maintained. Should be on the top 2 cave temples in Ipoh.

 Table 1
 Selected TripAdvisor visitor reviews from 2017–2022

Source: TripAdvisor.com

Review date	Country	Rating	Comment
May 2022	UK	****	The first time I went was 8 years ago, and it was a lot better than it is now, but it's still a great excursion for an hour or two. My greatest disappointment is that there is now a factory of some kind in the garden, and part of the mountains that once surrounded it have vanished; it is an eyesore and a genuine tragedy. According to earlier reviews, it appears like they cleared portions of the mountains for that factory/mine around 2020. Overall, we went during Raya week, which was probably a mistake because it was really crowded and not at all serene. I also noted that they used to have a lot of donated ornaments and vases all over the cave that were intriguing to look at, but they've since been gone. There is parking inside the cave as well as near the cave and adjacent areas. Onsite restrooms and vending machines are available. The cave itself is quite vast, with ponds, fountains, lightning, and several elevations from which to see the statues or natural formations, and it is well worth seeing. The garden is located to the back of the cave and boasts fantastic views of the remaining cliffs, as well as a walking trail for your tired feet and a few seating spaces to enjoy the scenery. If you go at a quieter time, it may be more pleasant and calming, but even if it is relatively crowded, it is worth a visit.
Jun. 2022	Singapore	****	I was pleasantly surprised at the space of the cave temple when I arrived. I was expecting a temple at the mouth of the cave and I should end my self-tour within 30 mins. The car park was quite big, easily able to accommodate 100 cars. I went on a Saturday at about 11 AM and there were about 50–60 cars. After climbing up the stairs to the temple, I was surprised it leads to a valley. It was like walking up the mountain and then going down to the mountain. Below is a big pond with lots of fishes and tortoises. You can rent a 2 or 4 person cycle to cycle around the compound. There is also a small river beside the mountain side and you could rent a 2 or 4 person paddle boat. Though the area is not huge, one would easily take 20–30 mins just to walk around the compound. The whole 'valley +' is nearly surrounded by mountains and it was cooling. Give the place 1.5–2 hrs to be in.
Jun. 2022	-	****	Was very surprised to find a temple located inside the cave. It was quite cooling once you walked inside the cave. There were quite many Buddhist statues there and people walked to the end to find an opening where you can look down to see beautiful limestone scenery, plants, flowers. There were also many people sitting down to enjoy the scenery too.

 Table 1
 Selected TripAdvisor visitor reviews from 2017–2022 (continued)

Source: TripAdvisor.com

Review date	Country	Rating	Comment
Aug. 2022	Australia	***	Best to go see this on a weekday morning so it is not so crowded. Beautiful cave with Buddhist statues that you walk right through to a beautiful pond and well kept gardens. Not many stairs. Can rent a paddle boat 12 r for two people for 30 minutes. It's a bit of fun, but you can't go far before you have to turn around. Allow an hour for total visit. Shame about the huge concrete factory behind that has taken away half the mountain and spoiled the view.
Oct. 2022	Singapore	***	Very nice and interesting temple, we can't see this in Singapore especially the cave. But you need transport to visit there.
June 2022	Singapore	****	I was surprised to discover a temple inside the cave. It was quite cool as you entered the cave. There were a lot of Buddhist sculptures there, and people walked all the way to the end to find an entrance where they could gaze down and view lovely limestone scenery, plants, and flowers. There were also several folks lounging about enjoying the scenery.
Aug. 2022	Australia	****	It's best to go early on a weekday morning to avoid crowds. Gorgeous cave with Buddhist statues that leads to a beautiful pond and well-kept plants. There aren't many stairs. A paddle boat for two individuals can be rented for RM12 for 30 minutes. It's a lot of fun, but you can only go so far before you have to turn around. Allow an hour for the entire visit. It's a shame that the massive concrete factory behind has destroyed half of the mountain and ruined the vista.
Oct. 2022	Singapore	****	We can't see anything like this in Singapore, especially the cave. However, you will need transportation to get there.

 Table 1
 Selected TripAdvisor visitor reviews from 2017–2022 (continued)

Source: TripAdvisor.com

Figure 3 Visitor rating distribution (see online version for colours)



Source: TripAdvisor.com

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#### 3.3 Word cloud

A word cloud can be used to display text data in a graphical and visual way (DePaolo and Wilkinson, 2014). By analysing the TripAdvisor reviews with the help of a world cloud (Figure 4), we discovered that the visitors tend to describe the cave using words such as 'clean', 'nice', 'natural', 'maintained', 'limestone', 'beautiful', 'worth', 'stalagmites', 'worship', 'Buddhist' and 'blended'.





#### 3.4 Evaluation of the features of the cave

Previous studies indicated that the quality of tourist facilities directly affects the level of tourists (Febriyana et al., 2020; Ghazvini et al., 2020). There are tourist facilities available at this cave temple, including swings at the entrance, artificial streams for recreational swam boating, biking trails, and Chinese architectural resting areas in the Zen Garden behind the cave temple. There are also plenty of steel benches for tourists to sit on in the cave temples, as well as a small planting farm (see Figure 5). The cave is spacious and cool due to the natural location and setting of the cave temple. Unlike other Chinese cave temples with mini-shops for religious sculptures, amulets, and souvenirs,

there are no shopping facilities for this cave temple. The nearest commercial shopping mall to this area is the Ipoh Parade Shopping Mall and it requires transportation to get there.

Concerning transportation services, the only way to this place is by car, taxi, or Grab as it is located far from the city. Road infrastructure and connectivity is available to reach this attraction. However, entrance to the cave temple and car parking are free of charge. For swam boating and bike rental, the prices are as shown in Table 2.

 Table 2
 Price list of recreational boating and bicycle rentals

2 pax boat	RM12/30 min
4 pax boat	RM20/30 min
2 pax bicycle	RM6/30 min
4 pax bicycle	RM10/30 min

There are no specific regulations established by the cave owner, except that visitors are not allowed to feed and catch the fish in the ponds at the temple. If visitors want to feed fish, they can purchase the fish food on the counter in the cave. There is also a signboard informing visitors should not feed and photograph the monkey near to visitors to prevent monkeys from attacking visitors.

#### 3.5 Field observations

The Kek Lok Tong Cave Temple is located in the inner part of Gunung Rapat, Kinta Valley. It requires visitors to have transportation to reach this place because it is a 20–30 minute drive from Ipoh KTM Train Station. The cave temple is located after the residential area and before reaching the destination, there is a narrow route to take with the cemetery on the right and the mountain on the left. Visitors can park their vehicles on the grass at the left location but be advised that monkeys that live in the mountains will come to rob your food if you move closer to the mountain. One of the authors observed volunteers and nearby residents driving to this location and feeding these monkeys bananas. This is a positive move, but it should be monitored to ensure the safety of visitors.

Figure 5 Field photographs taken during a fieldwork at Kek Lok Tong (see online version for colours)



Figure 5 Field photographs taken during a fieldwork at Kek Lok Tong (continued) (see online version for colours)



Figure 6 The mud pollution of the second fishpond in the Zen Park of the cave temple (see online version for colours)



#### 4 Discussion

In this section, we discuss the findings by performing a strengths-weaknessesopportunities-threats (SWOT) analysis. SWOT analysis is a widely used framework that is often used in the tourism and hospitality industry (Madsen, 2016; Madsen and Stenheim, 2022).

In terms of strengths (S), the Kek Lok Tong Cave Temple has a unique cave construction, Buddhist culture and tourism. Although some cave temples within the Kinta Valley are known for their culture rather than their landscape, while others are known for their scenery rather than their culture, the Kek Lok Tong Cave Temple has an excellent combination of both for tourism. It has heritage caves with unique features, and an idyllic pond and gardens. The cave buildings and the environment of this cave temple have been changed or added in response to use; however, the natural environment should also be protected, as this is crucial for long-term cave tourism.

The environment and Buddha sculptures at the Kek Lok Tong Cave Temple attract visitors. The temple environment is regulated to ensure the cleanliness and cleanliness of the buildings for the convenience of guests who come to practice Buddhism. When the surroundings are clean, visitors can concentrate on Buddhism and purify their thoughts. The temple administration prioritises human development over object development, indicating an attempt to meet social expectations. Because modern society is influenced by capitalism and people treasure objects but disregard the fundamental value of life, the temple stresses human growth by promoting religious awareness. The proponents of cave temple tourism argue that these visits can have a positive impact of people's minds and well-being, almost like a 'cleansing effect'.

In terms of weaknesses (W), one aspect that limits the number of visitors is the need for transportation to visit. Another negative factor is the mining activities in the vicinity, which are in conflict with the tranquillity of the cave environment. Finally, another weakness is related to management and marketing, as there is generally a lack of marketing efforts, which limits the awareness of and popularity of the cave both nationally and internationally.

However, the strengths and weaknesses also provide opportunities (O) for the management of the cave. One area for improvement would be to develop better facilities for disabled visitors, which also could also generate positive publicity. Another development that could increase the awareness and popularity of the cave, would be to organise more cultural and religious events. Due to the enormous number of participants, including workers, locals who come to help, and tourists who come to see these events, more direction is required during festivals or ceremonies. In these situations, effective management is essential since only then will the temple be able to generate revenue for the local economy's growth. According to Obadia (2011), in the age of globalisation, most Buddhist holidays or celebrations place a strong emphasis on economic benefits for the neighbourhood. Some temple employees are required to work on a volunteer basis because the temple is not financially sponsored by the government.

Finally, in terms of threats (T), there are risks and dangers associated with cave tourism, as caves are dark and slippery places. For this particular cave, there is the potential failing of a limestone cave. There is also the risk of animal chasing visitors. Accidents would be devastating for the people involved. From a tourism management and marketing perspective, it would also severely damage the reputation and visitor numbers. Finally, an important threat is economic shocks. All industries have been severely affected by the COVID-19 pandemic, particularly the tourism and leisure industries. The overall number of visitors to the cave temples in the Kinta Valley is susceptible to serious pandemic shocks, as has been observed in the tourism industry in recent years (Sigala, 2020).

#### 5 Conclusions

#### 5.1 Concluding comments

The primary objective of this research has been to present the current state of the Kek Lok Tong Cave Temple in Kinta Valley, Malaysia. Second, the purpose of this paper is to educate the local community and international tourists about the uniqueness of the cave temple. Unique features include inviting natural karst, Buddhist statues and gardens. Since the limestone cave is close to the rock mining sector, it is critical that the state government controls and enforces rules to control these mining activities to maintain the natural environment and prevent the geological failure of the limestone cave. Furthermore, it is intended that this paper would raise awareness within the local population about the need to improve the infrastructure and safety of ecotourism. The cave temple can also arrange certain events to improve the income of the local community while also preserving the local ecotourism industry.

To the authors' knowledge, this study is unique in the sense that it is the first of its kind in the Kinta Valley to examine the current conditions of cave temples and integrate literature from urban planning and ecotourism studies while providing a different lens on positive and negative reviews to improve cave tourism in Perak and even Malaysia.

The study of cave temples and show caves is important to preserve local cultures as well as to generate income for citizens in the proximity of the caves. This study provides a detailed analysis of the perspective of visitors using the reviews provided by visitors on the TripAdvisor website. Feedback and comments from visitors are crucial to improving the tourism experience and the economic income of local small businesses. For example, cave temple owners can provide a consistent catalogue of cultural heritage information, as well as accessibility, to improve the user experience with digital cultural heritage information platforms. This catalogue can be in digital or physical form to increase awareness of the heritage sites (Hu et al., 2018).

The findings show that Kek Lok Tong is of cultural and geological importance to the tourism industry and world heritage. Most of the visitors appreciated the scenery and activities when visiting the attached cave temple and the Zen Garden. Cave operators and related authorities should take these reviews into account to enhance the sustainability of cave temple tourism and to improve the environmental impacts caused by surrounding mining activities.

#### 5.2 Recommendations

- 1 The participation of residents in the tourism planning process is essential for the success of the planning and implementation (Harrill, 2004). The perspectives and attitudes of local citizens are important in the planning of cave temple tourism planning because this group lives in the town where the attractions are located. Local authorities and cave owners can also collaborate to provide skill training to empower the local public, as well as to generate economic growth for local groups (Simmons, 1994).
- 2 Rock and minerals surrounding the cave temple, regardless of the scale of mining operations, must be strictly monitored and controlled so that tourists 'safety is protected and the natural environment of the cave temple is well maintained (Aryee et al., 2003). A major issue of the cave studied is the mining operations have already created negative impacts on the water quality and natural environment, particularly the mineral disposal in the pond behind the cave temple which is obvious water pollution that potentially damage the aquatic life (Maret and MacCoy, 2002) and the development of the tourism industry of Ipoh, where resulting in the local citizens who live nearby have to bear the costs of the environmental damage and not the mining companies, as mentioned by Aigbedion and Iyayi (2007).
- 3 A local guide should be employed to explain the uniqueness of the cave, as well as to enhance the understanding of tourists about the history and cultural aspects of the cave temple. This can be done by the state authorities or the cave owner to hire a tour guide to show the tourists the specialty of show caves and cave temples in Malaysia. Another way is the government can sponsor an amount of funding to improve the promotion of these show caves, where they usually have similar characteristics in common worldwide, such as visitors have to pay entrance fee; the cave has accessible facilities such as stairs, lights, signboards, artificial sculptures', and visits are usually accompanied by the supervision of a tour guide. By administering these global guidelines on show caves, cave operators can generate income to maintain and improve the structures and facilities of the cave temple (Chiarini et al., 2022).

#### 5.3 Limitations and future research

Like any research, the current study has limitations. This study focuses on Kek Lok Tong as a case study for cave tourism in Malaysia, and therefore it cannot be generalised to represent all other cave temples because all temples have unique characteristics for cultural, touristy and economic functions.

Future research on the geological features of these show caves should be conducted to provide an overview of the safety and recent geological conditions of these show cave temples. Implementing rules and regulations to monitor the frequency and activities of mining industries is also crucial to protect the environmental health of cave temples. Additionally, more research is needed to understand how the increase in tourists at the cave temple can have an impact on other local businesses and the income of local citizens, such as environmental impact assessment of the cave temple on local residents and surrounding economies.

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