

FACTORS AFFECTING LOCAL COMMUNITIES' SUPPORT FOR ENVIRONMENTAL SUSTAINABILITY IN TAMAN NEGARA PAHANG, KUALA TAHAN MALAYSIA

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ABSTRACT

Local support for protected areas management is increasingly viewed by conservationists as an important determinant of the success of many environmental sustainability efforts. As such, this paper presents data from a case study of local people living in villages of Kuala Tahan within the boundaries of the Taman Negara Pahang, Malaysia. In-depth interviews and non-participants observations were used to examine contributing factors that influence perceptions of local communities on environmental sustainability activities surrounding the national park. The collected data were analysed using thematic analysis. Overall, the positive impact of the park establishment was better perceived than the negative ones, mainly because the tourism development surrounding the park creates created more income and employment opportunities for the local people. Other reasons for liking the park include appreciation of nature, improvements of local infrastructure and culture, community environmental knowledge and awareness, and good park-people relationship. In contrast, tourism incurs incurred high cost of living and this being the most negative aspects mentioned by the informants. This paper suggests the exploring of local communities' perspectives by taking into account their needs and opinions should become a management priority of the national park in order to identify effective environmental sustainability strategies.



Keywords: *Environmental sustainability, Local communities, Perspectives, National park*

INTRODUCTION

As one of the largest economic powerhouses in the Southeast Asia region, Malaysia faces the tensions of balancing between socio-economic developments for the betterment of society and overcoming the collapse of diverse biodiversity. Environmental degradation has become a severe issue since Malaysia pursues rapid industrialization since the 1980s (Mohd Hasnu & Muhammad, 2022). Wealth accumulation has taken its toll on Malaysian environmental health (Hadi, 2009). For example, virgin forest was converted to agricultural lands for commercial production largely in oil palm plantations following its status as the largest exporter of oil palm (Omran & Schwarz-Herion, 2020). Besides, lands which are near to existing towns and cities in turn were converted to ‘urban use’ in the forms of commercial, industrial, services, infrastructures and extensive urban housing areas (Hezri, 2011). In addition, human activity of deforestation for construction project has also increased the number of pollution cases, and this is alarming and becoming one of the environmental issues in Malaysia (Ahmad Halmi & Ismail, 2017).

Protected areas are a key approach to biodiversity conservation efforts and recognized as one of the most important instruments to protect species in their natural habitats (Leverington et al., 2010; Watson et al., 2014; Pulido-Chadid et al., 2023). National Parks which are classified under Category II of the protected areas management categories as proposed by the World Conservation Union (IUCN) are the most extensive and restrictive type of protected areas (West & Brechin, 1991; Muhumuza & Balkwill, 2013). The two primary objectives of national parks are to protect natural biodiversity along with its underlying ecological structure and supporting environmental processes and to promote education and recreation (IUCN, 2019).

Many tropical forests in Malaysia have been nominated to become the national parks in the beginning of twentieth century. In most of the developing countries, national park acts as a cornerstone for nature conservation to document the nation’s natural history. It represents a strong

symbol of a nation's understanding of the actual root, by symbolising its own characteristics and authenticity. Besides, the national parks are being developed as a nation's maintenance to protect nature, historical and cultural values (Jeong et al., 2021). Therefore, the rationale of choosing a national park as the focus of this study was because it represents an entirely close, specific and complex relationship between human and their natural environment.

The traditional conservation movement was first initiated when human is considered as a threat to nature in preserving natural resources that are pure, pristine, untouched and desirable (Champbell, 2005; Adams & Hutton, 2007). This idea of separating human activities from nature was proliferated from the nineteenth to twentieth century and has instigated a clear conceptual division between natural environment and human. This has resulted to a variety of negative consequences and park-people conflicts (Kideghesho et al., 2013; Thapa, 2016; Tondhlana & Cundill, 2017; Teh & Hasan, 2022). Hence, the objectives of national parks have now expanded to also include human-centered socioeconomic development. A new paradigm of conservation incorporates the sustainable use of resources within the protected areas and brings tremendous cultural, ecological, spiritual and scientific benefits to the local residents. Thus, the scope of national parks has been broadened to poverty alleviation and the development of the nation (Kumar et al., 2020).

Previous research works have suggested that local people residing in and around the national parks often affects the parks ability to meet long-term conservation and sustainability goals. Hence, various kind of research initiatives have been undertaken to enhance understanding of the perceptions of rural stakeholders on environmental sustainability and their attitudes whether to support or not the conservation activities in and around the national parks. The results indicated that the majority of local people held favourable attitudes towards the rules governing the park, as well as on their perceptions of wildlife conservation mainly due to socio-economic benefits generated from tourism development (Harun et al., 2018; Hashim et al., 2019; Ntuli et al., 2019; Abukari & Mwalyosi, 2020; Thapa et al., 2022). In different words, the benefits gained will impact people's attitudes on nature conservation. These researchers have suggested that direct and indirect benefits which local residents could exert from the protected areas would

promote incentives for people to perceive nature conservation positively, and therefore allowing forest to regenerate. For example, tourism activities have successfully offered various kind of employment opportunities and additional income to the rural residents through homestay programme, restaurant, shopping and recreational activities, as well as the expansion of social infrastructure in tourist destinations (Che Leh, 2012; Woli, 2022).

On a contrary, past studies at the protected area level have proven factors contributing to reduced support from local communities are often linked to crop damage and livestock loss by wild animals (Timsina, 2014; Thapa, 2016, Gameda & Meles, 2018; Yaduma et al., 2024), restriction of access to traditionally used forest resources (Thondhlana & Cundill, 2017), unequal land allocation or land-use conflicts (Kideghesho et al., 2013; Alananga et al., 2024) and lack of community involvement in the decision-making processes (Silori, 2007; Andrade & Rhodes, 2012; Guzman et al., 2020), which have resulted to park-people conflicts and poor relationships. At the national level, government policies and people's trust in government may impact how people perceive and interact with protected areas (Karanth & Nepal, 2012; Gangaas et al., 2015).

A recent study on mangrove rehabilitation programs done by Ramli et al. (2023) highlighted that local communities positive intention towards conservation needs full support from the higher authority to ensure a long-term resilient program and sustainable management of conservation activities. Matarrita-Cascante et al. (2017) also argued that positive park-people relationships based on high levels of trust allow and facilitate collaboration with stakeholders, such as sharing of information or knowledge. In the past, many studies such as Fiallo and Jacobson (1995), Infield and Namara (2008) have stressed the familiarity between park staff and local communities can be seen as an effective tool to build good park-people relationships and hence could increase local support for conservation activities. In contrast, Holmes (2003) found a link between increased familiarity and interest in accessing park resources that could be associated with greater potential for illegal entrance and resource extraction. Furthermore, other scholars have also highlighted that awareness is one of the major contributors to environmental sustainability, where low level of awareness and limited knowledge about the importance of nature conservation could influence local perceptions through a negative side

(Wondriad et al., 2020; Ibrahim et al., 2023).

Drawing from the literature, perceptions of ecological, economic, political, and cultural impacts affected whether residents supported the construction of national parks (Dong et al., 2021). Thereby, this study was designed to explore what factors have influenced local communities' support for environmental conservation around the Taman Negara Pahang in Kuala Tahan Malaysia. It sought to fill in the gaps of the existing literature by providing better understanding of why and how their perceptions and attitudes are formed, so that strategies which are indeed crucial for effective management and conflict resolution between parks and local communities can be proposed.

METHODS

Study Sites

Taman Negara was originally gazetted as Gunung Tahan Game Reserve in 1925 and it was declared as a National Park by the British Administrators under the name 'King George V National Park' in 1939, to commemorate the installation of King George V in England. It was then renamed as Taman Negara after Malaysia's independence from British rule in 1957, which literally means "national park" in Malay. The total area of the National Park is 4,343 square kilometres and constitutes the central spine of the Peninsular Malaysia through a combination of three protected areas in three states, Pahang (57%), Kelantan (24%), and Terengganu (19%). The National Park is considered as one of the oldest land masses in Peninsular Malaysia of more than 130 million years old (UNESCO World Heritage Convention, 2022).

Taman Negara Pahang covers the largest area at 2,477 square kilometres or 57 per cent of the whole Taman Negara. Majority of the land area of Taman Negara Pahang is mountainous with peaks such as Gunung Teku, Gunung Tangga Dua Belas and Gunung Tahan (the highest peak at 2,187 metres). The National Park is drained by the main river of Sungai Tahan which is originated from Gunung Tahan, as well as Sungai Tembeling

(Pakhriazad, Hasmadi & Aida, 2009). It is considered as one of the richest areas in term of plant species and genetic diversity and hosts more than 3,000 species of plants. The great diversity of flora in the park maintains a natural habitat for about 150 species of mammals, 479 species of birds, 53 species of fresh water fishes, 57 species of amphibians, and 67 species of snakes (UNESCO World Heritage Convention, 2022).

Data Collection and Analysis

Qualitative research methodology in the social sciences embodies a philosophical commitment to acknowledging the complexity and diversity of human experience. It offers a framework for understanding and valuing the intricate nature of human society and culture, emphasizing the importance of individual and collective stories in shaping our comprehension of the social world (Gautam & Gautam, 2023). Hence this study was conducted using a qualitative approach due to its ability in providing an understanding of human experience, interactions and behaviour patterns. In-depth interviews were conducted face-to-face for this study to assess the overriding factors affecting local communities' support for environmental conservation activities surrounding the Taman Negara Pahang, Kuala Tahan Malaysia. The role of the researcher as non-participant observer was also applied. The observations were conducted concurrently during the in-depth interviews. The researcher was not directly involve in the situation to become part of their community but rather observed and recorded the respondents' actions and behaviours.

Local community is defined as a group of people with diverse characteristics, religion and race, but they are living in a same territory with shared interest and linked by social ties, involving in different occupations but related aspect of livelihoods (Borrini-Feyerabend, 1992; MacQueen et al., 2001). Certain criteria for selecting the target villages in Kuala Tahan were set to gain rich data and to ensure a proportional representative of their local communities, included the following:

- i. The villages should be located in or not more than five kilometres from the National Park;
- ii. The socio-economic activities of local villages must depend on ecotourism development either employed or involved in tourism business;
- iii. The respondents should be willing to provide information voluntarily, and

- iv. The personal safety of the researcher during the fieldwork must clearly be protected.

Based on these criteria, a total of seven village in Kuala Tahan were selected as the research population for this study. Guest et al. (2006) suggested that data saturation guide researchers in deciding the sample size based on the data obtained from the participants. Moreover, Hennink and Kaiser (2022) stress that purposive sampling and data saturation determine the sample size. Based on these arguments, purposive sampling was applied to 10 respondents who took part in the interview. The respondents have different occupational backgrounds. The data were collected until data saturation were achieved. Interviewees were from different backgrounds and responsibilities. They comprised boatman, tourist guide, chalet and food service operator, park ranger and National Park officer. The respondents with different background provided diverse and valuable data about the issues related to this study.

All the questions asked were entirely open-ended to give more spaces for the respondents to express their perceptions and support for the conservation attempts. The qualitative data collected from the interviews were analysed using thematic analysis process suggested by Braun and Clarke (2006). It should be seen as a foundational method for qualitative analysis to identify, analyse and report emerging patterns or themes within the data. Alhojailan (2012) also admitted that this method is capable to discover variables or factors that give the most appropriate data interpretations about people's thoughts, actions and behaviours.

RESULTS

The Factors Contributing to Local Support for Environmental Sustainability are displayed below.

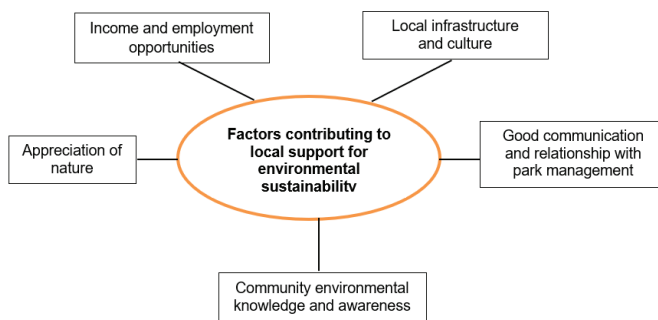


Figure 1. Emerging Factors Contributing to Local Support for Environmental Sustainability from the Study

Income and Employment Opportunities

When answering to the question, “How important or unimportant to you is the national park? Why?”, the respondents concurred that the establishment of Taman Negara Pahang has generated income and employment opportunities for the local communities who engaged in various tourist activities. They further alluded to the rapidly growth of tourism industry around their village areas that has also opened up a new avenue for the outsiders to earn their living. Expressing of his appreciation to the park establishment, one of the respondents, a boatman, who has lived there since childhood and very familiar to the national park in Kuala Tahan remarked.

Nearly 80 per cent of the local people are involving in the tourism sector... Not only the local people, but many outsiders have also migrated to Kuala Tahan to work as boatmen, nature guides, restaurant and chalet workers and others of the ilk.

Besides, the chairman from the Tourist Operators Association, who has long worked in the community-based tourism, stressed the values of the national park for the surrounding communities. His view was that the rich biodiversity of the country should be protected by the local villagers in order to gain benefits from the park. In his statement below, the economic benefits from the park were described as returns of the conservation. Furthermore, this chairman also defined the benefits as outcomes from ecotourism and the nature. He argued that the community members would be aware of their

responsibilities in preserving natural resources if they knew they were able to benefit from the national park.

Other than preserving the wildlife species and our biodiversity, the local villagers also managed to get returns from the conservation efforts... If they (local villagers) could enjoy the outcomes from the ecotourism and also from the nature, for sure they would think that looking after the environment is their responsibility.

However, while acknowledging the disadvantages of the tourism development surrounding the Taman Negara Pahang, one of the interview findings revealed an intense dispute among the respondents. One of them felt that the tourism industry has led to socio-economic threats to local livelihoods in terms of high cost of living. He gave an example by highlighting the food price in Kuala Tahan is much higher than other places such as Jerantut. Nonetheless, the respondent continued to stress that “job opportunities are always there”. This indicates that even though local people faced high living expenses due to tourism activities, but they are aware and confident about the availability of employment opportunities for the locals surrounding the national park.

Improves of Local Infrastructure and Culture

The local villagers also believed that the park plays an important role in improving local public services such as transportation and infrastructure facilities. Tourism industry has demanded a completely new road from the Jerantut town to Kuala Tahan, which previously is a tourism destination and only accessible through the Sungai Tembeling. As the boat was the only mode of transportation of the region, the past environment of the village was described by the respondent as “ulu”, which is derived from Malay language that means a rural or an obsolete place. One of the female villager who operated a restaurant for more than seven years pointed out as follows:

Last time the people always said that this place was absolutely ulu, it was exactly in the jungle. There was no road to reach Kuala Tahan where all the people need to take a boat... Even though the road was already available, the role of boats is still significant even the numbers are still not insufficient. It means the number of tourists is increasing from time to time.

The findings of in-depth interviews also depicted that the national park could also bring social-cultural impact which would directly contribute to favourable support towards park conservation efforts among the local communities. By tradition, women would mainly spend their days at home to fulfil their housewife roles of managing family matters. As a result, women will financially depend on men because their involvement in employments is very limited. However, with the rapid development within the national park, it generates direct and indirect employments not only for the head of the households, but to the housewives and the younger groups too. From financially dependent on their parents and husband in the earlier period, they could nowadays stand on their own by working as boatmen, resort employees, or starting up small scale businesses. A female respondent believed that the local culture was positively transforming from the traditional lifestyle to a modern one, where she called it as “lifestyle renewal”. She rendered:

In previous time, women were always staying at home to manage their households. Similar to young people, if they did not go to the school, they will only stay with their families. Compared to now, they are brave enough to go out for working... The housewives are also spirited to begin their small businesses or open the shops.

The local villagers noted that the exposure to foreign tourists as a positive point in encouraging the locals to communicate in English, where they have been able to make many friends from all parts of the world. However, when asked if the tourism development increases criminal and antisocial activities, the respondents did not see this as a problem, since they thought the situation was still under control, with one of them mentioned “... criminal cases still occur, but the problem is not very significant, it does not proliferate and become a burden to the local people”.

Appreciation of Nature

Besides the main reason of economic benefits, other salient factors contributing to local support for nature conservation could be pivoted in relation to the environmental benefits obtained from the national park itself. For a female interviewee who has married a local villager and relocated to

live in Kuala Tahan, a chance to see wild animals in their real habitats was a great experience of staying next to the conservation site. She claimed "If we stay outside, we have no chance to see the wildlife, it is very hard. But if we are staying in Kuala Tahan, we could even see a tapir". Moreover, the same respondent also claimed that with the natural geographical landscape, the national park provides a good and healthy living environment with clean and fresh atmosphere without pollution if compared to her hometown in the city. She elaborated her great experience by reiterating:

There is always air pollution that affects our health happened in the city... When my father came to visit me in Kuala Tahan, he is adaptable with the weather here. He bathes with the spring water from the mountain every day. The water is so cold as he feels fresh and all the illness gone.

Community Environmental Knowledge and Awareness

The local villagers were generally having adequate understanding and awareness regarding the objectives of national park establishment. Majority of the interviewees were aware of the role of the national park in conservation. They understood that nobody is allowed to take out any resources from the park, as asserted by one of the male respondents who is originally from Kuala Tahan, "inside the national park, we cannot do things that are not supposed to... even plucking a leave from the tree is also prohibited, we cannot take anything out." When the participant was probed about the impacts of commercial logging activities surrounding Kuala Tahan, he expressed high degree of anxiety on the water pollution happened in Sungai Tembeling that would ruin the recreational activities for the young people. He averred that forest logging will attenuate the ability of land to absorb the water and hence allows more water to flow off the soil into the river.

Another interview with a park ranger, a male resident, originally from Kuala Tahan, illustrated the clearing and extreme loggings of forest have caused the extinction of species. He shared his view as follows:

If the forests are cut down or the wild animals are destroyed, we have no more real examples to show to our children. When they ask how is the tiger look like, father? It looks like a cat for example. Later on, when they

see a cat, they would call it as a tiger. This case would trigger different perceptions.

The respondent felt that the environmental resources that enrich our present living should be safeguarded and monitored continuously to enrich the life of our children and grandchildren in the future. He delivered his strong belief that deforestation poses the greatest threat to plant and animal species. More specifically, an example was given by the respondent concerning the loss of endangered species. He pointed out that without the real examples, our next generations would face difficulties to differentiate between a tiger and a cat.

Good Communication and Relationship with Park Management

Another reason found to affect local communities' support on conservation activities is their good relationship with the park authorities. The local villagers presented a strong cooperation and support where they were cared and concerned on matters pertaining the national park because many of them are the employees of the governmental organisations especially the (DWNP). Therefore, there was a connection between the local communities and the park specifically during concerted activities and any arising problems. When they were asked to elaborate their connection with the park management, a park ranger, a local resident, felt that it was "very close" and "very good".

Our relationship is very good and very close... Local people here are mostly working for the Forestry or Perhilitan. If there are any things happened, the local villagers will directly report through the people who are working inside the national park, for example the park ranger and nature guide. We would be directly to Perhilitan, straight on the spot.

Additionally, when responding to the question "Does the park management understand the problems and the needs of the villagers?", another local villager who is the chairman of the Nature Guides Association apparently expressed his satisfaction with the new national park Superintendent, who is more positive thinking and understands the problems and needs of the nature guides. According to him, the nature guides had received many complaints from the tourists because few places were

recently closed due to periodical maintenance. However, he was highly confident and believed in the ability of the new Superintendent to solve these problems of the nature guides. In his point of view, the Superintendent has been more “positive”, “effective”, and always “listen to the villagers”.

On behalf of the park management, the Park Superintendent highlighted that the local communities are the “important staff” for the park as they also act as the “eyes” and “ears” of the management. He asserted that the park policy highly concerns on the community involvement:

Perhilitan could not do things alone, it is nonsense! We could not look after all the entrances of the park, but we have the local communities who will be the eyes and ears for us, and also what we called the additional staff for the Perhilitan.

From the relationship issue with local communities, our conversation topic was then shifted to park-people communication strategy. The Park Superintendent emphasised that he is working on the basis and policy of ecotourism that would meet both conservation and local development goals. He initiated a local stakeholders’ meeting every two months to get involvement from all the local stakeholders for discussion towards a sustainable foundation which could contribute to higher living standards of local people. During the interview, open minded and positive thinking of the Superintendent was observed, when he said that, “this meeting is the place where we would quarrel, rise up issues, and discuss for the best solution of every matter”. His definition of “every matter” indicates his approach is not only encouraging towards the local participation in park management, but the discussion would also include other issues outside the park such as socio-economic and cultural problems. To him, “every matter” is important because the local communities in Kuala Tahan are depending fundamentally on the national park for their livelihoods.

DISCUSSION AND CONCLUSION

Overall, the results of this study confirm that the local communities living in villages of Kuala Tahan showed favourable support for conservation and sustainability activities surrounding the Taman Negara Pahang. It is

evident that the receipt of economic benefits from the national park has increased local support, whereby the respondents were aware that a well-conserved park is important in earning a steady income from tourists. Hence, the park should be protected in order to gain benefits, or it could be regarded as the 'return of conservation effort'. This supports the arguments of many scholars that indicate substantial multiplier positive effects on the local employment and income from visitors (Ashok et al., 2017; Abukari & Mwalyosi, 2020; Thapa et al., 2022).

In addition, previous studies have consistently noted that the socio-cultural impact on park-adjacent communities is positive as it helps to improve infrastructures and roads, enhance health care, embrace local culture, improve gender equality in the region, and enhance cultural awareness (Acquah et al., 2017; Mammadova, 2018). This research findings supported this argument, where the interviewees observed more recreational opportunities, positive improvement in transportation and infrastructure services within their villages, and the improvement of local English language skills. They underlined the new tarred road from Jerantut to Kuala Tahan has benefited the tourists and residents alike. Moreover, with improved English skills, local villagers are able to befriend tourists from all around the world.

In addition, the interview results also revealed that the local culture and society were changing in a positive way. Young generations and housewives have started exposing themselves to the outside community especially the tourists to Kuala Tahan, and they have accrued substantial incomes through working as boatmen, resort, hotel and restaurant workers. Ironically, they have become financially independent from their parents and husband. These verdicts have again confirmed the role of national park in providing the optimistic socio-cultural changes to the local communities. Although findings indicated the deteriorating of criminal activities in Kuala Tahan, however, the local population continues to support environmental conservation activities driven by the national park, consistent with the previous research showing that positive socio-cultural impact of park and tourism development generally outweigh the negatives (Acquah et al., 2017).

Appreciation of nature was observed to be an essential key point that determine support for environmental conservation activities among the local people in. Respondents agreed that the creation of national park

is to conserve biodiversity (Adams & Hutton, 2007) and provide healthy natural environment for people's enjoyment and recreation. They were also established to enhance natural scenery, wildlife and cultural heritage (Kaffashi et al., 2015). For example, one of the respondents highlighted that a high chance of seeing wild animals as one of the environmental benefits of staying close to a conservation site. This is in line with studies conducted by Allendorf et al., (2019) and Salman et al. (2021) where they indicated that a protected forest is recognised for bringing ecosystem service benefits, intrinsic and aesthetic environmental values to the local people.

The research analysis suggested that the local residents who were imbued with environmental knowledge and awareness were more likely to support the development of a national park. This is in line with the Wondriad et al. (2020) and Ibrahim et al. (2023), where they claimed that local community knowledge helps to avoid environmental degradation. The lack of public awareness of biodiversity conservation is the leading cause of biodiversity loss. Furthermore, awareness in terms of knowledge, attitude and experience can help to reduce the activities that result in unsustainability of the protected area, such as hunting, fishing and deforestation (Walter, 2013; Zoysa, 2022).

Lastly, good communication and relationship with park management were observed to be the key factors in influencing local support for the park. This study suggested it is essential to foster effective communication between all stakeholders involved. In addition, effective communication can facilitate collaboration, build trust, and promote mutual understanding, leading to more informed and inclusive decision-making processes. Furthermore, the interview outcomes revealed a strong cooperation and high local involvement in the conservation activities. This is in line with the past studies which explains effective and sustainable national park management necessitates the inclusion of local stakeholders in decision-making processes (Mamo, 2015; Ferretti-Gallon et al., 2021). According to the respondents, park staff always listen to the villagers' grievances and understand their problems. Meanwhile, the authorities of Taman Negara Pahang have emphasized local participation in park management and decision-making processes, acknowledging that the local people are paramount in achieving park effectiveness. This has proven a better relationship based on high levels of trust can achieve more participatory and collaborative park management,

while mitigating park-people conflicts (Matarrita-Cascante et al., 2017).

In conclusion, the important point this study on government agencies and park management is that environmental sustainability efforts can be effective when the perspectives and values of local people are identified and reflected in the management of the resources. In other words, understanding the locals' needs and opinions are crucial. Such an approach ensures that diverse viewpoints are considered, local knowledge is incorporated, and decisions made reflect the needs and concerns of those directly impacted by park management initiatives. By engaging and involving local stakeholders through transparent and open communication channels, national park management can better address conservation challenges, enhance community support, and achieve long-term sustainability goals.

LIMITATIONS OF THE STUDY

There were two main limitations of this study which were insufficient financial resources and time constraints. The first limitation was limited budget. This factor had restricted access to the national park due to its distance and remoteness, which made it challenging to conduct more in-depth data collection. The second factor was time constraints. The time constraints imposed by limited financial resources have impacted the overall depth of the findings.

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AUTHOR CONTRIBUTIONS

All authors have contributed to the design of the research, analysis, the interpretation of the data, revising it critically for the important of the discussion. All authors have read and approved the final manuscript.

CONFLICT OF INTEREST

There is no conflict of interest.

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