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## **AN ASSESSMENT OF THE EDU-TOURISM @UKMLIVINGLAB PACKAGE TEST-RUN**

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### **Abstract**

An edu-tourism package has been developed which encompassed nature-based tourism at the natural living laboratories of Universiti Kebangsaan Malaysia (UKM). With the theme "From Mountain to the Reef", this package comprised of tourism module based on the natural ecosystem of respective living laboratory of UKM, involving four natural habitats; highland, lowland, freshwater and marine. In order to assess the effectiveness of the module, we have distributed a set of questionnaire to the participants during the test-run, involving all the living lab facilities. This pilot study involved 13 participants from various academic background, enrolling either as undergraduates or postgraduates study at UKM. The result of the questionnaire showed positive feedbacks from the participants for both the learning modules, as well as the overall program. There were however, several room of improvements to be made from the feedbacks. This package is expected to be marketed locally and internationally for students and public, in order to generate revenue for the university and stakeholders. This project has proven to be research translated to the community through the empowering of the human capitals (staffs and local community) through the living laboratory facilities.

*Keywords:* Education; nature-modules; nature-tourism; natural heritage; social

## **1.0 INTRODUCTION**

Edu-tourism is described as a program involving an individual or a group of people travelling to a destination in searching of new knowledge (Li et al. 2016). It has been acknowledged as one of the highly potential niches for tourism development in Malaysia. Ritchie and Crouch, (2005), stated that educational tourism involved activity participated by tourist concerning excursion involving education and learning, while having an overnight stay and the activity are principal or minor part of their journey. Laguador and Dotong, (2014) indicated that there is a great extent in terms of knowledge and practice when the participant experience education implementation.

Nature tourism is defined as travelling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations (Boo 1990). Around the world, this type of tourism has become a popular option for travelers, to explore, and engage in nature and the culture offered by a place. In line with the government policy to strengthened edu-tourism especially among universities, we have developed a nature-based edu-tourism, combining the different natural ecosystem owned by Universiti Kebangsaan Malaysia (UKM). The living laboratories comprised of research facilities located in a natural habitat (montane forest, lowland forest, freshwater, and marine ecosystem). Not only restricted to nature education (biodiversity), this package also covers a holistic tourism packages encompassing social, cultural, heritage and recreation. In order to assess the effectiveness of the module in cultivating the love and appreciation of nature through experiential learning, we have obtained feedbacks from participants during the test-run. This questionnaire includes feedback of the participants' satisfaction of the learning modules, the facilities and the overall program. This information is important to improvise the package, in order to achieve the best edu-tourism package to satisfy tourists and participants, and potentially marketed locally and internationally.

## **1.1 LIVING LAB EDU-TOURISM MODULE**

Fernarium or Taman Paku-pakis is part of the UKM Botanical Complex situated within the UKM campus. This 20 acres area has about 150 fern species besides shrubs, trees, lianas and other plant groups (Noraini et al. 2014). Through this module, participants are able to have a first-hand experience learning and identifying the fern and herb species that are present in the Taman Paku-pakis UKM. Amongst the module offered include fern and herb plant identification,

making herbal bath, compost, and tree-planting.

Fraser's Hill is one of the popular highlands in Peninsular Malaysia, located in the District of Raub, Pahang. The UKM Fraser's Hill Research Centre, comprising of 7 acres of facility and field study plot, from a total of area of 45 acres. This centre was established since 1990, following land acquisition from the Pahang State Government in 1989. This highland or montane habitat is one of its kind in Malaysia, with the main objectives to provide facilities to researchers and students in conducting studies on tropical highland ecology. Fraser's Hill is one of the important biological diversity hotspots in the region. Its montane ecosystems harbour many endemic and rare species of important natural heritage value to Malaysia. The rich natural resource is a great asset to the country, and especially dedicated for ecotourism activity (Rosniza Aznie, 2015). Amongst the nature package offered here includes montane nightwalk, light trapping for nocturnal insects, learning and harvesting stingless bee, moss and lichen identification and tour to the natural heritage of Fraser's Hill colonial town.

Tasik Chini Research Center (PPTC) was established to promote research activities based on biotic and abiotic aspects which belongs to a variety of flora and fauna, air, soil and environment. PPTC is established under the Faculty of Science and Technology (FST) UKM, dedicated to research, teaching, field work, environmental awareness and dissemination of information on lake management integrated to society. Pahang state government has allocated 10 acres of land in Tasik Chini area as the site for the construction of the complex. This center has been designated as the pioneer Biosphere Reserve in Malaysia, a global network of Man and the Biosphere Programme (MAB) (UNESCO 2009), as it combines the conservation, preservation and sustainable development, and most importantly, support the sustainability of the national heritage (Habibah et al. 2010). Nature modules offered here are wetland exploration, visit to Orang Asli village apart from learning their lifestyle, Orang asli cultural performance, kayaking and jungle trekking.

Marine Ecosystem Research Centre (EKOMAR) focused on research related to marine life and ecosystem including biology, physical, oceanography, modelling, economics, humanity and more. EKOMAR is an Excellent Research Centre under the Marine Science Programs at the Faculty of Science and Technology, UKM. EKOMAR embarks on research related such as the Sultan Iskandar Marine Park, science marine programs, open day programs and many more. This facility is located on the shore facing the South China Sea

which encompassed diverse marine ecosystems. This makes EKOMAR one of the ideal places not only as a place for research activities but also suitable for tourism activities. In addition, EKOMAR also play role as a reference center for marine-related research on the east coast of Johor. Among the module offered includes marine nocturnal life, experiencing fisherman's life, edu-snorkelling, island hopping, and Zapin cultural dance.

## **1.2 LITERATURE REVIEW**

The concept of edu-tourism is derived from the combination of the Latin word *ēducātiōn* from which English gets the word education and the Greek word *tómos* meaning circle from which comes the word tour and Greek suffix *-ism* which when used with a noun denotes an action hence, edu-tourism is the act of travelling with intended purpose of learning. It refers to any tourism program or product offered in which participants travel to a location with the primary purpose of engaging in a learning experience (Bello & Raja Nerina 2013).

The term education tourism or edu-tourism refers to any "program in which participants travel to a location as a group with the primary purpose of engaging in a learning experience directly related to the location. It is comprised of several sub-types including ecotourism, heritage tourism, rural/farm tourism, and student exchanges between educational institutions. The notion of traveling for educational purposes is not new and its popularity in the tourism market is only expected to increase (Ankomah & Larson 2000).

One of the issues in developing curriculum for sustainable tourism development is by experiencing the real condition of tourism development. The aim is for educating the students to identify and understand problems existstance in sustainable tourism development. Hence, one of the learning methods developed to fulfill the need for experiencing the real condition is through field study or field trip. The activities have been created into the form of tourism known as education tourism (edu-tourism) or tourism activities that were proposed to gain better knowledge and understanding for scholars. In the broader context, the edu-tourism was not only meant for scholars, but also for people who wanted to improve their knowledge and experience in their travel or tourism activities. Thus, this notion would also call for a competency in tourism education, especially in arranging the tourism education activities (Malihah & Setiyorini et al. 2014).

## 2.0 MATERIALS AND METHODS

The edu-tourism package was conducted at the four-living laboratory of UKM including Fraser Hill Research Centre in Pahang, UKM Botanical Garden in Selangor, Tasik Chini Research Centre in Pahang, and Marine Ecosystem Research Centre in Johor (Figure 1). Each living lab encompassed specific modules suitable for the ecosystem, as explained previously. Each participant was given a questionnaire sheet to be filled at the end of the program, which was divided into two sections of; pre-intervention and post-intervention assessment. The questionnaires involved questions related to the satisfaction of the module, facilities and the overall program. The questionnaires is structured, and the quotation components were endorsed by a tourism expert (Rosniza Aznie Che Rose) (Supplementary material). This questionnaires used objectives- and score-type of questions. For satisfaction level, the questionnaire involved scoring of satisfaction (1-5; 1=very unsatisfied, 5=very satisfied) for each of the learning modules in respective living lab package.

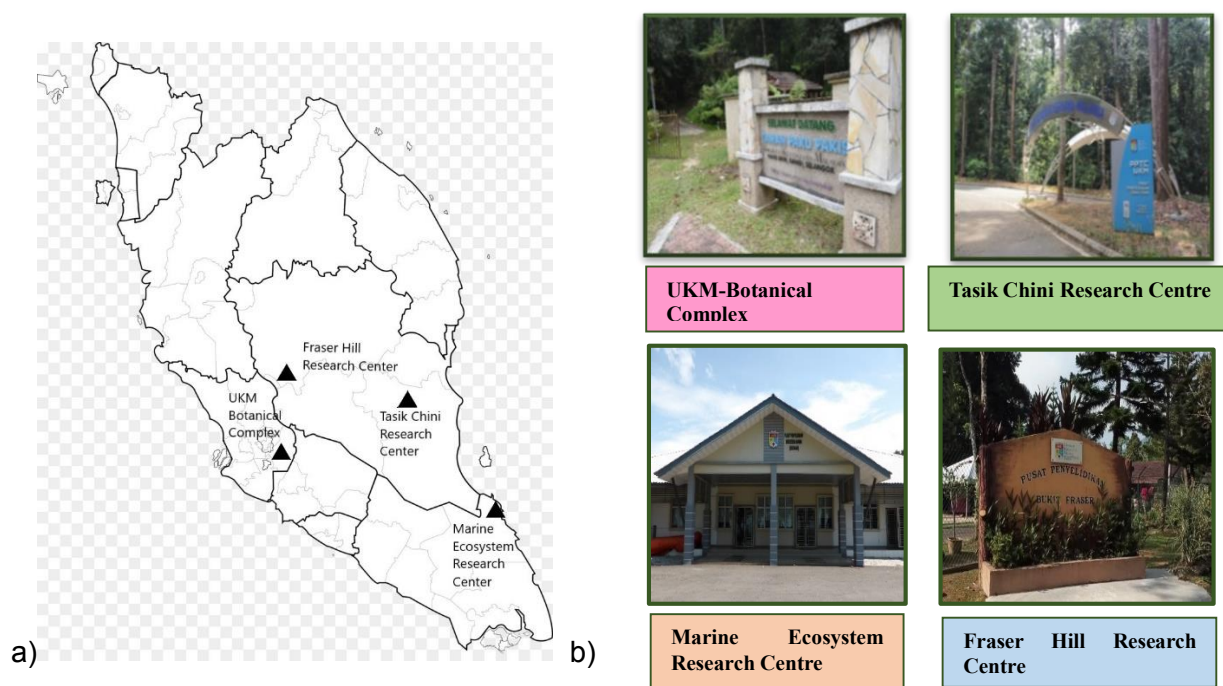


Figure 1. (a) Location of each UKM living lab, (b) UKM living lab facilities

## 3.0 RESULTS AND DISCUSSION

The pre-intervention posed questions on participants' knowledge on the UKM living laboratories, and the purpose of this program while post-intervention focused on participants'

satisfaction of the learning modules and overall program at each of UKM living laboratories.

### 3.1 Profile of respondents and their expectation to the program

A total of 13 participants had joined the Edutourism Package @UKMlivinglab from 26th to 30th October 2019. Krejcie dan Morgan (1970) suggested 19 samples, however using 16% margin of error, 13 samples are adequate with 95% significant level. These participants were among university students (undergraduate and postgraduate level). Table 1 summarize the profile of respondents based on sex, age and aim to join the program.

*Table 1: Profile of respondents involves in the edu-tourism package*

Profile	Category	Total
Sex	Male	2
	Female	11
Age	19-20	2
	21-22	5
	23-26	6
Aim to join the program	Trying new experience	2
	Enjoying the nature	5
	Resting mind/ stress relief	4
	Education	2

Overall, participants involved during the test run of the program were voluntary, and not bound to any course or related compulsory university requirements. From the profile, most of the participants join the program with the aim to enjoy nature (38%) and relaxing mind (31%), while some of them aim to learn about the nature and trying new experience at 15% frequency both. Apart from that, all participants (100%) expected to learn about the social and culture of the local, to enhance their knowledge on the natural ecosystem, and to gain awareness on nature conservation.

### 3.2 Participants satisfaction towards the learning experience and program

For post-intervention, each modules from the package were evaluated. Figure 2 summarizes the scores of the different learning modules from each living lab. There were 27 modules involved from this edu-tourism packages (MP 1-27). Most of the participants had given

maximum score of 5 for most of the modules, but there a few scored 4 and 3. Marine Ecosystem Research Centre (EKOMAR) had the highest score for most of the learning modules compared to other living labs. The learning modules at EKOMAR were more relax and leisure in nature, such as edu-snorkelling, experiencing fisherman’s life and marine exploration. Whereby, other living labs exhibit lower score, could be due to higher level of educational modules, such as identification of plants, insects and birds which were more intense. However, these modules are important to widen their knowledge on the nature organism.

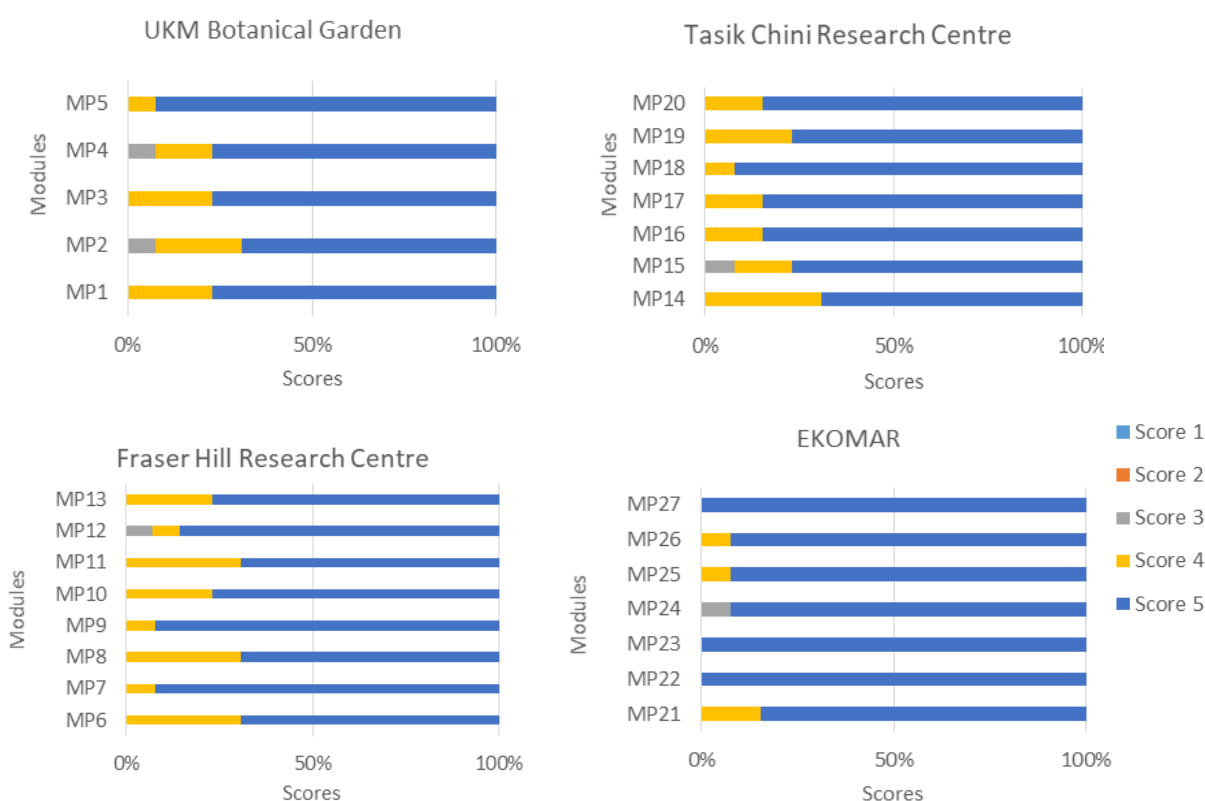


Figure 2: Bar chart on percentage of scores for modules at each UKM's living lab. (MP=learning modules)

This results can be attributed to the experience of the visit. A destination image is ‘the expression of all objective knowledge, impressions, prejudice, imaginations, and emotional thoughts an individual or group might have of a particular place’. Destination images influence a tourist's travel decision-making, cognition and behaviour at a destination as well as satisfaction levels and recollection of the experience (Jenkins 1999). In a study carried out

from 53 attraction items, Yuan and Mc Donald (1990) identified seven pull factors: budget, culture and history, ease of travel, wilderness, cosmopolitan environment, facilities and hunting. The findings indicated that individuals from each country might travel for the same reasons but reasons for choosing a particular destination and the level of importance attached to the factors might differ among the countries due to the varying nature of each destination. In our case, the participants' experience gained from different learning modules and facilities indicate high satisfaction towards the different elements of the modules (biodiversity, social, recreation, heritage) offered at different natural habitats.

Finally, participants also gave scores (1-5) for their satisfactions towards the program as a whole, based on different living lab packages. The parameters that had been evaluated were activities, organizer's services, facilitator, knowledge, food and beverages, supporting facilities, area landscape, safety, accommodations, transportations, worksheet and info kit (Figure 3). Majority of the participants scored high for most of the item, especially the overall activities, organizer's services, knowledge gained, and facilitators. However, there were lower scores particularly in terms of transportation, and info kit. Therefore, future programs need to give focus on these aspects for further improvements.

Numerous studies on the relationship between service quality and customer satisfaction have been conducted with the inclusion of behavioral consequences. The most common finding has been that customer satisfaction has a significant effect on behavioral intentions. The empirical evidence generally shows that service quality precedes overall satisfaction, which in turn determines behavioral consequences including switching intentions. Besides, the conceptual nature of the relationship suggests that satisfaction is a more relevant predictor of future loyalty or switching intentions (Jason et al. 2011). Therefore, the outcome of the satisfaction level of all aspects of the package convey the level of success of the education package, subsequently warrants specific improvement on where necessary.



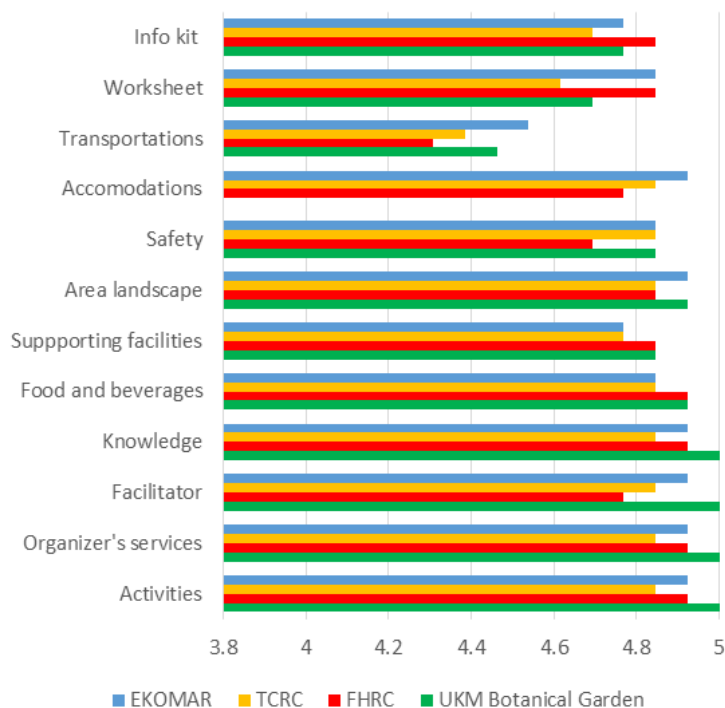


Figure 3: Bar chart on satisfaction of participants at different parameters

The general knowledge of the destination selection is influenced by the initial impression. Tourism sector has embraced new ideas and pursued strategies focused on developing niche products reflecting the way that tourism has developed a more specialist focus (Stephen 2014). Educational tourism has generated little excitement to date from the tourism industry and this is reflected in the gathering of research and data. As explained by the Canadian Tourism Commission, educational or learning tourism can be viewed as continuum ranging from general interest learning or exposure while travelling to purposeful learning and travel. Carr (2003) also agreed that many areas have yet to be examined empirically concerning the links between education and tourism. There is a critical need to thoroughly understand how the selection process of host country is actually made and what are the underlying factors chosen by the international students to choose Malaysia (Jason et al. 2011). With the development of this edu-tourism package, it is hoped to boost the tourism industry which specifically targeted for nature tourism and education tourism.

**4.0 CONCLUSION**

Overall, the participants have gained a lot of experience and knowledge throughout their

involvement in the edu-tourism package. This can be proven through high scores for majority of the module. The medium mark for certain modules indicate there are still rooms of improvements of the module to ensure that the module is sustained in the future. Coupled with efficient program management, the satisfaction of participants towards the edu-tourism package is important to assess the effectiveness of the package towards overall learning experience. Apart from that, this package need to meet the ultimate goal of nature-tourism which is to be ecologically sustainable and appropriate for the specific location and should produce no permanent degradation of the natural environment (Valentine 1992).

The Edu-tourism @UKMlivinglab has achieved its objective to deliver knowledge and experience to the participants, while instilling the love and appreciation of nature, based on the questionnaires given. Research were successfully translated into tourism product which is potentially to be marketed for students and public, locally and internationally for income generation to the university and the stakeholder.

## 5.0 ACKNOWLEDGEMENTS

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## REFERENCES

- Ankomah, P.K. & Larson, P.T. (2000). *Education Tourism: A Strategy to Strategy to Sustainable Tourism Development in Sub-Saharan Africa*. DPMN Bulletin. Accessed from <https://s3.amazonaws.com/academia.edu.documents/32997191.04.03.2020>.
- Bello Yekinni, O. & Raja Nerina, R.Y. (2013). Edutourism : International Student's Decision Making Process In Selecting A Host University In Malaysia. *European Journal of Business and Management*, 5(30), 51-57.
- Boo, E. (1990). *Ecotourism: the potentials and pitfalls*, World Wildlife Fund, Washington D.C.
- Carr, N. (2003). University & college students' tourism. In: Ritchie, B. (Eds.), *Managing educational tourism*, 181-225, Clevedon, UK: Channel View Publications.

- Habibah A., Hamzah J. & Mushrifah I. (2010). Sustaibanle Livelihood of the Community in Tasik Chini Biosphere Reserve: the Local Practices. *Journal of Sustainable Development*, 3 (3),184-196.
- Hemant, K. & Rhaalib, G. (2013). Exploring tourists push and pull motivations to visit Mauritius as a tourist destination. *African Journal of Hospitality, Tourism and Leisure*, 2 (3), 1-13.
- Jason M. S. L., Ahmad Azmi, M. A., & Azhar, A. (2011). Edutourism: Exploring The Push-Pull Factors In Selecting A University. *International Journal of Business and Society*, 12 (1), 63-78.
- Jason, M.S., Lam, B. K., Sia, C.B.C., Ooi, M.L.G. (2011). Edutourism: The Study of Tourism Behaviour of International Students in Malaysia. *Proceeding of the International Conference on Social Science, Economics and Art 2011*.  
<https://s3.amazonaws.com/academia.edu.documents/52377107/> 04.03.2020.
- Jenkins, O.H. (1999). Understanding and measuring tourist destination images. *International Journal of Tourism Research*, 1(1),1-15.
- Krejcie R. V. & Morgan D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30: 607-610.
- Laguador, J. M., & Dotong, C. I. (2014). Knowledge versus Practice on the Outcomes-Based Education Implementation of the Engineering Faculty Members in LPU. *International Journal of Academic Research in Progressive Education and Development*, 3(1), 63–74.
- Li, N.S., Ahmad, H. and Jusoh, H. (2016). Aset Kampus sebagai tarikan edupelancongan UKM Kampus Bangi, *Journal of Society and Space* ,12 (12), 113 – 128.
- Malihah, E. & Setiyorini, H.P.D. (2014). Tourism Education and Edu-Tourism Development: Sustainable Tourism Development Perspective in Education. *The 1st International Seminar on Tourism*.

- Ritchie, B.J. & Crouch, G. I. (2005). *The Competitive Destination: A Sustainable Tourism Perspective*. Wallingford: CABI Publishing. Seddighi,.
- Rosniza Aznie C.R. (2015). Kejayaan penjenamaan semula bukit Fraser dalam perspektif pelancong, *Prosiding Seminar Saintifik Koridor Raub-Bukit Fraser 2015* (SESKORFRA 2015)
- Stephen, J.P. (2014). *Tourism Management*. Routledge.
- Noraini, T., Ahmad, N., Abdullah, M. (2014). *Taman Paku Pakis Fern Garden: A hidden germ of Universiti Kebangsaan Malaysia*, Penerbit Universiti Kebangsaan Malaysia: Bangi.
- UNESCO (2009). United Nations Proclaims 22 New Biosphere Reserves [online] Available.
- Valentine, P. (1992). *Nature-based tourism*. Belhaven Press.
- Yuan, S., & McDonald, C. (1990). Motivational Determinates of International Pleasure Time. *Journal of Travel Research*, 29(1), 42–44.