

Ecotourism in Mangroves in Peninsular Malaysia

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Abstract: Mangroves forge a convoluted ecosystem in transition betwixt land and sea. It's a scheme firmly affiliated to human, performing a significant role in the economy of the country possessing. Ecotourism is a now very popular in mangrove forest parallel with tropical rain forest. A study conducted in Matang Mangrove Forest Reserve (MMFR) to see ecotourism, where in demographic status, 45% tourists has university education, 40% are Muslims, 50% are 16-30 years age and tourists are from several states of Malaysia. Charcoal factory visit (20%) and bird watching (20%) were the main touristic activities and also Dolphin watching (15%). 68% tourists anticipated that, mangrove is important due to save themselves from Tsunami. Eventually, more than half portions of tourists confirmed MMFR is a good touristic area.

Key words: MMFR • Demography • Charcoal • Dolphin • Tsunami

INTRODUCTION

Mangrove forests traverse approximately 137,760 km² along the coasts of the world [1]. Appraisals of erstwhile worldwide annex of mangroves deviate from over 15 million hectares [2] to 16.2 [3] and 16.67 [4,5] and even as much as 19.9 million hectares [6]. From a worldwide perspective, Southeast Asia is well endowed as it endures the world's largest area of mangroves, primitively extending over 6.8 million hectares and exemplifying 34-42% of the world's total. Mangroves occur throughout Southeast Asia, from the Irrawaddy delta in Myanmar in the northwest, through the more than 17,000 dissipated islands of the Indonesian and Philippine archipelagos to Papua New Guinea in the East, traversing an outstrip of more than 6 000 kilometers from east to west and 3,500 kilometers from north to South [7]. Mangrove areas are progressively becoming significant for ecotourism, education and study, especially in areas where they are readily approachable. For example, Kuala Selangor Nature Park on the west coast of Peninsular Malaysia, Chek Jawa on Singapore [7]. A study was conducted to find out ecotourism activities of mangrove forest

MATERIALS AND METHODS

Study Area: The study was done in MMFR (Matang Mangrove Forest Reserve) which is in the west coast of Peninsular Malaysia. The MMFR covers 40,288 ha in the state of Perak (4°45' N, 100°35'E) and is typical riverine mangrove forest in Malaysia [8]. The MMFR is under concerted scientific management since the beginning of the 20th century and still considered as the best managed mangrove forest in the world [9]. The reserve is wrought like a lunatic moon along the 51.5 km coastline [10].

Data Collection: Diversion is another essential action in the mangrove biological system. Be that as it may, assessing advantages from outdoor amusement is less immediate on the grounds that recreation has no business cost. A survey has done to assess the recreational values this forest by random questionnaire interviews of tourists [Annex-I]. Also, cross-check interviews were taken with local forest officers.

Data Analysis: The gathered information was outlined painstakingly before real organization. Portions of the

information were gathered into neighborhood units and this information changed over into global units. Preparatory information was contrasted with PC spre` with guarantee the exactness of the information. After information section, "Microsoft Excel" and "SPSS" (Statistical Package for Social Science) PC was utilized to perform clear factual investigation of information.

RESULT

At 2014, the MMFR, there were more than 46000 tourists visited this forest, whereas maximum were students and local people (Figure 1).

The socio-demographic status of tourists is given in Figure 2. During study period, in MMFR, 45% tourists were studying or finished their study from University and no illiterate tourists found (Figure 2A). In addition, 40% and 35% tourists come from Muslim and Buddhist family respectively (Figure 2B). 50% tourists age limit 16-30 years observed in study area (Figure 2B). Local people were one major part of tourism in MMFR i.e. 30% tourists were from Perak, Malaysia (Figure 2D).

In MMFR, there were several touristic activities observed, mainly i.e. bird watching, charcoal factory visit and dolphin watching (Figure 3A). Only 57.50% tourists heard about ecotourism, since 32.50% understand the

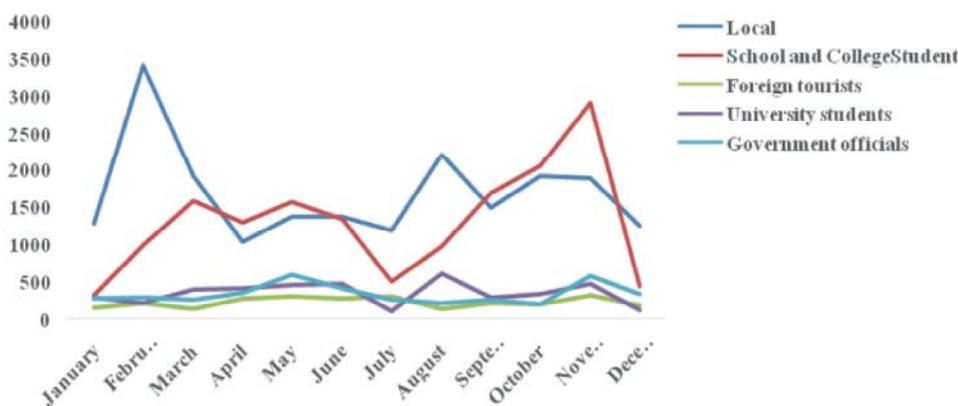


Fig. 1: Number of tourists in Matang Mangrove Forest Reserve, 2014

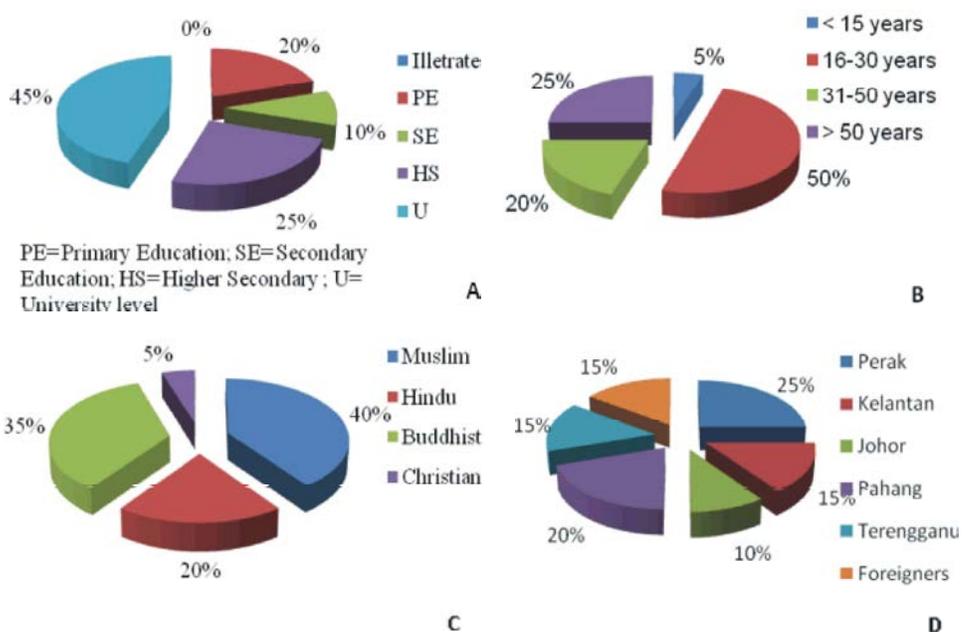


Fig. 2: Socio-demographic status of tourists in MMFR, Malaysia: A. Educational status; B. Age status; C. Religious status; D. Origin of Tourists

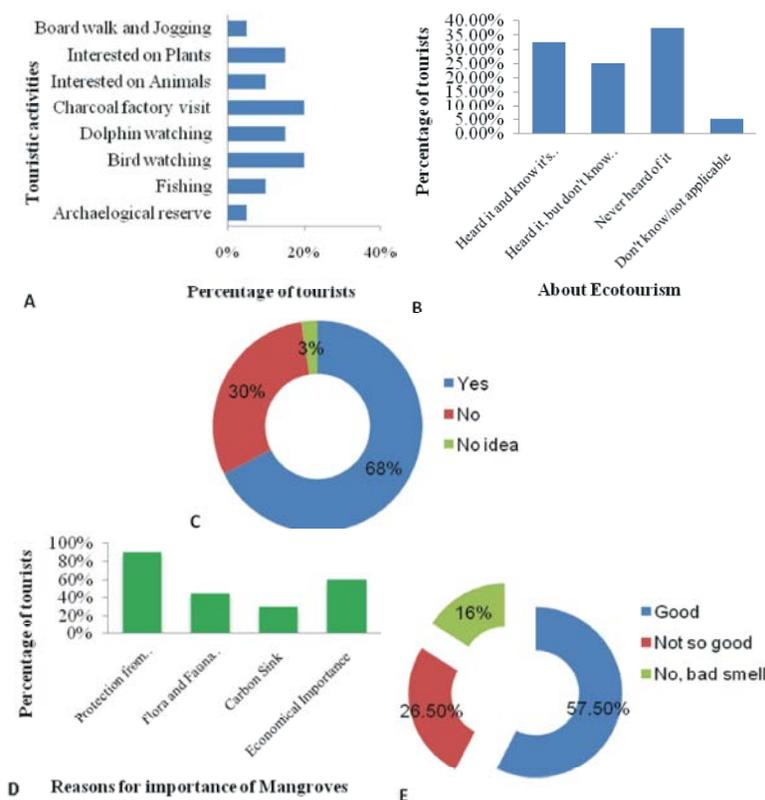


Fig. 3: Recreational activities and assessment: A. Main activities to visit MMFR; B. Familiarity with the term “Ecotourism”; C. Importance of MMFR; D. Why mangroves are important? E. MMFR as a touristic area.

meaning of it and 37.50% tourists never heard about ecotourism (Figure 3B). Although, 68% tourists believed that, Mangroves are important (Figure 3C) and 90% from that portion considered that, mangrove protects them from Tsunami (Figure 3D). A significant portion, 57.50% of tourists agreed that, MMFR is a good touristic area (Figure 3E).

DISCUSSION

The parts of MMFR has amplified past the conventional part of delivering timber to incorporate tourism, bird, research and education, protection of remarkable locales, conservation and ecological soundness [11]. In study area, 50% of tourists' age was 16-30 years and 45% tourists had their university education, where Ahmad [12] observed that, 45% tourists were 25-40 years and 35.7% had primary level of education. During study time, only 5% tourists were from Christian religion and 30% tourists came to visit Matang from Pahang, Malaysia, since Ahmad [12], found 46.4% tourists from Kuala Sepatang, Malaysia. The mangrove

forest of Larut Matang is a well-known location for bird watching activity. It is a rich habitat for migratory and local forest birds [13].

Bird watching and charcoal factory visit were the highest preference for the tourists, although Ahmad [12] figured out that, 52.1% tourists were interested on fishing activities. Groups of the Indo-Pacific Humpback dolphin (*Sousa Chinensis*) were sighted in Sangga Besar river [13] and also another species confirmed, the Irrawaddy dolphin (*Orcaella brevirostris*). 15% tourists estimated, they were in Matang, only for dolphin watching. Meanwhile, the numbers of tourists were decreased, due to entrance fees for MMFR, previously the numbers were higher than this year. The forest department can offer some gift with the entrance ticket e.g. souvenirs, booklets, base for t-shirts etc so that, tourist can be attracted, especially the younger's.

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Annex-I

Questionnaire for Ecotourism:

Date.....

Location..... Time.....

Part A: Personal Information

1. Name of respondent:
2. Information on tourist:

Age (in years)	Male: Female	Education Level 0=none, 1=Primary education, 2= Secondary education, 3= Higher secondary level, 4=University	Religion	Primary occupation (in terms of time spend)	Secondary occupation (in terms of time spend)
<15 =			1=Muslim		
16-30=			2=Hindu		
30-50=			3=Christian		
> 60=			4=Buddhist		
Total=					

Part B: Mangrove and ecotourism

3. Nationality? Where do you live?
4. How often you come here, MMFR?
5. Where did you hear about MMFR?
6. Do you familiar with the term ecotourism? Yes/ No
7. What's your motivation to come here?
8. What's your activity here, MMFR?
9. What do you think about MMFR, is it important? If yes/no, why?
10. Do you have recommendations for MMFR?