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Original Research Article

# Agri-tourism Preferences Factors Among Urban Dwellers

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Abstract: Agri-tourism is a catalyst for initiation of the sustainable tourism activities and diversifying rural activities. As agriculture is the fourth contributor to the country's economic development, this sector has vast areas to offer the tourists to feel the excitement from the farm and its resources. Agriculture and tourism have their own ability to develop and grow. The collaboration of both strong industries has strengthened the tourism industry in Malaysia. The objective of this study was to determine the agri-tourism preferences among urban dwellers in Kuala Lumpur, Selangor, and Putrajaya. The findings revealed that most of the respondents agreed that payments for agri-tourism activities should be reasonable and satisfactory as it has been supported by the highest mean score (4.41). This means that the payments charged to the customers must comply with the agri-tourism services and activities offered to them. Most of the respondents also agreed that finding agri-tourism locations through modern applications like Google Maps and Waze should be easy as it has the highest mean score (4.54). This was supported by the current trends of the public who are always connected to these applications through their mobile devices to easily locate any places at any time. Most of the respondents agreed that agri-tourism's products and activities should be suitable for all age range. This is because the public perceive tourism and leisure time as valuable time to spend with family members and friends from different age group to tighten the relationship. Around 89.1% of respondents agreed that the major challenges in agritourism were the issues of lack of information and publicity on agri-tourism itself. Results from this study will serve as a guide for public and private agencies in finding ways on how to promote agri-tourism industry in Malaysia.

Keywords: Agri-tourism; Preference Factors; Urban Dwellers; Agriculture; Malaysia

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# 1. Introduction

## 1.1 Tourism in Malaysia

For decades, tourism has become one of the greatest and the most rapidly growing economic sectors in the country that its contribution to the economy is the second largest after the manufacturing industry. Malaysia is one of the countries that have transformed their economies by developing its tourism potential through the full utilization of its resources. Tourism has a superior capacity to create large-scale employment and additional sources of income for the skilled and unskilled workforce in both urban and rural areas. The concept of traditional tourism has evolved and catered and specially customized to people's preferences, budgets and purpose. For that, the tourism industry has diversified and emerged into new areas such as eco-tourism, medical tourism, geo-tourism, culinary tourism, rural tourism, and agri-tourism which are the subset of rural tourism. Agri-tourism is a kind of tourism that encourages tourists to visit a working farm or agri-entrepreneur area for learning or sometimes for experiencing the farm's life through farm stays. Agri-tourism promotes sustainable tourism as it gives positive impacts on the environment, society, and economy of a country.

The tourism industry in Malaysia is an important foreign exchange earner that contributes to economic growth by attracting investments and providing employment opportunities domestically and internationally. This is one of the main objectives of TDC in Malaysia. The warm weather of Malaysia, eco-diversity, and retail landscape has helped in attracting over 25 million tourist arrivals per year from inside and outside the country and have been contributing more than RM 60 billion in receipts (DOSM, 2020).

Potential agri-tourism destinations in these regions has been pointed out as places of attractions and upgraded to enhance the urban sustainability and suitability of the residents as well as to attract tourists and migrants to visit. The gap in basic services has been addressed to ensure the development of a city is suitable for living and works well. The improvement will not only increase the livability, but also enhance the commercial and tourism potential of the regions, which subsequently create job opportunities for the community. The potential for the agro-tourism industry to expand is wide open and the opportunity should be grabbed. According to the Domestic Tourism Survey conducted by the Department of Statistics Malaysia (DOSM, 2020), Selangor is among the top five states that received the highest number of tourists in 2019 at 33.6 million. Table 1 shows the number of domestic visitors (33.6

million), followed by Kuala Lumpur (22.6 million) and Sabah (22.0 million), Perak (21 million) and Pahang (18.5 million). The development of tourism is one of the key elements for each development plan in Malaysia. For that, the government has been giving special emphasis to the tourism sector during each plan period such as adopting and formulating various laws and regulations that ensure the sustainability of tourism development as well as implementing appropriate policies. Finally, Malaysia has targeted to achieve 36 million and RM168 billion in receipts by 2020 (EPU, 2013) and targeted to be within the top 10 countries in the world in terms of international tourist arrivals through various development plans.

| State        |        | Number of Visitors ('000) | )      |
|--------------|--------|---------------------------|--------|
| State        | 2017   | 2018                      | 2019   |
| Selangor     | 25,491 | 30,179                    | 33,589 |
| Kuala Lumpur | 19,049 | 19,165                    | 22,633 |
| Sabah        | 17,792 | 20,360                    | 22,035 |
| Perak        | 20,110 | 17,553                    | 21,071 |
| Pahang       | 16,491 | 18,111                    | 18,498 |

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Source: Department of Statistics Malaysia (2020)

#### 1.2. Urban Areas, Urban Dwellers and Tourism

An urban area is a chosen spot for human settlement with high population density, complete facilities, and infrastructure. Urban areas are very well developed and will continue to grow from time to time. This means that urban areas are filled up with a density of human structures such as houses, commercial buildings, roads, bridges, railways and many others. The attributes of an urban area are different from one country to another country and vary over the years depending on its accomplishment in economics, infrastructure development, and population growth. Therefore, it is hard to directly compare an urban area from one to another. The three factors mentioned earlier are correlated as they are dependable on each other to build an urban area. However, for the hierarchy of an urban area, it is commonly associated with its population. An urban area will continue to grow in accordance with its population size. The dominant pattern of migration within countries has been similar throughout the world as the migrants commonly move from rural to urban areas. This is because the rural areas are the opposite of urban areas which have lower population density and greater numbers and areas of undeveloped land. Typically, the difference between a rural area and an urban area is clear and distinguishable. The migration pattern is partially driven

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by the perception of greater job scopes and economic opportunities due to the development of many amenities and improved technology in the cities by most of the people that chose to migrate to urban areas. An urban area containing a large number of people, formed by various towns growing and joining together. In 2019, Kuala Lumpur has a population number of around 7.8 million, Georgetown (2.4 million), Johor Bharu (1 million), and Kuantan (0.5 million) (DOSM, 2020).

Cities provide some of the worst as well as some of the best atmospheres for human health and well-being. Today, more than 50% of the population worldwide live in urban areas. By 2050, it is predicted that this number might upsurge to more than 70% (United Nation, 2014). This rapid global urbanization which causes increasing environmental stressors and increasing socioeconomic disparities are associated with urban health and urban well-being. However, the so-called "urban advantages" describes that the health and wellbeing of city dwellers are better compared to those living in rural regions. Most people think that tourism is only impactful to the economy, jobs and taxes. Nevertheless, the impact of tourism is way powerful, and its range of influence is wider and beyond those commonly associated with tourism. The impacts of tourism can be arranged into seven general categories as follows: 1) Economic; 2) Environmental; 3) Social and cultural; 4) Crowding and congestion; 5) Services; 6) Taxes; and 7) Community attitudes. There are a lot of positive effects of tourism towards urban residents who are seeking time out, relaxation, stress relief, and escape from everyday routine. Therefore, the effect-recovery theory (Meijman & Mulder, 1998) and the conservation of resources theory (Hobfoll, 1998) recommend that taking a leisure trip offers opportunities for relaxation, detachment from work, mastery experience, and personal control (Chen et al., 2016). It was found that all four dimensions of tourism recovery experiences had positive impacts on life contentment. The outcomes also revealed that even a weekend get-away can help one to recuperate from work stress, while longer trips offer more chances for recovery of experiences.

# 1.3 Agro-tourism in Malaysia

Agri-tourism can be defined as a park with a working farm or any agricultural, horticultural, or agribusiness operations, which is opened for a visit with the purpose of education, visitors' enjoyment, or active involvement in the activities of the farm or operations. It can also be a sub business for farmers to gain more profits. The Ministry of Tourism, Arts, and Culture Malaysia stated that agri-tourism is a tourism concept that is

swiftly getting popularity in Malaysia as it offers tourists an assortment of agricultural-related activities. Moreover, Malaysia is a nation that has plenty of agricultural resources and that should be entirely utilized. In Malaysia, the Ministry of Agriculture and Food Industry (MAFI) is the main agency that is fully responsible for developing agri-tourism, while the Ministry of Tourism, Arts, and Culture (MOTAC) plays an important role in promoting it both locally and globally. The concept of agri-tourism covers a broad range of agriculturalrelated activities amongst which is to encourage visitors to experience agricultural life themselves. Agri-tourism is a way of sustainable tourism development as this sector enables the tourists to gain real life experience about agricultural areas, agricultural occupations, local products, traditional food, and the daily life of the rural people, as well as the cultural elements and the traditions of the local communities. In 2018, the Ministry of Agriculture and Agro-Based Industry estimated about 12 million tourists from inside and outside Malaysia will come and experience agri-tourism in Malaysia. There are 83 agri-tourism locations all around Malaysia, which offer various activities that are suitable for all range of age that can be visited by the tourists. Many government agencies and private sectors realized the potential of the agro-tourism industry and had been giving huge support in developing this sector. However, to deliver the right product to the customers, understanding tourists' needs and wants is a must so that the agri-tourism industry in Malaysia will always be relevant in the upcoming years ahead. According to the Domestic Tourism Survey conducted by Department of Statistics Malaysia (2020), the percentage of tourist that prefers to experience homestay and vacation homes showed some increment from 2.4% (2018) to 4.3% (2019). While Sabah also showed an increment from 3.4% to 4.5%. This shows a good prospect in the agri-tourism sector in the upcoming years.

Agri-tourism, as stated earlier, has many contributions to the development of the country specifically in the economics and social sector. In Malaysia, even though the agri-tourism industry seems to have a bright future and has been showing a good record in terms of growth and development, there is a need to study in encountering some of the problems that are currently faced by this industry to maintain its suitability and sustainability. Since most of the agri-tourism places are located further in rural areas, a good transportation link is required to encourage visitors to these places. Thus, government agencies need to consider this matter in promoting more tourists to the location of the rural tourism areas. For instance, the transportation link should be easily accessed from or to the rural tourism areas as most tourists spend only a few days for traveling purposes. Other than that, basic tourism amenities such as local transportation, comfortable accommodation, and basic food service should also

be available for tourists as this would add value to the agri-tourism destinations. If a product is not easily accessible by the public, it would be tough to market. Dwellers in urban areas are typically living a hectic life as most of their time is spent on works and day-to-day routine. The time constraint problem they face makes them think twice to participate in any agritourism events as most of the agri-tourism destinations in Malaysia are located far from urban areas, which will make them think whether it is worth the expenses. Besides, lack of promotion and under-developed marketing strategies are other limitations in the agri-tourism sector as they hinder the development of the agro-tourism sector. Nowadays, social networks and the internet which are among the best tools for product promotion play a crucial role in marketing this agri-tourism sector. However, there are still not many agri-tourism destinations in Malaysia can be found through world wide web search. This causes the public to have insufficient information about the agri-tourism destinations in Malaysia. If there is some information given, it may still not be interesting and fascinating enough to attract tourists. In this case, the owners of the agri-tourism destination themselves need to invest some money in marketing their products and services so the public would be aware and attracted to visit their places. Urban dwellers are usually unwilling to take the risk of spending on something that they are not sure of or familiar with. They prefer to go to the places that are mostly visited and nearby the place where they live in such as amusement or theme parks, shopping malls and entertainment related tourisms.

The agri-tourism industry which has a lot of resources has plenty to offer to the tourists. However, this plenty of offer makes the scope of agri-tourism unclear and becomes overshadowed by other tourism sectors. Thus, government support is required here to guide the agri-tourism service providers who are mostly just small farmers that lack management knowledge. Besides that, the government should also teach them to do some research and development to understand more about the needs of their consumers towards this industry. This effort will aid in explaining more detail and clearer information to the agri-tourism providers about the scope of this industry in Malaysia. The main objective of this study is to identify the agri-tourism preferences among urban dwellers in Kuala Lumpur, Selangor, and Putrajaya. The specific objectives for this study are 1) to identify the respondents' profiles, 2) to examine the preferences of respondents in agri-tourism, and 3) to determine the participation of respondents in agri-tourism.

## 2. Literature Review

Gupta (2016) stated that agri-tourism is the added practice from the regular agricultural practices in the farm for attracting visitors and travelers to agricultural areas,

generally based on three scopes of agri-tourism, which are for direct market, educational, and recreational and also for recreational and event purposes. Many farmers especially those with small land, family-owned farms, and small business farms had to explore new means of making profits when the economic challenges and changes hit the farming and livestock industries globally. The hardships faced by the small farmers created an opportunity to venture into the agri-tourism industry that is now highly demanded by tourists. In many countries, agri-tourism is a fundamental part of the economy in rural areas. The instantaneous cause of this process is due to the change in tastes amongst the urban population who are concern about spending free time and a constant increase in the cost of holidays in wellknown resorts. Nowadays, a modern tourist is looking for places which are free from pollution, offer active leisure activities or provide new and unique lifestyle experience, which is completely different from what has been commonly offered in other places in the city. It should also be pointed out that potential tourists appreciate peace, quiet and direct contact with nature. Agri-tourism meets those expectations. Lamb (2008) stated that the scope of agri-tourism varies significantly depending on the farm type, available land, and how much of the business is aimed at the agri-tourism market. Table 2 lists the scope of agri-tourism that depends on the tourists' preferences.

|                           | Scopes of Agri-tourism          |                               |
|---------------------------|---------------------------------|-------------------------------|
| Direct Market             | <b>Education and Experience</b> | <b>Recreational and Event</b> |
| U-pick operations         | School tours                    | Riding animal                 |
| Farm-related crafts/gifts | Agricultural technical tours    | Agrorace                      |
| On-farm sales             | Farm stay                       | Jungle trekking               |
| Farm-related product      | Feeding animal                  | Fishing and hunting           |
| Fruit stall               | Plant it right                  | Camping and picnicking        |
|                           | Agriculture exhibits            | Enjoying flora and fauna      |
|                           | Eating fresh fruit              | Boating and kayaking          |
|                           | Harvest festival                | Cultural show                 |

| Table 2. Exam | ple of activities | in different sco | pes of Agri-tourism |
|---------------|-------------------|------------------|---------------------|
|               |                   |                  |                     |

Source: Lamb (2008)

#### a) Direct Market

Direct market agri-tourism refers to the farmers that sell goods and farm-based production such as gift and crafts, canned items, and other organic products directly from their farm to consumers either at markets, fairs, and exhibitions or on the farm itself. According to Lamb (2008), farmers' product has the added value of coming directly from a local farm even though they may be selling an organic product similar to what consumers

could find at a typical grocery store. Hence, agricultural goods may be marketed as an organic and all-natural product to be more attractive and appealing to some consumers. This scope shows some differences in agri-tourism compared to other mainstream tourism, thus increase the chances of being the tourists' preferences.

# b) Recreational and Event

Another scope of agri-tourism that offers recreational and event held on farm land may encourage more tourists to visit and enjoy the farm's atmosphere. Other activities are often more dependent on the farm structure itself. However, Lamb (2008) stated that longterm relationships can be forged once an association has been made between the consumers and the farm. These loyal customers and repeat business are the keys to the success of many agritourism businesses. In some cases, families or individuals interested in supporting the local agriculture sector will commit by creating recreational and event to a farm in exchange for a regular subscription of certain products or goods. This is a great opportunity for the farmer and the management to build a good relationship and engagement with the customers.

#### c) Education and Experience

Mazlan and Abdul (2014) stated that the scope of agri-tourism concerning education and experience is a scope of agritourism that aims to provide the guests with a hands-on education in real farm life and practices. In this case, the farm itself is marketed as a tourist destination. Regardless of how much agritourists pay for the packages or activities; the main reasons are to deliver the first-hand experience to them. Lamb (2008) revealed that tourists may be more interested to buy agricultural products once they are better familiar with the farm.

## d) The Four Ps (4Ps) Components of People Preferences

Kotler *et al.* (2016) suggested that the preferences of people towards those things or matter should be known to determine the potential of certain things or matters. Understanding the complexity and diversity of the people's preferences is very significant to ensure the growth of the agri-tourism industry is on the right track. Sheth and Sisodia (2012) shared that poor information because of not knowing what drives people's preferences will lead to failure in determining the potential and strategy. The same goes for the agri-tourism industry, it is very important to determine the four P (4Ps) components of people's preferences which are product, price, place, and promotion from the very beginning. These four components play a different distinctive role however are closely related to each other.

### i. Product

Products that are produced by the agri-tourism sector play a vital role in attracting more people to experience it. In this study, the product of agri-tourism is more towards preparing services for the people. The preferences aspect of the product through its benefit and reliability was the way to increase the level of acceptability of the people towards the product provided (Sheth & Sisodia, 2012). The higher the level of acceptability of the product, the higher the chances to meet the people's preferences.

## ii. Price

Price is surely related to the products that want to be provided. To get the product or to enjoy some activities, how much people are willing to pay (psychological) and their ability to pay (economical) is important (Sheth & Sisodia, 2012). Apart from the tourists' affordability factor, sometimes comes into their mind whether the product is worth to be purchased or not. This is one of the problems faced by the agri-tourism industry now. The best way to promote customer satisfaction is by providing an affordable price which is equivalent to what the product offers.

# iii. Place

According to Sheth and Sisodia (2012), places are referred to as the degree of accessibility the people go and get the provided product or services. The availability of the place to be accessed by the people also plays an important role so that all the products can be delivered and the services provided there can be fully utilized. Other convenience facilities around and on the way to the place also give a huge effect on the tourists' preferences in participation in agri-tourism.

#### iv. Promotion

The right way and channel to promote the products and services also play an important role to give awareness to the people. Sheth and Sisodia (2012) suggested that a powerful promotion is a promotion that gives informative knowledge about the products, reminds the public about the products, and acts as a persuasive agent to attract the interest of the people towards the products. The promotion also acts as the action or process of reinforcement of the product to the people.

#### **3. Results**

This study was conducted in Kuala Lumpur, Selangor, and Putrajaya. These locations were selected due to the higher potential of tourists who will go for agri-tourism. The survey

areas included were residential area, commercial area, and working area so that the data collected will not be biased. Kuala Lumpur is the capital city of Malaysia and surrounded by Selangor is world-renowned as one of the iconic cities in Southeast Asia. It is among the fastest growing metropolitan regions in South-East Asia, in both population and economic development. While Putrajaya is a planned city that has been Malaysia's third federal territory and becomes the federal administrative center of Malaysia replacing Kuala Lumpur in early 1999.

A convenience sampling method was chosen for this study. A convenience sample is a type of non-probability sampling method where the sample is taken from a group of people easy to contact or to reach. For example, standing at a mall or a grocery store and asking people to answer questions would be an example of a convenience sample. This type of sampling is also known as grab sampling or availability sampling. There are no other criteria for the sampling method except that people be available and willing to participate. Besides, this type of sampling method does not require that a simple random sample is generated since the only criterion is whether the participants agree to participate (Saunders *et al.*, 2012). Using the Krejci and Morgan Table, 387 respondents were selected as sample population. Every member of the population has an equal chance to be selected and result in an unbiased representative sample. Kuala Lumpur, Selangor, and Putrajaya consist of multiracial background where its three major groups are Malay (Bumiputra), Chinese and Indian. Ethnics from Sabah and Sarawak were grouped in another sub-group which also represent the Non-Malay ethnics. All these races and ethnicities contribute to the growth of the population in this urban region. The population consists of a balanced number between males and females.

To get the information that is representative of the total population, this questionnaire has been divided into three (3) parts which are: 1) Part A: Respondents' profiles including their personal information and demographic backgrounds; 2) Part B: Respondents' preferences including their opinion about their needs and wants towards agri-tourism; and 3) Part C: Respondents' feeling and behavior including their scale towards certain factors in agri-tourism. The data analysis technique is important to ensure that the information that we get through the survey can be manipulated according to our objectives. Descriptive statistics were used to determine the frequency and percentage of overall data collected including respondents' background and their preferences. A Chi-squared test was used to determine whether there is a significant difference between demographic variables and their preferences towards agri-tourism based on the data collected.

## 4. Results and Discussions

# 4.1 Socio-Demographic Profiles of Respondents

The results of the socio-demographic profiles of the respondents such as gender, age, race, occupational sector and income status are presented in Table 3. From the study, out of 387 respondents, 51.4% of them were male, while the remaining 48.6% were female. This shows an unbiased respondent's selection as the percentages of the male and female were nearly the same. The majority of the respondents were between the age of 21 to 40 years old with 272 respondents (70.3%), followed by the age between 41 to 60 years old with 80 respondents (20.7%), the age above 61 years old with 21 respondents (5.4%) and the last were the age below 20 years old with 14 respondents (3.6%).

| Profiles            | Parameter          | Frequency (n) | Percentages (%) |
|---------------------|--------------------|---------------|-----------------|
| Gender              | Male               | 199           | 51.4            |
|                     | Female             | 188           | 48.6            |
| Age                 | $\leq 20$ years    | 14            | 3.6             |
|                     | 21-40 years        | 272           | 70.3            |
|                     | 41-60 years        | 80            | 20.7            |
|                     | $\geq$ 61 years    | 21            | 5.4             |
| Race                | Malay              | 265           | 68.5            |
|                     | Chinese            | 62            | 16.0            |
|                     | Indian             | 44            | 11.4            |
|                     | Others             | 16            | 4.1             |
| Occupational Sector | Unemployed         | 44            | 11.4            |
|                     | Self-employed      | 59            | 15.2            |
|                     | Government         | 98            | 25.3            |
|                     | Private            | 147           | 38.0            |
|                     | Student            | 39            | 10.1            |
| Income              | ≤ RM1,000          | 82            | 21.2            |
|                     | RM 1,001–RM 4,000  | 230           | 59.4            |
|                     | RM 4,001–RM 7,000  | 65            | 16.8            |
|                     | RM 7,001–RM 10,000 | 8             | 2.1             |
|                     | ≥ RM 10,001        | 2             | 0.5             |

Table 3. Socio-demographic profiles of respondents

Study locations ethnically diverse population consists of three major ethnicities namely Malay, Chinese and Indian, as well as other ethnicities. Table 3 shows that the major ethnicity is Malay with 265 respondents (68.5%), followed by Chinese with 62 respondents

(16.0%), Indian with 44 respondents (11.4%), and other ethnicities with 16 respondents (4.1%). Since the selected areas of study is a developing urban area, the occupational sector of the population is vast especially in private sectors that contribute a lot to its development. The private sector has the highest number of respondents of 147 (38.0%), followed by the government sector which consists of 98 respondents (25.3%), self-employed with 59 respondents (15.2%), unemployed with 44 respondents (11.4%), and students with 39 respondents (10.1%). Table 3 portrays the demographic characteristics of the respondents. From the table, the income of the respondents also shows a corresponding relationship with the income distribution of the population released by the Department of Statistics. The income of the middle-class ranges from RM 1,001 to RM 4,000 shows the highest frequency with 230 respondents (59.4%), followed by the income below RM 1,000 with 82 respondents (21.2%), the income range between RM 4,001 to RM 7,000 with 65 respondents (16.8%), the income range between RM 7,001 to RM 10,000 with 8 respondents (2.1%) and lastly the income higher than RM 10,000 with 2 respondents (0.5%).

#### 4.2 Respondents' Lifestyle Backgrounds

The study regarding respondents' lifestyle backgrounds is important in analyzing the preferences of the respondents towards the agri-tourism sector. Table 4 shows the expenses amount to be spending on tourism and activities at one time that the respondents are willing to pay for tourism and activities. 49.1% of the respondents are willing to pay between RM 11 to RM 30 per person, followed by less than RM 10 per person (23.0%), between RM 31 to RM 50 per person (22.7%), and lastly more than RM 51 per person (5.2%). This demonstrates that the price between RM 11 to RM 30 is an affordable price for most tourists. The percentage of the respondents' total income that they spend on tourism and recreational activities should also be identified so the agri-tourism service providers will be able to offer a price that does not exceed the tourists' expenditure limit. Table 4 also shows that most of the respondents (51.7%) spend below 10% of their income on tourism and recreational activities followed by the expenses between 11% to 20% of their incomes (46.2%) and the expenses between 21% to 30% of their incomes (2.1%). Due to less time and busy working and lifestyle, most city dwellers prefer day trips (76.0%) rather than an overnight trip (24.0%). Table 4 also reveals that city dwellers mostly prefer to travel between 2 to 4 hours (54.3%), followed by 0 to 2 hours travel period (41.6%) and the remaining 4.1% of the respondents consider traveling between 4 to 6 hours.

|                           | Table 4. Respondents | ' lifestyle backgrounds |                 |
|---------------------------|----------------------|-------------------------|-----------------|
| Variables                 | Parameter            | Frequency (n)           | Percentages (%) |
| Expenses amount to be     | ≤ RM 10              | 89                      | 23.0            |
| spending on tourism and   | RM 11-RM 30          | 190                     | 49.1            |
| activities at one time    | RM 31-RM 50          | 88                      | 22.7            |
|                           | ≥ RM 51              | 20                      | 5.2             |
| Percentages of income for | $\leq 10 \%$         | 200                     | 51.7            |
| tourism and recreational  | 11%-20%              | 179                     | 46.2            |
| activities                | 21%-30%              | 8                       | 2.1             |
|                           | 31%-40%              | 0                       | 0               |
| The travel period to      | 0–2 hours            | 161                     | 41.6            |
| experience tourism        | 2-4 hours            | 210                     | 54.3            |
|                           | 4–6 hours            | 16                      | 4.1             |
|                           | $\geq$ 6 hours       | 0                       | 0               |
| Type of trips             | Day trip             | 294                     | 76.0            |
|                           | Overnight trip       | 93                      | 24.0            |

Table 5 shows that the facilities needed in the tourism areas. Safety and comfortable road have the highest ranking with 375 respondents (96.9%), followed by rest and relax area with 269 respondents (95.3%), Wi-Fi and internet connectivity with 291 respondents (75.2%), restaurant availability with 250 respondents (64.6%), petrol station with 237 respondents (61.2%), mosque and *mussola* with 140 respondents (36.2%), hotel and motel with 133 respondents (34.4%) and mini mart with 63 respondents (16.3%). These top 5 facilities should be taken into consideration to provide a convenient and comfortable journey for the tourists. To deliver the information about agri-tourism to the urban dwellers, the medium of information delivery that they preferred to use was also asked. According to the result in Table 6, the internet as predicted was mostly picked as the medium of information transfer with the highest percentage of 89.7% followed by mass media (80.4%), exposition and event (57.9%), and lastly newspaper and magazine with only 34.6%.

| Table 5. Facilities needed at tourism area | а |
|--|---|
|--|---|

| Rank | Facilities                      | Frequency | Percentages (%) |
|------|---------------------------------|-----------|-----------------|
| 1    | Safety and comfortable road     | 375       | 96.9            |
| 2    | Rest and relax area (R&R)       | 369       | 95.3            |
| 3    | Wi-Fi and internet connectivity | 291       | 75.2            |
| 4    | Restaurant                      | 250       | 64.6            |
| 5    | Petrol station                  | 237       | 61.2            |
| 6    | Mosque and <i>musolla</i>       | 140       | 36.2            |

| 7 | Hotel and motel                 | 133 | 34.4 |
|---|---------------------------------|-----|------|
| 8 | Mini mart and convenience store | 63  | 16.3 |

| Rank | <b>Information Sources</b>               | Frequency | Percentages (%) |
|------|--|-----------|-----------------|
| 1    | Internet: social media and search engine | 347       | 89.7            |
| 2    | Mass media: television and radio         | 311       | 80.4            |
| 3    | Exposition and event                     | 224       | 57.9            |
| 4    | Newspaper and Magazine                   | 134       | 34.6            |

# Table 6. Information sources in delivering information

# 4.3 Respondents' Tendency towards Agri-tourism

Table 7 shows the distribution frequency and percentages of respondents' tendency towards agri-tourism. The statements included were to show the level of knowledge and information of the respondents about agri-tourism and directly present their tendency towards agri-tourism. From the result, it is found that most of the respondents have heard or read about agri-tourism places and activities as this statement has the highest percentage (86.8%) of all. Table 8 shows the scope and concept of agri-tourism urban dwellers prefer. Based on the result, the most favorable scope and concepts of agri-tourism are recreational and event as it has the highest percentage of 78.8%, followed by the direct market (66.7%) and educational and experiences (56.3%).

| Table 7. Tendency towards Agri-tourism |
|--|
|--|

| Statements   | Frequency (n) | Percentages (%) |
|--|---------------|-----------------|
| 1. Involved directly or indirectly with agri-tourism           | 104           | 26.9            |
| 2. Have heard or read about agri-tourism place and activities  | 335           | 86.6            |
| 3. Understand about scope and concept of agri-tourism          | 98            | 25.3            |
| 4. Known about agri-tourism place and activities               | 215           | 55.6            |
| 5. Known about the advantages and benefits of agri-tourism     | 201           | 51.9            |
| 6. Interested in experiencing agri-tourism activities          | 213           | 55.0            |
| 7. Agri-tourism is a good choice for spending time with family | 228           | 58.9            |

| Table 8. Scope and concepts of agri-tourism |
|---|
|---|

| Rank | Scope and Concepts          | Frequency (n) | Percentages (%) |
|------|-----------------------------|---------------|-----------------|
| 1    | Recreational and event      | 305           | 78.8            |
| 2    | Direct market               | 258           | 66.7            |
| 3    | Educational and experiences | 218           | 56.3            |

#### 4.4 Respondents' Perception towards Agri-tourism Preferences

Mean ranking analysis was used to rank the given 25 statements from the highest mean to the lowest mean divided into four (4) agri-tourism preferences which are pricing and payment (6 statements), placing and area (7 statements), promotion and advertisement (6 statements) and products and activities (6 statements). The statements were arranged according to the mean score from the highest to the lowest in each factor. The 25 statements that are related to the perception towards agri-tourism preferences were analyzed based on a 5-point Likert scale, ranging from 1 =strongly disagree to 5 =strongly agree.

# 4.4.1 Respondents' perception towards pricing and payment

Table 9 shows the respondents' perception of pricing and payment in agri-tourism. Most of the respondents agreed that payments for agri-tourism activities should be appropriate and satisfactory as the statement has the highest mean score (4.41). This means that the payments charged to the customers must be compatible with the satisfaction of agri-tourism products and services offered to them. The least respondents (mean = 4.15) believed that prices for activities and product should not be too different from the market outside.

| Perception towards Pricing      |     | Scale* |        |        |        |      |      |  |
|---------------------------------|-----|--------|--------|--------|--------|------|------|--|
| and Payment                     | 1   | 2      | 3      | 4      | 5      | Mean | SD   |  |
| 1. Payments for agri-tourism    | 0   | 0      | 14     | 202    | 171    | 4.41 | 0.56 |  |
| activities should be            | (0) | (0)    | (3.6)  | (52.2) | (44.2) |      |      |  |
| appropriate and satisfactory    |     |        |        |        |        |      |      |  |
| 2. Discounts and family         | 0   | 0      | 27     | 201    | 159    | 4.34 | 0.60 |  |
| packages are necessary to       | (0) | (0)    | (7.0)  | (51.9) | (41.1) |      |      |  |
| attract more tourist            |     |        |        |        |        |      |      |  |
| 3. Price and payment for        | 0   | 0      | 4      | 254    | 129    | 4.32 | 0.49 |  |
| experience agro-tourism         | (0) | (0)    | (1.0)  | (65.7) | (33.3) |      |      |  |
| should be reasonable            |     |        |        |        |        |      |      |  |
| 4. Payment for experience agri- | 0   | 0      | 36     | 229    | 122    | 4.22 | 0.60 |  |
| tourism should be affordable    | (0) | (0)    | (9.3)  | (59.2) | (31.5) |      |      |  |
| to all range of ages            |     |        |        |        |        |      |      |  |
| 5. Entrance fee and payment     | 0   | 0      | 45     | 212    | 130    | 4.22 | 0.64 |  |
| for activities should be in     | (0) | (0)    | (11.6) | (54.8) | (33.6) |      |      |  |
| one price to facilitate the     |     |        |        |        |        |      |      |  |
| tourist                         |     |        |        |        |        |      |      |  |

Table 9. Respondents' Perception towards pricing and payment

| Perception towards Pricing   | Scale*             |     |        |        |        |      |      |  |
|------------------------------|--------------------|-----|--------|--------|--------|------|------|--|
| and Payment                  | 1                  | 2   | 3      | 4      | 5      | Mean | SD   |  |
| 6. Prices for activities and | 0                  | 0   | 42     | 244    | 101    | 4.15 | 0.59 |  |
| product should not be too    | (0)                | (0) | (10.9) | (53.0) | (26.1) |      |      |  |
| different from the market    |                    |     |        |        |        |      |      |  |
| outside                      |                    |     |        |        |        |      |      |  |
|                              | Total Average Mean |     |        |        |        |      |      |  |

\*Scale: 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree

# 4.4.2 Respondents' perception towards placing and area

Table 10 shows respondents' perception towards placing and area of agri-tourism. Most of the respondents agreed that finding through a modern application like Google Maps and Waze should be easy as it has the highest mean score (4.54) on the statement. This is perhaps because the public is always connected to these applications as these applications make it easier for them to find any unfamiliar or new places anytime. Respondents also agreed with the other statements such as diversification of agri-tourism area, clean and comfortable as the mean score of every statement is above 4.3. Least respondents with the resulted mean of 4.22 were concerned about the safety of place and area of agri-tourism.

|                                       |     | Scale* |       |        |        |      |      |
|---------------------------------------|-----|--------|-------|--------|--------|------|------|
| Perception of Placing and Area        | 1   | 2      | 3     | 4      | 5      | Mean | SD   |
| 1. Finding through modern             | 0   | 0      | 0     | 177    | 210    | 4.54 | 0.50 |
| application (Google Maps and          | (0) | (0)    | (0)   | (45.7) | (54.3) |      |      |
| Waze) should be easy                  |     |        |       |        |        |      |      |
| 2. Diversify area of agri-tourism was | 0   | 0      | 6     | 202    | 179    | 4.45 | 0.53 |
| needed to attract more tourist        | (0) | (0)    | (1.6) | (52.1) | (46.3) |      |      |
| 3. Agri-tourism area should be clean  | 0   | 0      | 4     | 221    | 162    | 4.41 | 0.51 |
| and comfortable for leisure           | (0) | (0)    | (1.0) | (57.1) | (41.9) |      |      |
| 4. Facilities along the way to agri-  | 0   | 0      | 25    | 232    | 130    | 4.27 | 0.57 |
| tourism area should be                | (0) | (0)    | (6.5) | (59.9) | (33.6) |      |      |
| comfortable to use                    |     |        |       |        |        |      |      |
| 5. Place and area of agri-tourism     | 0   | 0      | 29    | 229    | 129    | 4.26 | 0.59 |
| should free from pollution to         | (0) | (0)    | (7.5) | (59.2) | (33.3) |      |      |
| attract more tourist                  |     |        |       |        |        |      |      |

Table 10. Respondents' perception towards placing and area

| Demonstron of Dissing and Auss    | Scale* |     |       |            |         |       |      |
|-----------------------------------|--------|-----|-------|------------|---------|-------|------|
| Perception of Placing and Area    | 1      | 2   | 3     | 4          | 5       | Mean  | SD   |
| 6. Journey to agri-tourism area   | 0      | 0   | 9     | 274        | 104     | 4.25  | 0.48 |
| should be easily to reached and   | (0)    | (0) | (2.3) | (70.8)     | (26.9)  |       |      |
| found                             |        |     |       |            |         |       |      |
| 7. Place and area of agri-tourism | 0      | 0   | 27    | 249        | 111     | 4.22  | 0.56 |
| should be safe for tourism and    | (0)    | (0) | (7.0) | (64.3)     | (28.7)  |       |      |
| leisure                           |        |     |       |            |         |       |      |
|                                   |        |     | To    | tal Averag | ge Mean | 4.343 |      |

\*Scale: 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree

## 4.4.3 Respondents' perception towards promotion and advertisement

Table 11 shows the respondents' perception towards promotion and advertisement in agri-tourism. Most of the respondents agreed that promotion and advertisement on agri-tourism must be attractive and effective as this statement shows the highest mean score of 4.47. Most respondents also agreed with the other statement as the mean score of every statement is above 4. Hence, proper management and best tactic of promotion and advertisement are vital to create a good impression to attract more tourists in the agri-tourism sector.

Scale\* **Perception towards Promotion** and Advertisement 1 2 3 4 5 SD Mean 1. Promotion and advertisement 0 0 16 175 196 4.47 0.58 of agri-tourism must be (0)(0)(4.1)(45.3)(50.6)effective and attractive 2. Promotion and advertisement 0 0 19 191 177 4.41 0.58 of agri-tourism must be (0)(0)(4.9)(49.4)(45.7)delivered through all channel 0 0 21 202 3. Promotion and advertisement 164 4.37 0.59 must be increased to build (0)(0)(5.4)(52.2)(42.4)awareness in agri-tourism 4. Promotion and advertisement 0 2 50 180 155 4.26 0.70 of agri-tourism should be (0) (0.5)(12.9)(46.5)(40.1) easily reached by the public 5. Promotion and advertisement 0 0 45 231 111 4.17 0.61 must be focused around (0)(0)(11.6)(59.7)(28.7)attraction area

Table 11. Respondents' perception towards promotion and advertisement

| Perception towards Promotion   |     |       |        |          |         |       |      |
|--------------------------------|-----|-------|--------|----------|---------|-------|------|
| and Advertisement              | 1   | 2     | 3      | 4        | 5       | Mean  | SD   |
| 6. Promotion and advertisement | 0   | 2     | 44     | 248      | 93      | 4.12  | 0.60 |
| of agri-tourism need to be     | (0) | (0.5) | (11.4) | (64.1)   | (24.0)  |       |      |
| enough and adequate            |     |       |        |          |         |       |      |
|                                |     |       | Tot    | al Avera | ge Mean | 4.300 |      |
|                                |     |       |        |          | 3       |       |      |

\*Scale: 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree

# 4.4.4 Respondents' perception towards product and activities

Table 12 shows the respondents' perception towards products and activities in agritourism. Based on the result, most of the respondents agreed that agri-tourism products and activities should be appropriate for all range of ages, besides agreeing to another statement that activities and products of agri-tourism should expose them with new knowledge and experience as both of these statements have the highest mean of 4.51. This is true as the public believes that tourism is one of the ways to spend their valuable time to enjoy and gain new knowledge and experience with their loved ones that are consists of various range of age. Other than that, most of the respondents also agreed with the other statements as the mean score of every statement is above 4. Least respondents believed the role of agri-tourism product and activities in improving healthy lifestyle (Mean = 4.20).

| Perception towards Product and    |     |     |       | Scale* |        |      |      |
|-----------------------------------|-----|-----|-------|--------|--------|------|------|
| Activities                        | 1   | 2   | 3     | 4      | 5      | Mean | SD   |
| 1. Agri-tourism product and       | 0   | 0   | 8     | 173    | 206    | 4.51 | 0.54 |
| activities should be appropriate  | (0) | (0) | (2.1) | (44.7) | (53.2) |      |      |
| for all ages                      |     |     |       |        |        |      |      |
| 2. Activities and product should  | 0   | 0   | 8     | 174    | 205    | 4.51 | 0.54 |
| expose tourist with new           | (0) | (0) | (2.0) | (45.0) | (53.0) |      |      |
| knowledge and experience          |     |     |       |        |        |      |      |
| 3. Agri-tourism product and       | 0   | 0   | 12    | 193    | 182    | 4.44 | 0.56 |
| activities must be attractive and | (0) | (0) | (3.1) | (49.9) | (47.0) |      |      |
| challenging                       |     |     |       |        |        |      |      |
| 4. Agri-tourism product and       | 0   | 0   | 13    | 233    | 141    | 4.33 | 0.54 |
| activities should be safe to      | (0) | (0) | (3.4) | (60.2) | (36.4) |      |      |
| enjoy and participate             |     |     |       |        |        |      |      |

 Table 12. Respondents' perception towards product and activities

| Perception towards Product and |                    |     |        |        |        |       |      |
|--------------------------------|--------------------|-----|--------|--------|--------|-------|------|
| Activities                     | 1                  | 2   | 3      | 4      | 5      | Mean  | SD   |
| 5. Agri-tourism product and    | 0                  | 0   | 23     | 243    | 121    | 4.25  | 0.56 |
| activities should avoid any    | (0)                | (0) | (5.9)  | (62.8) | (31.3) |       |      |
| form of pollution              |                    |     |        |        |        |       |      |
| 6. Agri-tourism product and    | 0                  | 0   | 47     | 217    | 123    | 4.20  | 0.63 |
| activities should help to      | (0)                | (0) | (12.1) | (56.1) | (31.8) |       |      |
| improve healthy lifestyle      |                    |     |        |        |        |       |      |
|                                | Total Average Mean |     |        |        |        | 4.373 |      |

\*Scale: 1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree

#### 4.5 Respondents' Perception towards Challenges and Potential in Agro-tourism

Table 13 shows respondents' perception towards the challenges and potential of the agri-tourism industry in Malaysia. About 58.7% of the respondents agreed that agri-tourism in Malaysia has good potential in the future, while the rest of the respondents did not agree with the statement because many problems and challenges still need to be improved in this industry. Based on the table, the major challenges in agri-tourism are the issues of lack of information about agri-tourism itself with 89.1% of the respondents agreed with the statement. This is true as sufficient information is crucial in building public awareness about this industry. Therefore, promotion, marketing, and advertisement must be done appropriately and actively to deliver the information to the public. Besides, almost 60% of the respondents stated that the challenges regarding agri-tourism are due to the activities provided that were boring and unattractive besides the areas of agri-tourism that were far to reach. This makes the tourists less interested to participate in agri-tourism.

| Statement   | Frequency (n) | Percentages (%) |
|---|---------------|-----------------|
| Challenges  |               |                 |
| 1. Lack of information about agri-tourism in Malaysia   | 345           | 89.1            |
| 2. Agri-tourism activities were boring and unattractive | 232           | 59.9            |
| 3. The agri-tourism area in Malaysia was far to reach   | 228           | 58.9            |
| 4. The price for experiencing agri-tourism was          | 188           | 48.6            |
| expensive and not worth it                              |               |                 |
| 5. Lack of agri-tourism destination in Malaysia         | 157           | 40.6            |

Table 13. Respondents' perception towards challenges and potential in agri-tourism

| Statement  | Frequency (n) | Percentages (%) |
|--|---------------|-----------------|
| Challenges   |               |                 |
| Potential  |               |                 |
| 1. Agri-tourism in Malaysia have good potential in the | 227           | 58.7            |
| future   |               |                 |

## 5. Conclusions and Recommendations

Tourism can be affected by a lot of factors and it requires a lot of planning and strategies to further improve this industry and expand it both in the domestic and international level. This study which focuses on agri-tourism preferences among urban dwellers shows that most are with average income of RM 1,000 to RM 4,000 a month. This will surely affect their dream vacation and location. Since these middle-income groups are among the group responding to the agri-tourism prospect in the Malaysian industry, they will be the target group the marketing and promotion should be focused on in the future. Those with high income (i.e., above RM 7,000) seems to be less interested in agri-tourism based on the number of respondents obtained. In terms of traveling period, most can drive up to 4 hours in a safe and comfortable road, and none would like to drive more than 6 hours, which indicates that most respondents prefer a short drive or traveling time. A one day get-away was most preferable by 75% of the respondents. They were informed about agri-tourism through social media and search engines and preferred recreational and event-oriented agritourism. By using the descriptive analysis and in the context of pricing and payment, the findings revealed that most of the respondents (Kuala Lumpur, Selangor and Putrajaya residences) agreed that payments for agri-tourism activities should be appropriate and satisfactory (Mean = 4.41), which means that the payments charged to the customers must be relevant and worth the services that the agri-tourism packages offered to them. The agritourism service provider must be active in offering discounts and family packages to increase the number of visitors at one time. In respect to the second preference factor, the place and area of the agri-tourism, most of the respondents agreed that the location of the agri-tourism area should be easily found through a modern application like Google Maps and Waze through their mobile gadgets as it has the highest mean score (4.54). Hence, they can reduce the traveling time and arrive at the destination safely and on time. Most of the respondents agreed that agri-tourism products and activities should be appropriate for all ages. Tourism is one of the ways for family and friends at different ages to get together during holidays and even prefers car-pooling to create the bond between individuals. The respondents mostly agreed that promotion and advertisement on agri-tourism must be attractive and effective as

this statement shows the highest mean score (4.47). Proper management and a good strategy of promotion and advertisement are a must as it is the primary key to create a good impression and attract more tourists to participate in agro-tourism activities. The major challenge in agro-tourism with 345 respondents (89.1%) agreed to the issues of lack of information on subject matter itself. Therefore, to deliver the information to the public, the promotion, marketing, and advertisement must be done actively and effectively by both government and private agencies. Besides, almost 60% of the respondents stated that the challenges regarding agro-tourism were their activities which were boring and unattractive, other than the place and area of agri-tourism itself which were far to reach. This makes the tourists even less interested to participate in any agri-tourism events. On the other side, about 58.7% of the respondents agreed that agri-tourism in Malaysia have good potential in the future, while the rest of the respondents did not agree due to the facts that there are still many problems and challenges that need to be taken care of to improve this agri-tourism industry from time to time.

Results from this study will serve as a guide for authorities in getting a road map on how to better promote agri-tourism based on the respondents' preference towards agrotourism in Malaysia. The best strategies and action taken by Malaysia agri-tourism agencies will consequently improve the agri-tourism sectors which will indirectly contribute to the economy of Malaysia. This information can also be used by implementing agency in designing agri-tourism development programs in the future. This implementation of a program that is in accordance with the preferences of the urban dwellers may help to facilitate them to understand and subsequently explore the potential of agri-tourism in this country. In terms of policy implications, these findings will assist the government to have baseline information on how to evolve policies that will be beneficial to the Malaysian citizens especially the urban dwellers, and equally, help in promoting agri-tourism. These policies may help in boosting the agri-tourism productivity at the domestic level and it will go in the long term in increasing the visitors to participate in agri-tourism in Malaysia domestically and internationally.

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# References

Chen, C. C., James, F. P. & Moji, S. (2016). Tourism experiences as a stress reliever: Examining the effects of tourism recovery experiences on life satisfaction. *Journal of Travel Research*, *55*(2), 150–160.

Department of Statistics Malaysia. (2020). Retrieved from https://newss.statistics.gov.my/newss-portalx/ep/epFreeDownloadContentSearch.seam?cid=238526

- Economic Planning Unit EPU. (2013). *Prime Minister's Department*. Retrieved from https://www.epu.gov.my/en
- Gupta, R. D. (2016). Agri-tourism: Concept, scope, strategies. Retrieved from http://news.statetimes.in/agritourism-concept-scope-strategies/
- Hobfoll, S. E. (1998). *Stress, culture, and community: The psychology and physiology of stress.* Plenum: New York.
- Kotler, P., Keller, K. L., Brady, M., et al. (2016). *Marketing management*, Pearson Education: Harlow, United Kingdom.
- Lamb, R. (2008). How Agritourism Works. Retrieved from https://adventure.howstuffworks.com/agritourism.htm
- Meijman, T. F. & Mulder, G. (1998). Psychological aspects of workload. In Pieter Johan Diederik Drenth, Henk Thierry, & C. J. De Wolff (Eds) *Handbook of Work and Organizational Psychology* (Vol. 2: Work Psychology) (pp. 5–33). Hove, England: Psychology Press.
- Mazlan, N. & Abdul, S. J. (2014). Development and challenges of agritourism in Malaysia. Journal of International Society for Southeast Asian Agricultural Sciences, 20(1), 131–138.
- Saunders, M., Lewis, P. & Thornhill, A. (2012). *Research methods for business students* (6th ed.). Pearson Education Limited: Harlow, United Kingdom.
- Sheth, J. & Sisodia, R. (2012). *The 4 A's of marketing: Creating value for customer, company and society*. Routledge, Taylor and Francis Group: New York and London.
- United Nations, Department of Economic and Social Affairs, Population Division (2014). World Urbanization Prospects: The 2014 Revision, CD-ROM Edition; United Nations, Department of Economic and Social Affairs, Population Division: New York, NY, USA.



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