

Location Area and Premise Size of Successful Edible Bird Nest (EBN) Swiftlet Houses in Terengganu, Malaysia

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Abstract

Many entrepreneurs are very interested to start edible bird nest (EBN) swiftlet ranching. However, majority of them lack knowledge in suitable location and premise size factors for successful EBN swiftlet house. This study compares location and premise size in coastal, rural and urban area in Terengganu to investigate factors that play a critical role in determining the success of a swiftlet ranching venture. This study was conducted in 12 EBN swiftlet houses in Terengganu namely four in coastal, rural and urban area respectively. Locations, size of premise, number of floors and number of nests were recorded. It was found that a 2800 (70x40) square feet 3-floor EBN swiftlet house from the second rural area produced the highest number of nests (273 nests), whereas the lowest number of nests harvested from the second EBN swiftlet house in urban area, that was a 3-floor 1012 (46x22) square feet of swiftlet house. Strangely, the third EBN swiftlet house from the urban area, the smallest EBN swiftlet house consisting of 1 floor and size 800 (40x20) square feet of swiftlet house produced the second highest number of nests (256 nests). There is significant correlation among production of EBN with location of swiftlet house. Location and premise size were the success factors to ensure high swiftlet population which in turn contributes to higher nest production.

Keywords: *Location, premise size, swiftlet house, edible bird nest production, sustainable management*

1. Introduction

Edible Bird Nest (EBN) swiftlet, *Aerodramus fuciphagus* refers to grey-brown echolocating swiftlets and builder of white nest [18]. The distribution of this species is widespread in South East Asia, stretching from the Bay of Bengal, Myanmar, Thailand, Indochina and Hainan, through the Malay Peninsular, Sumatra, Borneo, Palawan and the western Philippines, and through Java, Bali, and the Lesser Sundas east to Timor [10].

Aerodramus fuciphagus is a small bird around 12 cm in height [24], with a black-brown body. It can fly faster and stronger than the other species of bird [18]. Their nests are built from their own saliva [20]. Other characters of swiftlets include lack of normal perching ability, more rapid and different wing strokes in flight, smaller than house swifts and superb eyesights [11]. Swiftlets breed inside caves or cavern-like spaces and cling to the surface of walls and ceilings roosting or on their self-supporting bracket-shaped nests [8].

In recent years, Edible Bird Nest (EBN) industry has grown rapidly [17]. EBN can be utilized to produce a host of products include lotions, drinks and concentrated liquids, all with supposed health benefits [7]. In Malaysia, EBN form the main agricultural export product from swiftlet [21]. Much of bird nest are harvested in South East Asia region, mainly in Indonesia, Malaysia and Thailand [35]. EBN are highly demanded by people of Asian countries such as Taiwan, China and Hong Kong [16]. Hong Kong is the world's biggest consumer of EBN [34]. Realising this great potential, swiftlet houses are built as premises for bird nest production and harvest [9]. Location and premise size are two very important factors that require very serious consideration before constructing swiftlet houses [5]. Suitable location to build swiftlet house refers to the area that will provide plenty of food resources for swiftlet [6]. Besides that, swiftlets will only adapt in the houses that possess enough space for them to nesting. They will feel uncomfortable with crowded nesting site [19]. Swiftlet operators will face with failure in this industry if they not concerned about location and premise size of their swiftlet house [5]. Suitable location and premise size of swiftlet house will effect the production of nest produced.

1.1 Research question

What are the suitable location and premise size for successful EBN swiftlet house in Terengganu?

1.2 Research objective

To compare location and premise size for successful EBN swiftlet house in Terengganu.

1.3 Hypothesis

Suitable location and premise size of EBN swiftlet house will have a positive effect on the production of the EBN produced.

2. Methodology

Sampling was conducted in Terengganu at 12 swiftlets houses: four in coastal, rural and urban area respectively to investigate if there are differences in premise size and nest production in the three areas. Location, number of floors, measurement of square feet and number of nest from each swiftlet house were recorded. Figure 1 show sampling site for sampling swiftlet house. Table 1 show location of swiftlet house for sampling.

Coastal area refers to the area that interface between land and water. Coastal area is the most important and most intensely used of all areas settled by humans in the world [13]. Coastal zone contains a range of diverse and potential habitats which is important for human settlements and development. These areas are continually changing because of the dynamic interaction between the oceans and the land [3]. Extensive modifications to shorelines around the world have been carried out to fulfil human needs and requirement by some 2.5 billion people living with 100 km from the sea [25]. Sampling in this area involve choosing swiftlet houses that was built around 500 m from the coast line.

According to [32], an urban area is the region surrounding a city. Hence, most inhabitants of urban areas have non-agricultural jobs. Besides that, urban areas are very developed, meaning there is a density of human structures such as houses, commercial buildings, roads and bridges [12]. Other than that, urban area also refers to towns, cities and suburbs [2]. For this study, swiftlet houses chosen for the urban areas are those built about 10km from the coast line.

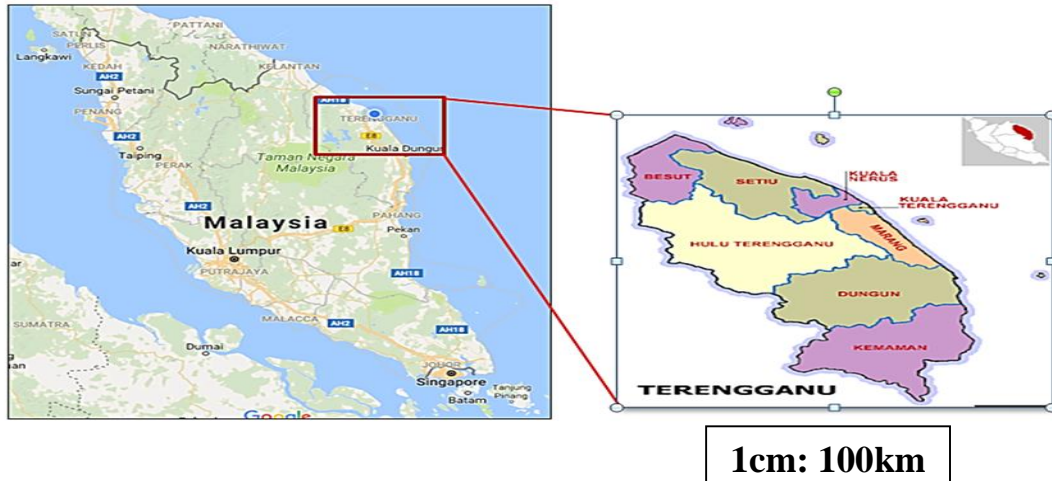


Figure 1. Sampling site of EBN swiftlet house

Rural area refers to large and isolated areas of an open country with low population density [14]. According to [23], rural development in general is used to denote the actions and initiatives taken to improve the standards of living in non-urban neighborhoods, countryside and remote villages. These communities can be exemplified with a low ratio of inhabitants to open space [15]. Agricultural activities may be prominent in this area whereas economic activities would relate to the primary sector, production of food stuffs and raw materials [31]. Sampling swiftlet houses involved in this area with swiftlet houses situated around 25km from the coast line.

Table 1. Location of EBN swiftlet house for sampling

Coastal	Rural	Urban
C1 Kampung Dalam Rhu, Besut	R1 Felda Chalok Barat, Setiu	U1 Kampung Kesom, Manir
C2 Kampung Pantai Pandak, Chendering, Kuala Terengganu	R2 Kuala Ping, Kenyir	U2 Kampung Seladang, Setiu
C3 Kampung Alor Pak Bang, Marang	R3 Kampung Landas, Hulu Terengganu	U3 Bandar Kuala Berang
C4 Kampung Kemasik, Kemaman	R4 Kampung Renek, Besut	U4 Kampung Pulau Serai, Dungun

Data on nest production which is number of nest in swiftlet house produced in coastal, rural and urban area in Terengganu was analyse using Pearson Chi-Square analysis. This analysis was conducted to determine relationship between nest production with location of swiftlet house.

3. Results and Discussion

Table 2 shows location, number of floors, measurement of square feet and number of nest for each swiftlet house at three different locations.

Table 2. Location of swiftlet house, number of floor, square feet and number of nest

Location of EBN swiftlet house	Number of floors	Square feet	Number of nest
C1	4	80x40 = 3200	51
C2	2	43x20 = 860	63
C3	3	70x30 = 2100	75
C4	2	50x18 = 900	81
R1	2	40x30 = 1200	207
R2	3	70x40 = 2800	273
R3	2	42x20 = 840	252
R4	3	60x20 = 1200	85
U1	2	45x20 = 900	89
U2	3	46x22 = 1012	21
U3	1	40x20 = 800	256
U4	1	45x20 = 900	103

Based on table 2, it was found that a 2800 (70x40) square feet 3-floor swiftlet house from the second rural area produced the highest number of nests (273 nests), whereas the lowest number of nests harvested from the second swiftlet house in urban area, that was a 3-floor 1012 (46x22) square feet of swiftlet house. Strangely, the third swiftlet house from the urban area, the smallest swiftlet house consisting of 1 floors and size 800 (40x20) square feet of swiftlet house produced the second highest number of nests (256 nests).

Suitable location selection to build swiftlet house plays important role for high bird nest production [18]. Everyone involved in bird nest production wants their swiftlet house full of swiftlets and nests [6]. There are several important factors required to be priority when selecting a suitable location to build a swiftlet house. Swiftlet house must be located far from an industrial area. It is desirable to have a swiftlet house in areas rich in insects such as paddy fields, fruit orchards, vegetable garden or areas close to natural water bodies such as rivers and lakes [24]. The recommended distance from one swiftlet house to the other with others should not exceed around 5 kilometers [33]. This is important to make sure swiftlet house that we built is on the swiftlet population [22]. Usually, if there

area many swiftlet house were built in one particular area, that area posses high population of swiftlet [6].

Size of premise also will influence production of bird nest. Swiftlet will feel more comfortable in big size of swiftlet house. Swiftlet will move to other swiftlet house if swiftlet house crowded with swiftlet [4].

3. Conclusion

Productive and profitable entrepreneurs in swiftlet ranching suggested to built their swiftlet house in rural area with 900 (20x45) square feet and 3-floor. Entrepreneurs in EBN swiftlet farming also suggested to take the insurance or takaful policy to coverage their life and business [18, 26, 27, 28, 29, 30].

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