

Full Length Research Paper

Investment in swiftlet hotels in Malaysia – Does ROI compensate investment risks?

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Swiftlet hotels have become increasingly popular in the real estate industry today due to its high return on investment (ROI). This research has proven that a standard 20 x 70 feet shop is able to generate a net income of approximately RM10,000 to RM20,000 per month from sales of 2 to 4 kg bird nests. In about 15 months, a three storey shop house with a base value of RM360, 000 could appreciate up to RM750, 000 in market value after being converted into a swiftlet hotel. These prospects have attracted investors to invest in higher and taller birds' hotel in order to generate more bird nests hence higher income. This paper highlighted the risks and opportunities in swiftlet farming as a business investment and arranged them in a well structured perspective for the benefits of potential investors. Questionnaire survey and structured interviews were used as the research methodology. Findings revealed that although swiftlet farming has high risks, most investors receive a return on investment (ROI) from 25 - 35% per annum, some having up to 46% per annum. The only risks found in swiftlet farm business are possibility of theft and mosquito breeding. Other findings revealed that swiftlet farmers experience difficulty with the guidelines of swiftlet farming. The research concluded that the return on investment in Swiftlet Farming compensates the risks attached to it.

Key words: Swiftlet farming, swiftlet hotel, returns on investment, investment risks, bird nests.

INTRODUCTION

Swiftlet farming is a new yet important industry contributing to vast revenues of the Malaysian economy. The Swiftlet farming business involves the conversion of human-centric buildings into buildings used to protect a certain species of swiftlets (Malaysian Swiftlet Farming Industry Report, 2007). Swiftlets will stay in the converted houses known as swiftlet hotels, and will produce edible bird nests. Most of the bird nests collected are sold to foreign countries such as China, Taiwan, Hong Kong, Canada, USA, United Kingdom and etc. Swiftlet Hotel is also known as Bird Nest House (Rumah Sarang Burung) by Malaysians. It is an agricultural industry where those buildings are converted from commercial or residential use to bird hotels. The building must be designed to suit

the nature of swiftlets in order to attract the species to reside in the building. Swiftlets are known to have an audible rate of 1500 to 5500 Hertz to human ears. The continuous vocalization of swiftlet chirps and mating sounds played daily using audio systems and speakers installed within the building will attract swiftlets to build their nests and mate in the buildings (Lim, 2007).

Demand has never declined for bird nests in the global market. In Malaysia, a lot of swiftlet hotels can be found in Sitiawan, Seberang Perai, Teluk Intan, Nibong Tebal, Pekan, Kota Bahru, Rompin, Mentakab, Endau, Mersing, Kota Tinggi, Muar, Johor Bahru, Klang and Rawang. However, about 70 to 80% of the swiftlet hotels have failed due to investors' lack of understanding and

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knowledge in the management of swiftlet hotels.

Although the business can be highly profitable, there are many uncertainties and uncontrollable factors that may contribute to the demise of a swiftlet farm business. In order to be a successful investor, it is important to realize the risks and opportunities prior to investing in the swiftlet farm business. This research attempts to identify the risks and advantages of swiftlet farming, and then evaluate whether the advantages outweigh with the risks of the investment.

Research objectives

This paper aims to examine the prospect of swiftlet farming. In so doing, the following objectives are included:

1. To identify the advantages of swiftlet farming
2. To determine the return on investment of swiftlet farming
3. To identify the risks in swiftlet farming

RESEARCH METHODOLOGY

This study adopted a case study, structured interviews and questionnaire survey as the methodology. Data collections are divided into two parts; primary data and secondary data. Primary data constitute the questionnaire survey, structured interviews, and professional observations both directly and indirectly in the study area. The chosen case study area is Nibong Tebal in Penang as the area hosts a large number of swiftlet hotels and is the most established in this investment in Malaysia. Secondary data are taken through appreciation of opinions by scholars in this topic from journals, books, magazines, articles, previous theses, internet sources, reports and other reading materials.

Literature review: factors to consider in swiftlet farming

Capital Investment

Swiftlet farming is an investment that can generate high returns as compared to other agro-based investments. It is one of the rare investments that require only a small capital outlay to generate enormous returns. The investors would only need to invest around RM350,000 for a double storey shop house and will be able to gain back the capital within three years if the farming is successful (Lim et al., 2002; Lim, 2007).

Operational and maintenance expenses

Besides that, investors can save on labour costs as this type of investment is not labour intensive like other farming activities. On top of a major cut down on the operation costs, fewer employees are easier to manage which would result to smoother business.

Swiftlets are able to search for food themselves, so farmers need not worry about expenses for feeding the swiftlets. This is a convenient and profitable circumstance for farmers, which is why swiftlet farming is often considered a 'self-operated income'. Farmers can continue their respective occupations while allowing the swiftlets to unconsciously generate additional income for them.

Based on the experience of swiftlets farmers, the monthly costs for operating a swiftlet hotel is apparently extremely low. For example, the utility bill rarely exceeds RM75 per month for a double storey shophouse with 20 x 70 feet measurement.

Production facts

According to Lim (2007), a successful swiftlet hotel could produce at least 1.36 kg of nests (around 150 nests that is, RM6, 132 in value) after one year of operation. This means that the monthly ROI is about RM511. The growth of the swiftlet population will be an exponential growth until nesting spaces are saturated in 3-5 years.

According to Laurentius (2004), one storey of an 8.0 X 8.0 m swiftlet house can produce about 5.0 to 7.0 kg of bird nests, subject to the swiftlet population. About 110 to 120 nests can produce 1.0 kg of raw bird nests. This means that one storey of 8.0 X 8.0 m of swiftlet house can produce around 550 to 840 nests. Referring to the market value, raw bird nests are priced at RM6000, thus, the potential income generated ranges from approximately RM30, 000 to RM42, 000 within one year. If the one storey of 8.0 x 8.0 m of swiftlet house worth RM150, 000, the capitalisation yield is 20 to 30% depending on the location and the market of the swiftlet houses.

According to Crystal Swiftlet Consultant Sdn. Bhd (2010), a new swiftlet hotel cannot harvest bird nests for the first 3 years. This is to attract more swiftlets to fly into the swiftlet hotels and allow growth of the swiftlet population. After 3 years, the swiftlet hotel can easily generate a few hundreds of bird nests and the bird nest production will continue to increase in double multipliers per annum. The swiftlets will take around 30 to 45 days to build their nest, 3 to 7 days before the eggs are laid and will lay two eggs at a time. The hatching process takes 3 to 4 weeks and the hatchlings will stay in the nest for about 45 to 60 days before they are able to fly (Lim, 2007; Francis 1987). The total cycle of the swiftlet is about 140 days to harvest the bird nests every 3 months. However, the farmers spare some bird nests in the swiftlet hotels without any disturbance. This strategy is to attract more swiftlets to make their nests in the swiftlet hotel (Collias and Collias, 1984).

Market overview and business opportunity

Nowadays, consumption of edible bird nests has become as popular as 1500 years ago. Chinese communities across the globe constitute the primary market, mainly China, Singapore, Taiwan and North America. The increasing market demand in China and the emerge of new potential markets from Middle East, Korea and Japan lead to a constant unmatched demand and supply of edible bird nests. This mismatch is further amplified during Chinese festivals, especially during Chinese New Year as edible bird nests are popular gifts to wish someone good wealth and fortune. China's demand of edible bird nests is very encouraging especially in the coastal areas. There are thousands of wholesale and retail business operators in China involved in the swiftlet industry (Swiftlet Eco Park Group Companies, 2009). Swiftlet industries often have very good branding, which is one of the key factors to expand business. Guangdong, Shanghai, Fujian, Beijing and other major cities are central areas for the market of natural, organic and nutritional food such as edible bird nests.

Hong Kong recorded the biggest number of bird nest consumption by importing about 100 tons or \$25 million annually which constitutes about 50% of the total world trade, followed by China with 8%, Taiwan with 4% and Macau with 3% (Jeanine Mackey, 2007). According to the Malaysian Swiftlet Farming Industry Report (2007), the total consumption recorded was approximately 160 tons for 2006, valuing from RM8 billion to RM12 billion. The Swiftlet Eco Park Group Companies (2009) stated the

production of the edible bird nests in the world is worth RM13 billion that is, 2600 tons in 2008.

In 2008, Malaysia produced 250 tons a year worth up to RM1 billion which represents 10% of the total world production. Nevertheless, the market share for Malaysia in the edible birds' nests of world production is only 8%. This figure shows that there was about 2% of difference based on the previous calculation of 250 tons out of 2600 tons. From the total 250 tons of the edible birds' nests produced in Malaysia, the cave nests contribute to 45% (112.5 tons) and the remaining 55% (137.5 tons) of the edible birds' nests are from house nests.

In 1998, a total of 900 units of swiftlet hotels were recorded. This number escalated rapidly in 2008 to a total of 50,000 units. It can be concluded that swiftlet hotels have increased about 49,100 units or 4,910 units per year. However, a total of 15,000 units of new swiftlet hotels were built from year 2006 to 2008 of which 95% of the swiftlet hotels are located in urban areas. According to *New Straits Times* (2005), more than half of the 200 tons global demand in edible bird nests is supplied from Indonesia. The second in rank is Thailand, followed by Vietnam, Singapore, Burma, Malaysia, Southern India and Sri Lanka (Jeanine Mackey, 2007). According to *The Malaysian Swiftlet Farming Industry Report* (2007), Indonesia supplied about 60% of edible birds' nests around the world whereas Thailand supplied 20% and Malaysia was recorded the third largest producer making 7% of the gross supply value. However, Malaysia only met 10% of the world's demand (*New Straits Time*, 2005). *Eu Yang Sheng*, a well known international company, exports RM20 million worth of bird nests to China and Hong Kong yearly. In year 2004, the estimated market price of edible bird nests is worth about RM2 billion in Hong Kong. The business is expected to double in growth every year.

Profile of existing investors in the swiftlet industry

The *New Straits Times* (2005) and Lim (2007) reported that the percentage of unsuccessful swiftlet farming is around 70 to 80%, making this investment a considerably risky investment. The main cause of these failures is the farmers' lack of insight or understanding of the design and operating functions in swiftlet farming. Most of them are too dependent on swiftlet consultants throughout the business process from inception until actual operation. These swiftlet farmers do not understand the behaviour and preferences of swiftlets (Errol Oh, 2006). In addition, other successful swiftlet farm operators are unwilling to share their skill, strategies and knowledge. Other failure factors include lack of experience and misconceptions about the art and science of swiftlet farming. For example, the investor may have selected the wrong location to build a swiftlet farm, or wrongly designed the swiftlet hotel. Most successful swiftlet farmers developed their swiftlet farm through their own observation and research (*Malaysian Swiftlet Farming Industry Report*, 2007; Tirok, 2007).

Cost of converting a shop house into a swiftlet hotel

To establish a swiftlet farm from a regular shop house, there are various costs involved. Converting the top floor of the premise into a swiftlet farm is where most expenses are concerned. Therefore, converting two floor areas into swiftlet farms are more cost effective than converting the top floor of the shop lot. Another cost implication is the application fee for relevant licenses or permits from the authorities. Different state authorities have different charges for swiftlet farming license and permit. A research was conducted in the State of Penang, where it was decided that all licences and permits are to be referred to the Seberang Perai Municipal Council rules as the research areas of Nibong Tebal and Sungai Bakap are under the management of that municipal council.

There are no standard professional fees charged by swiftlet consultants. Fees are subject to the expertise of the respective consultant. Based on Christopher Lim's experience, the consultant fee is usually around RM10,000 to RM15,000 regardless of the size of the building. In terms of construction costs, the costs vary according to location, size and layout of the shop house. Normally, it would cost RM30,000 to RM35,000 for a single storey building conversion and RM45,000 to RM50,000 for a double storey building conversion.

Construction of swiftlet hotel

There are several factors to be considered when constructing Swiftlet *Hotels*. A temperature between 25°C to 35°C is the ideal temperature for internal thermal condition. The level of dampness is between 80 to 95% of relative humidity and not more than 1 lux for darkness condition. A favourable building for white nest swiftlets requires efficient air ventilation system and materials that reflect the heat of the sun, and an ideal condition for breeding in the darkness under a roof. As for the entrance of swiftlets into the swiftlet farm, a rectangular hole is made around its external edges for the swiftlets to fly in and out of the swiftlet farm.

Management of swiftlet hotel

The management of swiftlet farms can be divided into four stages. The first stage is the renovation of buildings. Swiftlet farms must comply with the laws and regulations of the local authority, town and country planning acts and building by-law. The second stage is the use of modern equipment to control the air temperature so as to maintain high humidity and low light encroachment, to encourage the swiftlets to breed and build their nest. The third stage involves understanding the breeding behavior of swiftlets. The last stage is to ensure the cleanliness of food-searching-flying swiftlet farms and determine the most suitable time for swiftlets to harvest their nests to facilitate good quality of nests produced.

Legislation of swiftlet farming

To setup a swiftlet farm, investors need to comply with all the legislations. Regulations involved in Swiftlet hotels are Uniform Building By law (UBBL) 1986, the Destruction of Disease Bearing Insect Act 1975 and Health Department Regulations. According to *The Star* (2003) the act or law involved are Town and Country Planning Act 1976 (section 27), Road/Drainage and Building Act 1974 (Section 70(1), (12), (13), (79), and (84) 1975 Extermination of Disease Borne Insects Act 1975 and Wild Life Protection Act 1972 (section 76). Swiftlet farming does not have an official Act of Parliament; it is the local council who imposes relevant guidelines on the farming of bird nests. Under the guidelines by the Penang local council, farm buildings must not exceed 18 m in height or five-storey and the exterior finish should be painted in white. During renovation, any structural changes require prior approval from consultant of engineer on structural integrity. For extension or expansion of the existing swiftlet building, the drawing plans are required by the local authority. If the farm is located on agriculture land, farmers would have to apply through the relevant authority for the conversion of the land usage.

Under the guidelines for swiftlet farming, guano (bird droppings) has to be collected and disposed off from the farm house periodically (Jack 2003). The owner must maintain the farm's cleanliness so as to not attract any flies, cause foul smell, breed mosquitoes or spread any disease. Swiftlet farming is prohibited in residential areas due to the risk of contaminations that could affect human health. Historic buildings that are declared heritage buildings are also prohibited from farming operations. A special consent from

Cost to Construct Swiftlet Hotels

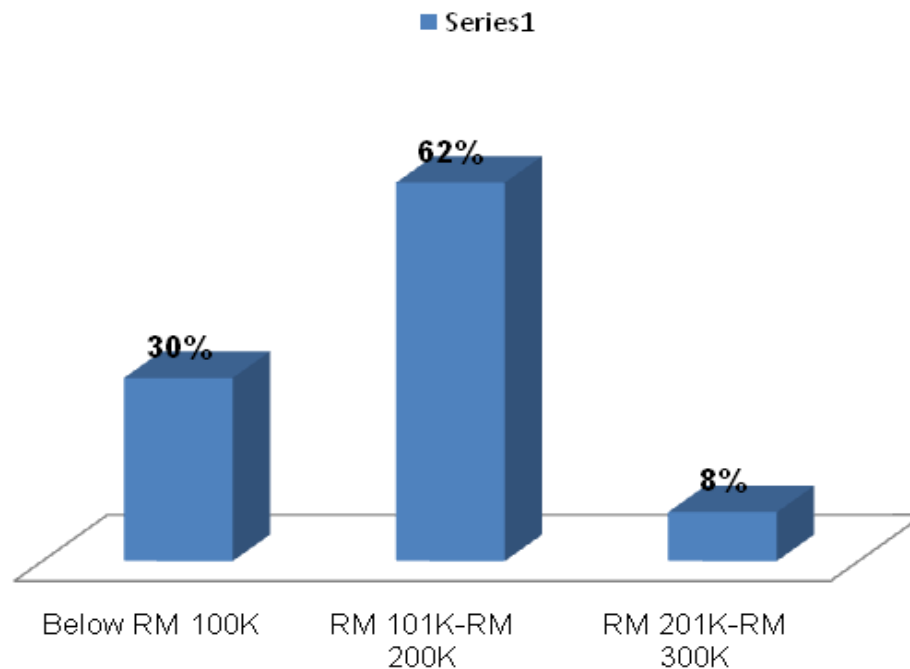


Figure 1. Cost to construct swiftlet hotels.

local authority is needed if the ground floor of an historical building is to be used for swiftlet farming, but special consideration is given to those buildings that have been vacant for a long period of time.

The guidelines for swiftlet farming also stated that the bird attraction sound system must only be switched on between 7am to 7pm, and the volume must not exceed 40 db, the speaker must face at least 60 degrees skyward and 6 meters away from the walls. External areas of the farm must be lighted at night. Besides that, owners have to install modern devices to control the temperature and humidity of the farm. Inside the farm, there must not be any water tank or water pool, and the floor should not trap water. Other requirements in the guideline included, the floor and the lower part of the wall must be water proof to prevent contaminations seeping through. The owners must comply with all the local government, authority and local department guidelines. The license must be renewed annually by the owners and the local authority reserves the right not to grant the permit in renewing the license (Syed 2009). A permit from the National Park and Wildlife Protection Department (Perhilitan) is required for transferring of the swiftlet's eggs from one building to another building for breeding purposes.

For collection, selling, buying, import and exports of birds' nests also required a license. Two other government agencies namely Forest Department, Agriculture and Customs Departments are involved in issuing a license for collecting, trading, importing and exporting of the edible birds' nests (Paun, 2006). The collecting and trading license fee is RM200 per year. The import and export of processed birds' nests license is RM100 per kg and for import of unprocessed birds' nests is RM2 per kg. The Agriculture Department issues a health certificate in accordance with Section 9 (1) of the Public Health Ordinance 1999. The fee per consignment is RM10. The birds' nests exported and imported sales tax is charged 5% of the total quantity of the sales and must be declared to the Royal Customs and Excise Department.

FINDINGS AND DISCUSSIONS: QUESTIONNAIRE SURVEY

There are three categories of research findings that is, Aspects of Cost and Legislation, Aspects of Risks Associated with Swiftlet Farming and Aspects of Return of Investment (ROI) that each one will be analysed separately.

Aspects of cost and legislation

Cost to construct swiftlet hotels

Figure 1 shows that the current construction cost to build a standard double storey swiftlet hotel is averaged around RM 101k to RM 200k, depending on location and materials used to construct the swiftlet hotel.

Legislations of the swiftlet farming industry

Table 1 (Column A) shows 46 and 12% of respondents disagreed and strongly disagreed with the guidelines for swiftlet farming industry. The second group of 32% respondents were neutral with the guidelines of the swiftlet farming industry. A minor group of 4 and 6% respondents strongly agreed with the guidelines of the

Table 1. Guidelines by Federal Government and Regulations by Local Authority of the Swiftlet Farming Industry.

Level of satisfaction	Guidelines by Federal Government of the Swiftlet Farming Industry(A)		Regulation of Swiftlet Hotels by Local Authority(B)	
	Frequency	(%)	Frequency	(%)
Strongly dissatisfied	6	12.0	8	16.0
Dissatisfied	23	46.0	20	40.0
Neutral	16	32.0	15	30.0
Satisfied	3	6.0	5	10.0
Strongly satisfied	2	4.0	2	4.0
Total	50	100.0	50	100.0

Table 2. Total capital investment.

Capital	Frequency	(%)
RM 101K-RM 200K	6	12.0
RM 201K-RM 300K	17	34.0
RM 301K-RM 400K	19	38.0
RM 401K-RM 500K	5	10.0
More than RM 501k	3	6.0
Total	50	100.0

swiftlet farming industry. The swiftlet farmers experience difficulty with the guidelines of swiftlet farming as there is no Act or regulation for swiftlet farming, and different states have different guidelines.

Table 1 (Column B) shows that majority of 40% respondents are dissatisfied with the development on regulation of swiftlet hotels by local authority. This is due to the long process of obtaining permission for swiftlet farming from the local authority can take up to 3 months or more and some applications fail due to the strict regulations.

Total capital investment

Table 2 recorded that 38% of the respondents invested RM 301k-RM 400k in swiftlet hotels. Another 34% of the respondents invested RM 201k – RM 300k and 12% of the respondents invested RM 101k – RM 200k as capital swiftlet hotels. Findings show the investment capital in swiftlet farming mostly cost more than RM 201k due to the location in Nibong Tebal. Some of the respondents prefer to build their swiftlet hotels on their own vacant land. Therefore, the capital is only required to cover construction costs of the swiftlet hotels.

Aspects of risks associated with swiftlet farming

Risk of theft

Figure 2 shows that majority or 60% of the respondents confirmed that theft is not an issue. However, 40% of the

respondents revealed that their swiftlet hotels have experienced theft. Such theft cases took place due to the attractive market price of the raw bird nests and accessories installed inside the swiftlet hotel.

Risk of breeding mosquitoes

In Malaysia, the Ministry of Health and local authorities such as City or Town Councils have jointly imposed many strategies to fight against the spread of dengue. Among them include the implementation of “Government Act A 1086 Destruction of disease-bearing insects act (Amendment act 2000)”. A person found to disobey this act may be fined or charged. Surveillance and on-site checks must be conducted against anyone found negligence on mosquitoes breeding issues and fines may be imposed on the owner of properties (Tan, 2010).

Based on Figure 3, 42% of the respondents do not think that swiftlet farming has the possibility of breeding mosquitoes because mosquitoes and other insects are a source of food for swiftlets. The risk of breeding mosquitoes only exists if there is a pool of water in abandoned swiftlet hotels. In short, there is minimal risk of mosquito breeding in swiftlet farming.

Return of investment (ROI)

Frequency of harvesting bird nests per month

Table 3 shows that 56% of the respondents harvested their bird nests twice a month. Only 8% harvest their bird nests every weekend. These swiftlet investors have a very stable return because the swiftlet hotels are almost fully occupied by the swiftlets. Only 16% respondents harvest their bird nests every end of the month as their swiftlet hotels are still new.

Annual bird nests net income per annum

Based on Figure 4, 38% of the respondents' net income per annum is below RM 100k. Respondents in Nibong

Probability of Swiftlet Hotels Broke in by Thief

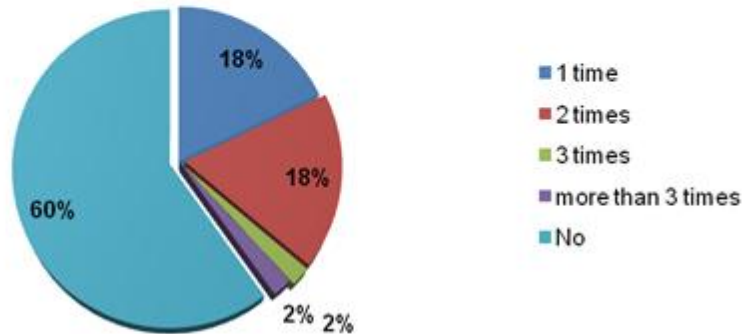


Figure 2. Probability of theft.

Possibility of Breeding Mosquitoes

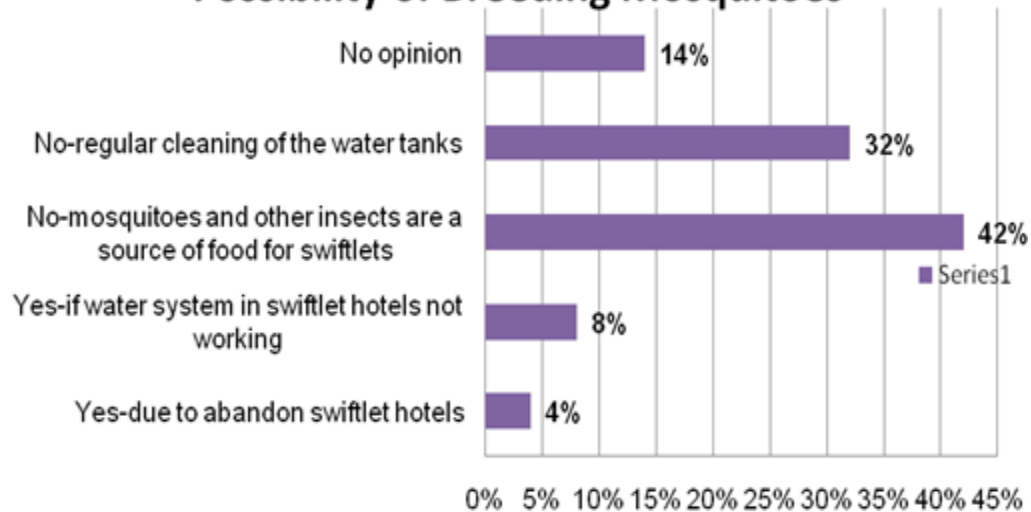


Figure 3. Possibilities of breeding mosquitoes.

Table 3. Frequent of harvesting per month.

Time	Frequency	(%)
One time (month end)	8	16
Twice times per month	28	56
Three times per month	10	20
Every weekend	4	8
Total	50	100

Tebal are not able to earn an income per annum more than their capital investment. This is because they need a

longer time for swiftlets to fully occupy the swiftlet hotel and produce bird nests.

Rate of return of investment (RROI)

Figure 5 shows a majority 36% of the respondents achieved a rate of return of more than 26 to 35%. The lowest number of respondents of only 8% of the respondents has more than 46% of rate of return. The second highest in number or 20% of the respondents reported that they achieved a rate of return of 36 to 45%.

Annual Bird Nests Net Income per Annum

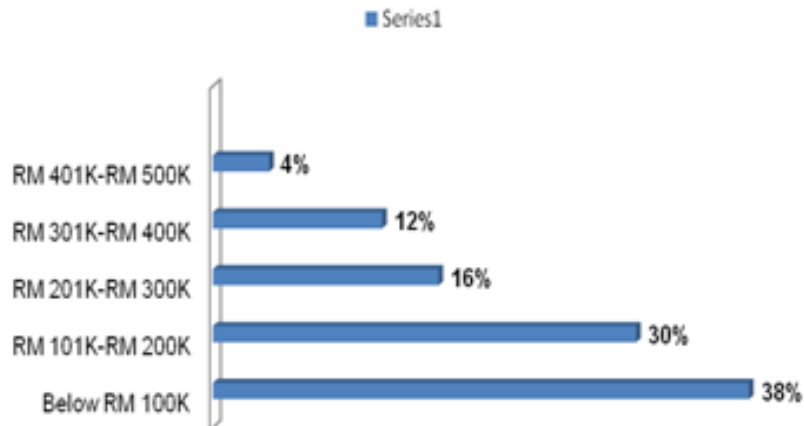


Figure 4. Annual bird nests net income per annum.

Rate of Return

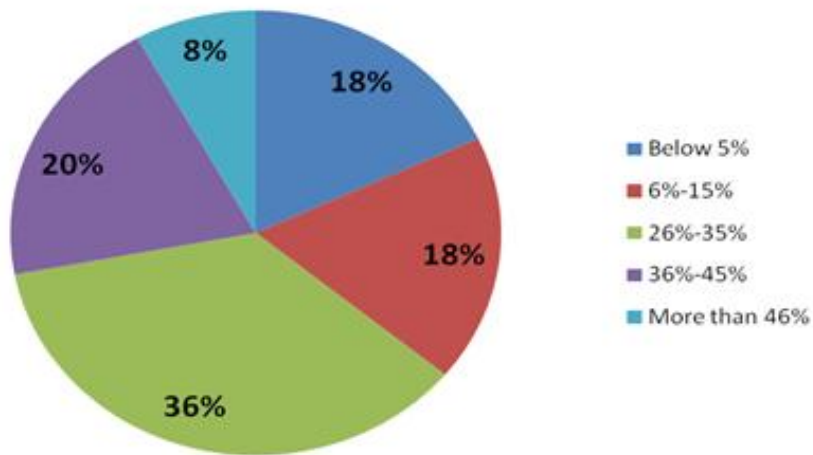


Figure 5. Rate of return.

Other 18% of respondents are under the category of rate of return below 5% and 6 to 15%, respectively. This proves that the business investment can generate a good return.

Conclusion

Generally, the research concluded that swiflet farming is a highly profitable investment but it does not come without risks. The risks of swiflet farming are very minimal. Research findings identified a list of risks and advantages of swiflet farming as follows:

Objective 1. To identify advantages of swiflet farming

The government is very supportive in the swiflet farming. Most of the swiflet farmers are neutral with the swiflet farming legislation in Malaysia. The swiflet association plays an important role to protect the swiflet farming industry in Malaysia with restrictions set by the government. If there are no restrictions or limitations, the edible bird nest price may drop in the future market when the supply of the edible bird nests is more than the demand. Therefore, another welcoming advantage for swiflet farming is the government support.

Objective 2: To determine the ROI of swiftlet farming

The swiftlet farming industry grows rapidly due to the high return from the edible bird nests (Chan, 2006). Findings show the total investment capital in swiftlet farming cost around RM 201k depending on location. This can be done either by constructing a new swiftlet hotel on a private land, or converting a building into a swiftlet hotel. Many swiftlet investors operate their swiftlet farm for more than a year, running more than 1 swiftlet hotel using their own funds and managing to harvest after 1 year's operation. Bird nests can be harvested twice a month. The rate of ROI can be averaged around 26% to 35% for most successful farmers. It can be concluded that the promising return of investment after only a short period of time made swiftlet farming a profitable business and farmers are generally pleased with their business outcome. Therefore, it can be concluded that swiftlet farming has high probability of generating considerable turnovers.

Objective 3: To identify risks in swiftlet farming

The only risks found in swiftlet farm business are possibility of theft and mosquito breeding. However it was found that there is only a 0.4 probability of theft, therefore theft is not really an issue. There is also very minimal risk for mosquito breeding since mosquitoes are food for the swiftlet birds (Selangor 2008). The risk of breeding mosquitoes only exists if there is a pool of water in abandoned swiftlet hotels (Swiftlet Populated Areas in the Asian Continent 2003).

Other findings revealed that swiftlet farmers experience difficulty with the guidelines of swiftlet farming as there is no Act or regulation for swiftlet farming in particular, and different states have different guidelines. Obtaining permission for swiftlet farming also takes a long process and can take as long as 3 months or more due to strict regulations of swiftlet hotels by the local authority.

Suggestions

This study outlined several suggestions for improvements in swiftlet farming. Firstly, the research has established the importance of proper knowledge, insight and understanding of the design and operation of a swiftlet farm before investing in the swiftlet farming business. Therefore, potential investors should attend a swiftlet seminar and Good Animal Husbandry Practice course before starting operation of swiftlet farming. Swiftlet farmers are recommended to use the SWOT analysis model to analyse the location and size of swiftlet hotels which they plan to operate. Swiftlet farmers are also advised to harvest the nests when the young swiftlets can fly and fend for themselves because swiftlets have extraordinary memory and find their way back to the location of their nests. There are many so-called swiftlet

consultants available in the country, but some of them are not skilled at designing a swiftlet hotel. Investors should seek advice from experienced swiftlet consultants before starting business to reduce the risks of investment.

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