

# Singgora Tiles: Perception of the Community in Kota Bharu, Kelantan

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## ABSTRACT

*Plain tile, locally known as Singgora tile, is a type of traditional tile that has been widely used in Kelantan as a roof covering before the advent of modern roofs. With the passage of time, these tiles are now almost forgotten and most of the buildings that still use it are old buildings and newly constructed traditional buildings. The goal of this study is to find out community perceptions towards Singgora tiles by the age of the community members, and analyzing the potential for demand for Singgora tiles to develop in the market. In this study, it has been concluded that users agree on the advantage of Singgora tiles in providing a cool indoor temperature in the house, but the product is easily broken. The majority of users turn to other types of roof covering because of the limited supply of Singgora tiles. However, most users are interested in using Singgora tiles if the quality is improved. With regards to the new generation, the awareness of the existence of this traditional tile decreases with age.*

**Keywords:** Roofing tiles, Traditional Malay house, Singgora tiles, Conservation, Clay tiles

## INTRODUCTION

The traditional Malay buildings in Peninsula Malaysia include palaces, mosques and houses. The Malay house is a reflection of the Malay community's customs and way of living. There are three main parts in a traditional Malay house; the pillars, the walls and the roof (Nasir & Teh, 2011). According to Killmann et al. (1994), the roofs of buildings in Malaysia were traditionally covered with organic and combustible material such as palm leaves and wood. Repeated fires subsequently forced the owners to switch to more expensive but safer terracotta tiles. Roof covering of the Peninsular East-Coast houses use the plain clay tiles, known locally as Singgora tiles, is the roofing material that has received the foreign influence due to historical and cultural traits with Thailand and Indo-China (Salinger, 1997; Killmann, 1994). It has been widely used in Kelantan as a roof covering before the advent of modern roofs. With the passage of time, these tiles are now almost forgotten and most of the buildings that still use it are old buildings and newly constructed traditional buildings.

Figure 1 shows the major growth and decline of Singgora tiles industry in Kelantan as reported by Adit (1994). He noted the Singgora tile industry was booming between 1950 and 1965 especially after the independence of the Malay States in 1957. The author states in 1960s, modern roofs were introduced into the Kelantan market when the road system between Kuala Lumpur and Kelantan was improved. He adds, towards 1965, the use and demand of Singgora tiles declined gradually and this continued up to 1970s, partly due to strong competition with other modern roofs available in the market.

Adit (1994) further states the emergence of the tobacco industry in 1963 which gave a relatively higher income, has affected the production of Singgora tiles industry due to shortage of labors. He adds, in 1970s, the demand for Singgora tiles decreased and many entrepreneurs began to shut down their operations. The author further mentions in 1975, the price of tiles were increased because of the immediate demand from Singapore. However, this demand was temporary and it declined afterwards.

Shamsu and Zulkifli (2011) claim that since 1977 up to present, there was only one Singgora tile factory in Malaysia that was still operating and it became the sole supplier for conservation works and new traditional buildings.

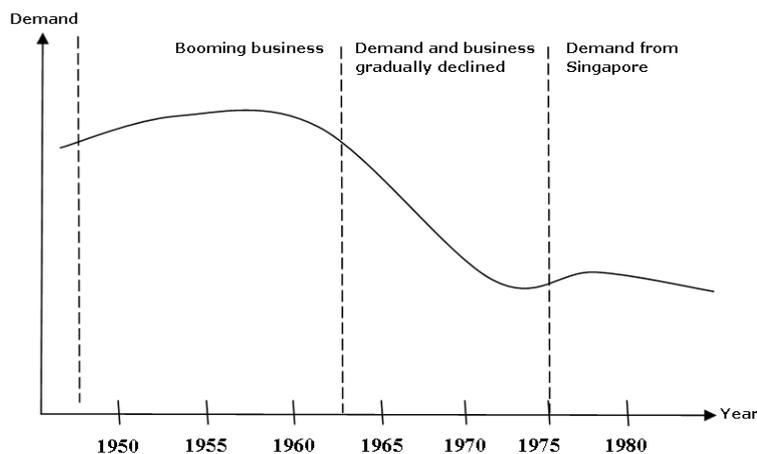


Figure 1: The illustration of market trend of Singgora tiles  
Source: Adapted from Adit (1994)

Nowadays, most of the demand for this traditional tile is to repair damage to the roofs of old dwellings, and for use in pavilions, museums, restaurants and chalet gazebos, as well as for conservation projects. While little effort has been made to prevent the decline of this folk industry, much less has been done to educate the new generation on this heritage craft. Important questions arise: Does the old generation still prefer to retain the use of Singgora tiles as roof covering for their houses? What is the community perception about these tiles? Does the new generation know about this old roof covering? Is there any hope to redevelop this industry? The current study explores the community's perceptions of the knowledge and their viewpoints on Singgora tiles.

## METHODOLOGY

The questions in the questionnaire used to elicit information for the study were asked verbally in face-to-face interviews. The respondents were categorized into two set of questionnaires:

*i) Set A: Adult and senior citizen questionnaire (24 years and above).*

Section A requested factual information from respondents (i.e. their race, age, sex, income level, and type of residence) that might contribute to the later study of the relationship between variables as well as to build some rapport between the interviewee and researcher at the start of the interview (Gray, 2004). Section B posed a number of multiple response answer questions that aimed to obtain information about Singgora tiles from the respondent. Specifically, these items asked about any experience of living in a house roofed with Singgora tiles and their thoughts on this traditional tile. We also asked adults about the difference between Singgora tiles and other roof coverings, and their interest in Singgora tiles if this product were to be improved and easily available in the market.

*ii) Set B: Child and young adult questionnaire (9 - 23 years old).*

The first few items addressed basic demographics such as gender, age and race. This study focused on survey research where respondents were asked: Do they know what Singgora tiles are? How do they know about these tiles? The remainder of the questionnaire addressed their interest to use Singgora tiles in the future.

*Data analysis.* A quantitative approach was undertaken with the descriptive analysis of results from the multiple-choice and multi selected items in the questionnaire.

## RESULTS AND DISCUSSIONS

### Set A: Adults and senior citizens

*Demographics.* For adults, a total of 100 persons were surveyed, out of which 66 were males and 44 females. The majority of the respondents were Malay (97%) with a very small number being Chinese (3%). Most of the respondents had modest family monthly incomes which were less than RM 3,000.00 (87%). The respondents had categorized into four subgroups based on age: Age 24 to 45 (65 respondents); Age 46 to 50 (10 respondents); Age 51 to 65 (19 respondents) and Age more than 65 (6 respondents).

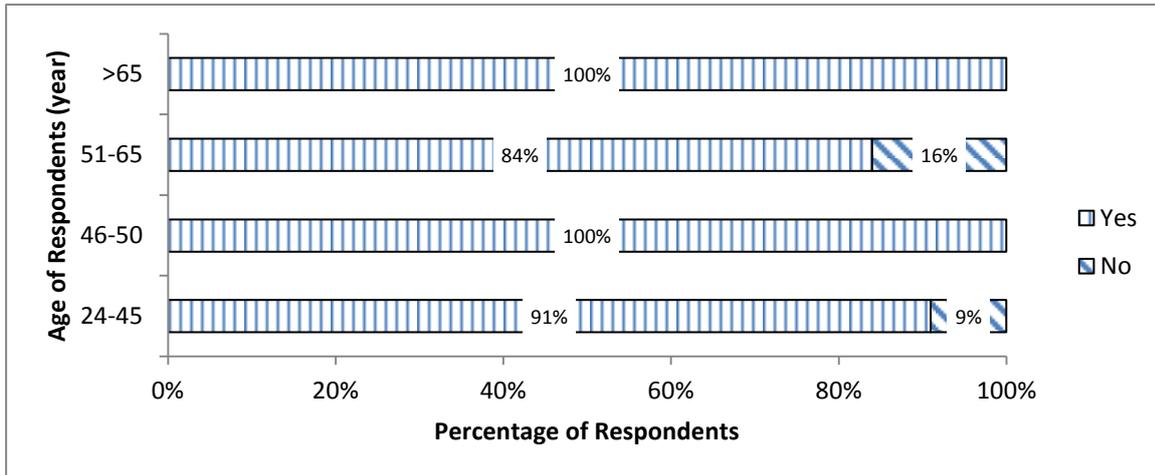


Figure 2: Respondents' knowledge about Singgora tiles

*Knowledge of Singgora tiles.* In this study, we first focused on the people's knowledge about Singgora roof tiles. The earliest question asked was whether the respondents knew or had seen Singgora roof tiles in Kelantan. The result shows that all respondents knew Singgora tiles except nine of them. Based on Figure 2, all of respondents aged between 46 and 50 as well more than 65 years old were familiar with Singgora tiles. However, 16% of the respondents aged 51 to 65 did not know about Singgora tiles. In fact, a higher percentage was also shown by the middle-aged generation in Kelantan aged 24 to 45 years old. Out of 91 respondents that knew of Singgora tiles, only 80 of them claimed that the supply of these traditional tiles is hardly available.

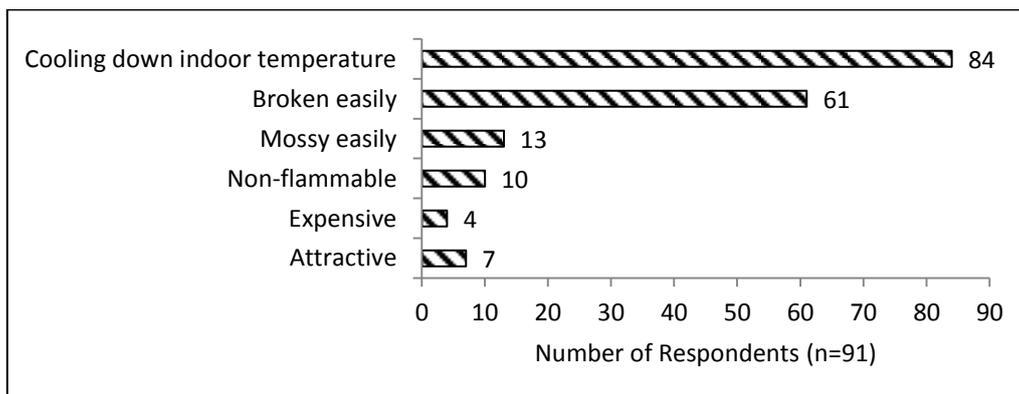


Figure 3: Respondents' positive and negative perception about Singgora tiles

*Perception of tile quality.* Figure 3 shows the viewpoint of the respondents on Singgora tiles. This multiple response answer obviously shows that 92% of respondents agreed that Singgora tiles cool down the indoor temperature of a building. This is due to the characteristics of the raw material. Singgora tile is considered as a sustainable product as it is made from clay. According to Costa and Mauroof (2005), the clay tile has the thermal mass characteristic to help the building to cope with the

temperature variations throughout the day. During peak temperature, the tiles will absorb the heat, thus provide a cool indoor temperature to the living space. This keeps the interior of the room comfortable during peak temperature hours. At night, the absorbed heat is released, keeping the room to stay warm. Therefore, Singgora tiles help to improve the comfort of building and reduce the demands for energy.

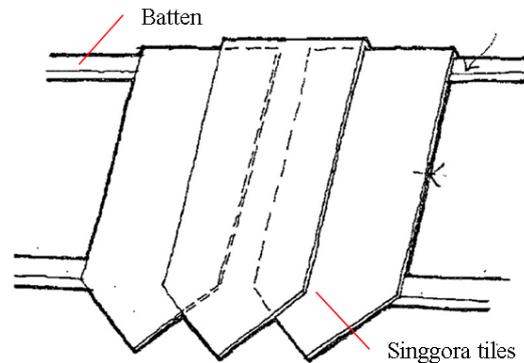


Figure 4: The installation of Singgora tiles  
Source: USM (1991)

Figure 4 shows the installation of Singgora tiles in the roof structure. According to Schunck (2003), type of roof installation is called as double-lap tiling, which only one course of tiles is hung on each batten. He further mentions this installation forms ventilated roof covering because the air can flow in defined cavity beneath the installation. As a result, the ventilation system of the building is improved.

67% of the respondents agreed that this traditional roofing tile has a weakness - that it is easily broken. In order to truly comprehend the claim that Singgora tiles are brittle, the respondents were also asked open-ended questions about the sources of fracture. Here is some of the feedback as reported by 61 respondents representing negative perception:

- *Caused by animals (i.e. trampled by foxes, pigeons and fighting cats)*
- *Heavy rain and storms*
- *Broken tree branches falling on the roof*
- *Too thin*
- *The hook of tiles cracks easily*

The comments above seem to indicate that most of the defects are caused by the low quality of the tiles. In fact, attrition from cats, pigeons and rainwater should not break the tiles. This is due to the current Singgora tiles being thinner compared to old Singgora tiles. Approximately one in seven respondents (14%) agreed with the statement 'Singgora tiles become mossy easily'. This is because the porous body of Singgora tiles traps the water, thus making them susceptible to moss growing on them, especially during the rainy season. In our study, only 10% of respondents reported that the Singgora tiles were non-flammable, probably because their buildings had once been exposed to fire. The clay product is characteristically non-flammable in nature. Only 4% of respondents felt that these tiles were expensive. This is due to the limited source of Singgora tiles, with only one supplier in Malaysia. 8% of these respondents agreed that the design of Singgora tiles was attractive. The arrangement of the tiles in the roof frame gives an aesthetic value to the building as the tiles look like fish scales.

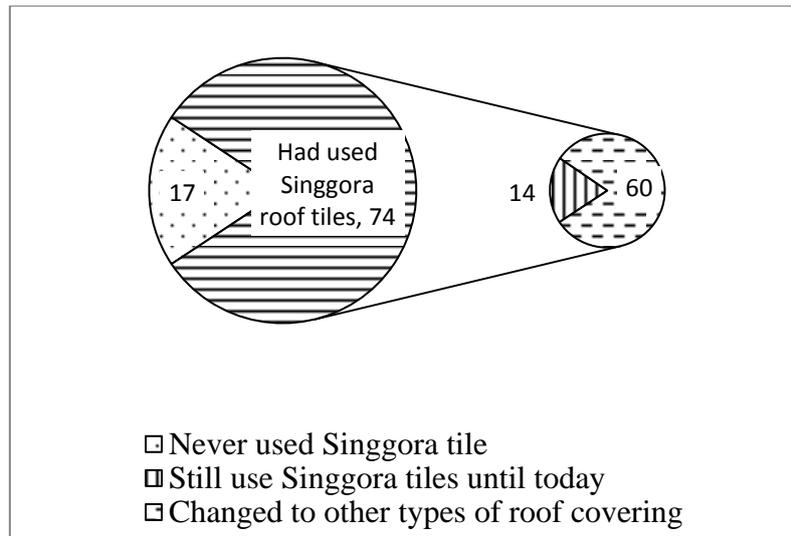


Figure 5: The usage of Singgora tiles by respondents

In fact, refer to Figure 5 above, not all the respondents knew that Singgora tiles had been used as the roof covering on their dwellings. Of 91 respondents, only 74 of them had used Singgora tiles as the roof covering of their houses while others knew about this tile because their relative or friend had used it. However, only 14 of 74 still used it up to the present, while 60 had changed to some other type of roof covering.

From those who had changed the roofing tiles, 78% was due to the inconvenience of getting Singgora tiles, 11% was due to greater durability of other roof materials while the rest wanting to follow the changing housing style. No doubt, technical obsolescence of Singgora tiles occurs when a new product or technology supersedes them, and it is preferred to use the new technology in place of the old, even though Singgora tiles are still functional. The changing in housing style has contributed to the decline for demand of Singgora tiles (Zulkarnian and Norlizaiha, 2013). In fact, modern tiles attract the users because they are more easily available in the market and are of better quality, thus reducing the maintenance cost. These 60 respondents were also asked about the comparison between Singgora tiles and new roof covering. The results show that 53 of the respondents indicated that Singgora tiles provide a cooler indoor temperature, 6 respondents claim that Singgora tiles produce noise when there is rainfall or trampled on by animals and only 2 respondents indicated that there was no difference between them.

The survey has also proven that the industry has the opportunity to develop, as 78% out of 91 respondents were still interested in using it if the quality of the product was improved. 60% of them suggested that the quality of the product can be improved by increasing the thickness of the tiles. However, for them to use singgora tiles for their buildings, some suggested the following:

- *Cheaper sales price*
- *Change the design of the tiles to a modern one*
- *Increase the number of suppliers*

22% of the total respondents gave strong reasons not to use Singgora tiles if there were an improvement in quality because of the installation of Singgora tiles uses a lot of timber battens as a frame, broken tiles are complicated to replace and, in terms of design, are not attractive and outdated.

#### Set B: *Children and teenagers*

*Demographics.* Set B questionnaire was distributed to 50 people below the age of 24 years old. The variables in the questionnaire were focused on their knowledge of Singgora tiles and their experience living in a house using this type of clay roof tiles. The percentage of respondents based on

age subgroups is that Age 9 to 12 (11 respondents); Age 13 to 16 (6 respondents); Age 17 to 20 (13 respondents); and Age 21 to 23 (20 respondents). All respondents are Malay and the percentages of female and male are 60% and 40% respectively.

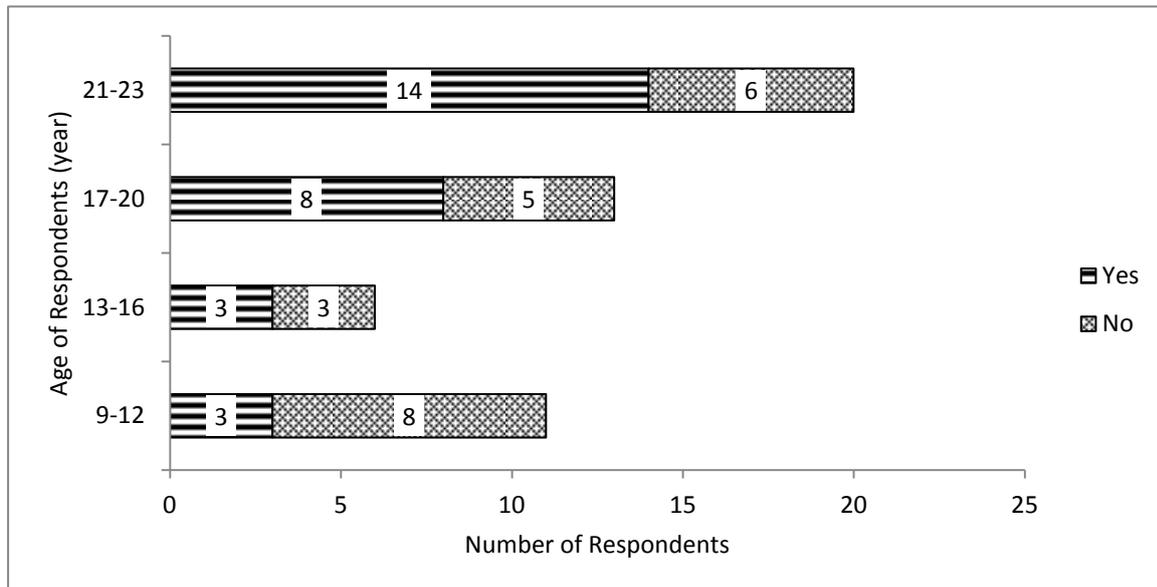


Figure 6: Respondents' knowledge about Singgora tiles.

*Knowledge of Singgora tiles.* Figure 6 shows the awareness of respondents of the Singgora tiles. The result shows that the knowledge of traditional tiles is declining with the respondent's age. The majority of teenager/young adults (more than 62%) aged between 17 to 23 years old know about Singgora tiles. The balance of the percentage of knowledge for those aged between 13 to 16 years is indicated in the graph. In conclusion, the awareness of the new generation of Singgora tiles is gradually decreasing, especially in the community aged below 12 years old (27%).

In order to understand better how children and teenagers know about Singgora tiles although they were not widely used in the present time, respondents were asked to provide open responses to the question about how they knew about Singgora tiles. The result shows that the highest sources of knowledge were gained from existing historic buildings (66%). This positive response shows that there are still many buildings covered with this type of roof tile in these areas. In addition, 24% of the respondents said that they knew about Singgora tiles by the fact that the house of their grandparents had this type of tile as the roof covering. Only three of the respondents (10%) were staying in houses covered with Singgora tiles.

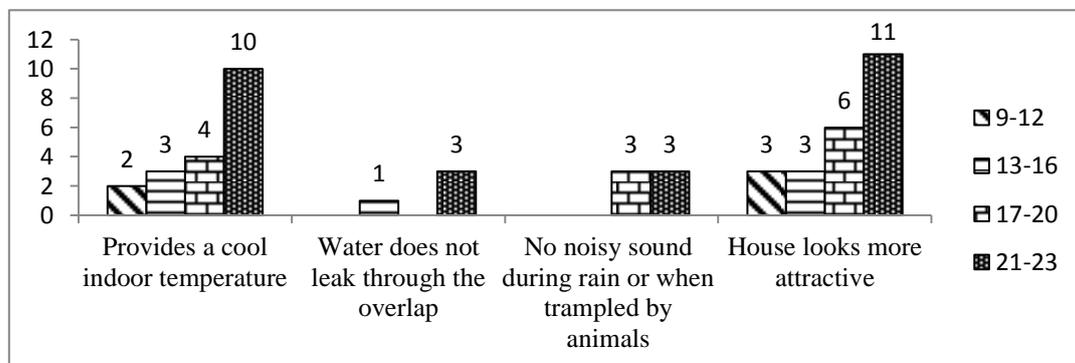


Figure 7: Perception of teenagers and children about Singgora tiles.

In referring to Figure 7 above, the survey data denotes that the majority of respondents (83%)

consider Singgora tiles to have contributed more attractive features to the house, and that they cooled the indoor temperature (68%). This answer was mostly selected by young adults ranging from 21 to 23 years old. The survey findings show that 14% of the respondents agree with the statement that water does not leak through the overlap of the Singgora tiles in the roof frame. It can be said that the installation method of Singgora tiles is effective although they were just hung in the batten, and they do not produce noise when it rains, as stated by 21% of the respondents. This research points out that these young people and children are aware about the advantage of using Singgora tiles compared to other tiles. When they were asked whether they were interested to use Singgora tiles as roof covering in future, 62% of them chose to answer 'yes'. This percentage, in so far as our survey is concerned, provides some evidence that the Singgora tile industry has the opportunity to be redeveloped.

## CONCLUSIONS

Based from findings, we can conclude that the majority of the community from older generation aged between 24 to 65 years old knows about Singgora tiles while the new generation's knowledge of Singgora tiles is decreasing with age. Most of the older generation have experienced using Singgora tiles as roof covering in their houses, but most of the young generation are aware the existence of these tiles because they were still in used for old and traditional buildings. Majority of older generation are interested to use Singgora tiles if their quality is improved provided that the price is cheaper and easily available in market. Most of the new generation had a positive perception about the characteristics of Singgora tiles. They are also interested to use Singgora tiles as roof covering in their houses in the future due to its aesthetic and comfort characteristics.

## ACKNOWLEDGEMENT

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