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Maintenance work for heritage buildings in Malaysia: owners’ perspectives

Umi Kalsum Zolkafli, Norhanim Zakaria, Aina Mohammad Mazlan and Azlan Shah Ali
Faculty of Built Environment, University of Malaya, Kuala Lumpur, Malaysia

Abstract

Purpose – The purpose of this paper is to establish the impacts of good maintenance work for heritage buildings in Malaysia. This purpose is achieved through identifying factors that lead to the lack of maintenance of heritage buildings, establishing strategies to overcome the lack of maintenance of heritage buildings and analyzing the impact of good maintenance work on heritage buildings in Malaysia.

Design/methodology/approach – A quantitative method was employed for this study to identify the variables that most influence the maintenance of heritage buildings in Malaysia. The respondents were the owners of the heritage buildings in Peninsular Malaysia. There were 65 owners of heritage buildings identified from the official website of the Department of National Heritage, Ministry of Tourism and Culture, Malaysia. Simple random sampling was used to obtain the sample size of the targeted respondent. A total of 56 questionnaire surveys were distributed to the owners of heritage buildings. In total, 37 respondents returned the completed questionnaires, resulting in a response rate of 66 percent. The data were analyzed by Descriptive Statistics using Statistical Package for the Social Science software version 20.

Findings – Results show that the factors that lead to the lack of maintenance of heritage buildings are limited finance, the absence of maintenance guideline and ill-defined maintenance policy. The strategies to overcome the problem include providing a financial budget by the respective authorities, establishing a standard maintenance guideline and revising the existing policy.

Research limitations/implications – The paper is limited to the identification of factors that lead to a lack of maintenance and strategies to overcome the problem for the heritage buildings in Malaysia. The respondents are the owners of heritage buildings in Malaysia. The focus is given to them due to the fact that it will help them in understanding the importance of managing and operating for their buildings.

Practical implications – The results offer value-added information to building managers who are responsible for maintaining heritage buildings. Findings show that good maintenance work on heritage buildings can enhance the value and safety of the building as well as preventing heritage buildings from deteriorating.

Social implications – The quality of maintenance could be enhanced by focusing on the important variables that affect the quality of maintenance works of heritage buildings.

Originality/value – Limited studies had been carried out in the context of the maintenance of heritage buildings, especially in Malaysia.

Keywords Heritage building, Maintenance, Conservation

Paper type Research paper

1. Introduction

The concept of conservation of heritage buildings in Malaysia was initiated approximately four decades ago. Heritage buildings have their own historical, esthetical, social, archeological, cultural, architectural, documentary and even symbolic values that need to be protected (Mohd-Isa et al., 2011). Many heritage buildings are still in poor conditions with signs of serious defects, threatening their existence because legislations related to heritage buildings do not sufficiently address the issues related to their maintenance and management, thereby resulting in poor maintenance and management practices which eventually lead to the deterioration of these buildings (v-Sodangi et al., 2013; Zolkafli et al., 2017). Amir and Robiah (2007) found that the proposed good maintenance process seemed to be neglected. Meanwhile, Forster and
Kayan (2009) mentioned that a maintenance program is often not properly implemented even though it is the best way to protect heritage buildings. According to previous studies by Rahman, Ashraf, Akasah, Abdullah and Musa (2012) and Rahman, Akasah and Zuraidi (2012), maintenance seemed to be overlooked and not properly addressed, which led to the decaying of the buildings that were valuable assets to the country. Rashid and Ahmad (2011) highlighted that the lack of understanding in conservation works and the significance of scheduled and systematic maintenance as part of conservation practices are some of the reasons why the maintenance of heritage buildings is often disregarded. The maintenance work for heritage buildings is often neglected, leading to the decaying of the structures and resulting in an unsafe building condition for the users and occupants (Paiman, 2002). Without a systematic maintenance approach, the heritage buildings will not function accordingly due to the continued deterioration of the buildings. The lack of awareness and recognition of heritage buildings is the main reason why these buildings have been left in decayed conditions without any appropriate maintenance works (Utusan Malaysia, 2007a, b). According to Berita Harian (2005), there have been cases where only the façades of heritage buildings were maintained with the backsides and alleys being neglected. Robiah and Ghafar (2010) confirmed that poor maintenance works can cause various building deterioration problems that can result in millions of ringgits worth of repairs and conservation efforts. Therefore, the aim of this paper is to demonstrate the impact of good maintenance work on heritage buildings in Malaysia. This aim is achieved through the following objectives: to identify the factors that lead to the lack of maintenance of heritage buildings; to establish the strategies to overcome the lack of maintenance of heritage buildings; and to analyze the impact of good maintenance work for heritage buildings in Malaysia.

2. Maintenance of heritage buildings

Keromo (2006) stated that maintenance is one of the conservation activities. Maintenance is different from other activities in conservation that it must be done in a continuous way and not just depending on need. Additionally, Ahmad (2006) mentioned that building maintenance can be described as a process of protecting and keeping the building at a certain level of standard to benefit the users, and it is a significant part of building management to maintain the functionality of the building. Maintenance includes all technical and practical works in order to ensure that the heritage buildings are being appropriately maintained so they do not decrease in value and significance (Feilden and Jokilehto, 1998). This paper adopts the definition of maintenance provided by Ahmad (2006). Also, Dann and Cantell (2005) further added that regular maintenance remains the most suitable and appropriate way of maintaining heritage buildings. In fact, maintenance is a continuous care process that involves repair works conducted on the building elements to retain the best condition that can prolong the lifespan of such structures for as long as possible (Dann et al., 1999; Forsyth, 2007). Meanwhile, Mustapa et al. (2003) further added that great maintenance work is a must in extending the heritage buildings’ life and avoiding any potential troublesome repair works which can affect the value of the heritage buildings. Therefore, it can be concluded that maintenance is crucial for heritage buildings. Amir-Fasha (2010) highlighted that the best maintenance works not only include maintaining the buildings’ functionality but also preserving its own uniqueness from the passage of time. Even though there is an enactment of the National Heritage Act 2005 and establishment of the National Heritage Department in Malaysia, there are still many heritage buildings remaining in poor conditions with signs of serious building defects threatening their survival (Forster and Kayan, 2009). Therefore, in order to improve the maintenance of heritage buildings, it is crucial to understand why there is a lack of maintenance work for heritage buildings and how to improve it.
2.1 Factors that lead to the lack of maintenance work for heritage buildings

Most heritage buildings’ maintenance works are influenced by some related problems that affect the overall building conservation approach, resulting in the lack of maintenance works in these heritage buildings (Kayan, 2005). According to Rahman, Ashraf, Akasah, Abdullah and Musa (2012) and Rahman, Akasah and Zuraidi (2012), the absence of standard guidelines for the owners to refer to in maintaining their heritage buildings is one of the reasons why the right maintenance principles are not applied for heritage buildings. Standard guidelines in maintaining heritage buildings are very important in curbing the inevitable decay and deterioration of building fabric due to climatic conditions, wear and tear by building users, neglect and other threats. Missing of the standard guidelines will increase the ignorance level of the owner of a heritage building. Abdul-Rashid and Ahmad (2011) disclosed that the lack of periodic inspection by the authorities for heritage buildings is also an issue closely relating to the non-compliance of the maintenance works, resulting in building decay. There are also some buildings the maintenance works of which were postponed due to financial constraints (Hashim and Mydin, 2012). As heritage buildings involve conservation that obviously requires different approaches to their maintenance, there is practically a lack of workers with skills and technical expertise in conservation techniques (Harun, 2011). The fact that new or modern materials cannot be used on heritage buildings complicates maintenance work for heritage buildings as some of the original materials are no more being manufactured (Hashim and Mydin, 2012). Ahmad (2002) pointed out that maintenance is usually not prioritized by the heritage building owners as they lack the understanding and awareness of the significant value of the buildings. It can be concluded that a lot of factors contribute to the lack of maintenance of heritage buildings. Therefore, it is important to identify factors that most influence the lack of maintenance of heritage buildings so that necessary action can be taken to improve the situation.

2.2 Strategies to overcome the lack of maintenance work for heritage buildings in Malaysia

A good approach in maintaining heritage buildings can only be applied when there is an established comprehensive and standard guideline that can be referred to by the owner of the buildings, which currently does not exist in Malaysia (Idrus et al., 2010). Good maintenance management for heritage buildings needs to adopt true regular and scheduled inspections in order to conserve the cultural significance of the buildings and help in long-term maintenance planning (Sodangi et al., 2011). To provide an effective heritage building administration, the responsible parties need a higher budget to meet the overall cost of heritage buildings’ maintenance work in order to ensure the building is in its best condition (Ali et al., 2016; Hashim and Mydin, 2012). The maintenance work weaknesses in conserving the heritage buildings can be overcome by developing an effective maintenance plan. This can provide better outline and procedures on how maintenance can be managed and carried out accordingly (Sodangi et al., 2011). Maintaining heritage buildings requires special skills from selected skilled workers who have a wide knowledge of heritage building maintenance works. Training on maintenance management system is required for all staff involved in maintaining heritage buildings. To create awareness of the heritage value, suitably designed courses should be included in the curricula of colleges and schools. The training and motivation in these areas can help spread the message of heritage conservation (Shankar and Swamy, 2013). Sodangi et al. (2011) highlighted that there is the need for information management in order to handle and store important maintenance information as the records can show the past development and the condition of the building over time, maintenance works undertaken before and the amount spent on the building and also help in deciding on areas to spend the money budgeted for maintenance work.
2.3 Impact of good maintenance work on heritage buildings in Malaysia
Harun (2011) highlighted that the elements and materials of heritage buildings will decay over time; therefore, they need regular maintenance. It is generally recognized that taking care of heritage buildings is not easy, but it is not an excuse to ignore the importance of maintenance work in these buildings, especially in ensuring the safety of public and their properties (Dann and Wood, 2004; Rahman, Ashraf, Akasah, Abdullah and Musa, 2012, Rahman, Akasah and Zuraidi, 2012). Heritage buildings that are still standing have been declared as valuable assets for this country and they will not benefit or reach their optimum impact if their maintenance is neglected. In maintaining heritage buildings, the originality and functionality of the building need to be conserved without damaging its physical structure (Bullen and Love, 2011; Rahman, Ashraf, Akasah, Abdullah and Musa, 2012; Rahman, Akasah and Zuraidi, 2012).

Best maintenance practice can prevent conditions that increase future cost. For example, as the buildings still retain their originality in terms of the structures and material used, the possibility in getting a replacement with same sources is hard and difficult (Ali et al., 2018; Rahman, Ashraf, Akasah, Abdullah and Musa, 2012; Rahman, Akasah and Zuraidi, 2012). If there is no appropriate maintenance work conducted in the heritage buildings, these buildings will deteriorate and be demolished, thus resulting in the loss of historical marks, and will not be able to be passed to future generations (Abdul-Rashid and Ahmad, 2011). Heritage buildings are considered as highly valuable assets in Malaysia due to their strong influence in motivating and attracting tourists to visit the country. The significance of these heritage buildings highly depends on their condition. To put it another way, effective and good maintenance works can keep the buildings in a better condition and thus able to continue to generate interest among tourists to visit the country (Sodangi et al., 2011; Aigwi et al., 2018).

3. Research methodology
The scope of this research covers the heritage buildings in Peninsular Malaysia that have been declared as National Heritage property. A quantitative technique using a questionnaire survey has been adopted as the main tool in collecting data for this study. There were 65 identified owners of the heritage building. The list was obtained from the official website of the Department of National Heritage, Ministry of Tourism and Culture Malaysia. A total of 56 questionnaire surveys were distributed to the owners of the heritage buildings located in Peninsular Malaysia through random sampling. The questionnaires were distributed through e-mail, phone and direct meeting. Each of the respondents was given one copy of the questionnaire to be answered. The respondents were asked the factors leading to the lack of maintenance of heritage buildings, strategies to improve and the impact of good maintenance work on heritage buildings in Malaysia. The respondents were instructed to complete the questionnaire based on their experience in handling their buildings’ conservation. About 37 owners replied the questionnaire and appropriately completed the questionnaires without any question left blank. Data obtained from the returned questionnaire were sorted out and analyzed using Statistical Package for the Social Science (SPSS) software version 20.0. The reliability test showed Cronbach’s $\alpha$ scores of 0.696, 0.886 and 0.883 for the factors, strategy and the impact of good maintenance, respectively. The Cronbach’s $\alpha$ reading of more than 0.60 was considered acceptable for reliability coefficient (Santos, 1999). A selected appropriate statistical test was employed using the SPSS software, based on the types of data. The descriptive statistical test was used for the data analysis and presentation. Ultimately, conclusions were drawn up to summarize the data gained from the questionnaire survey and literature review.

4. Results and discussion
A total of 56 questionnaire surveys were distributed and the rate of response was 66 percent from 37 returned questionnaires.
Table I shows that 70 percent of the respondents are male and 30 percent are female. This indicates that the majority of heritage building owners are male. Analysis on the age of respondents shows that only 8 percent of the respondent ages are below 30 years, 24 percent between 30 and 40 years old, 32 percent between 41 and 50 years and 24 percent between 51 and 60 years. This result shows that 92 percent of the respondents are more than 30 years old, indicating that the respondents are well experienced to give their opinion and views on the maintenance of heritage buildings.

On the types of heritage buildings owned by the respondents, both educational and administration buildings are 27 percent each. Meanwhile, 16 percent are residential buildings, 14 percent are religious buildings, 11 percent are commercial buildings and 5 percent are other buildings.

Analysis of the current status of the maintenance work for the heritage buildings shows that 51 percent are in poor condition, 35 percent are in average level and 14 percent are in good conditions. This indicates that most of the heritage buildings which are privately owned are in a poor condition.

Analysis of the factors pointing to the lack of maintenance was also carried out. Strategies to overcome the lack of maintenance work and the impact of good maintenance work were analyzed on the Likert scale using ranking analysis. The respondents were asked to respond on a scale from 1 (strongly disagree) to 5 (strongly agree). The ranking on the degree of agreement for the factors that lead to the lack of maintenance work for heritage buildings used the mean score to indicate the degree of agreement for these items.

Table II shows the result of the mean and ranking of the factors that lead to the lack of maintenance work for heritage buildings in Malaysia. The overall result shows that the top three factors are “limited financial to carry out the maintenance work,” followed by “absence of maintenance guideline” and “unclear maintenance policy.” “Limited financial” achieved the highest mean score of 4.81. This result is in line with the statement given by Idrus et al. (2010), where they pointed out that the main problem in carrying out the maintenance work for heritage buildings is insufficient financial capacity.

<table>
<thead>
<tr>
<th>Demographic profile</th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Respondent’s gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>26</td>
<td>70</td>
</tr>
<tr>
<td>Female</td>
<td>11</td>
<td>30</td>
</tr>
<tr>
<td><strong>Respondent’s age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 30 years</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>30–40 years</td>
<td>9</td>
<td>24</td>
</tr>
<tr>
<td>41–50 years</td>
<td>12</td>
<td>32</td>
</tr>
<tr>
<td>51–60 years</td>
<td>9</td>
<td>24</td>
</tr>
<tr>
<td>&gt; 60 years</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td><strong>Types of heritage buildings</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>Commercial buildings</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Administration buildings</td>
<td>10</td>
<td>27</td>
</tr>
<tr>
<td>Educational buildings</td>
<td>10</td>
<td>27</td>
</tr>
<tr>
<td>Religious buildings</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Others</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td><strong>Current status of the maintenance of heritage buildings</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>19</td>
<td>51</td>
</tr>
<tr>
<td>Average</td>
<td>13</td>
<td>35</td>
</tr>
<tr>
<td>Good</td>
<td>5</td>
<td>14</td>
</tr>
</tbody>
</table>

Table I. Demographic profile of the respondents
This statement is also supported by Hashim and Mydin (2012), who indicated that some heritage buildings need to postpone their maintenance work due to the lack of money. The financial budget provided by the government is not enough (Abdul-Rashid and Ahmad, 2011).

“Absence of maintenance guideline” achieved the second highest mean score of 4.57. Idrus et al. (2010) stated that there are no specific guidelines on how to manage maintenance work for heritage buildings and this result in poor maintenance work being carried out. The absence of standard guidelines as a reference for the owner is also one of the reasons why maintenance is not carried out according to the right principles (Rahman, Ashraf, Akasah, Abdullah and Musa, 2012; Rahman, Akasah and Zuraidi, 2012). Additionally, Abdul-Rashid and Ahmad (2011) further indicated that there is no example of a guideline in assisting maintenance workers, which, in turn, leads to the lack of a maintenance policy for heritage buildings.

Table II also shows the overall mean for “unclear maintenance policy” to be 4.49. This result is supported by v-Sodangi et al. (2013), who noted that there is no clear policy on maintenance works for heritage buildings that can assert cultural significance as the key driver for maintenance planning and implementation.

In Table III, the results on the strategies to overcome the lack of maintenance work for heritage buildings in Malaysia are shown. The overall result shows that the top three strategies are “provide a financial budget for maintenance,” followed by “enhance maintenance policy” and “establish standard guideline.” This shows that providing a financial budget for maintenance achieves the highest mean score of 4.86. In addition, Hashim and Mydin (2012) mentioned that the responsible parties need to provide a higher financial budget in order to ensure the buildings are in their best condition with the effective maintenance. This is supported by Queensland Government (2004), who stated that some budget must be allocated in order to conduct routine maintenance to prevent any spending
of large amounts of money possibly to repair defects that have occurred due to the failure of conducting continuous maintenance works. Besides that, if there is a lack of fund or budget, the maintenance of heritage buildings can be done in stages by giving priority to the most important and urgent/critical maintenance issues.

“Enhance maintenance policy” was ranked the second highest for strategies to overcome the lack of maintenance of heritage buildings with a mean score of 4.59. This shows that the enhancement of maintenance policy is one of the important strategies. v-Sodangi et al. (2013) highlighted that a clear maintenance policy is important in linking the assessment of the cultural significance of heritage buildings for maintenance implementation and can prevent the lack of maintenance of heritage buildings. The policy and guidelines in maintaining heritage buildings need to be revised and enhanced. The more stringent policy should be included if there is non-compliance by the owners in maintaining their heritage buildings.

Table III also shows that the third-ranked strategy is “establish standard guideline” with an overall mean score of 4.57. This result supports Idrus et al. (2010), who stated that a good maintenance approach for heritage buildings can only be applied when there is a comprehensive and standard guideline established to act as a reference for the owner of the buildings. In fact, Abdul-Rashid and Ahmad (2011) mentioned the need for proper guidelines to help in conducting maintenance works accordingly and to achieve standardization.

The overall result for the impact of good maintenance work on heritage buildings indicates that the top three factors are “enhance heritage buildings’ value,” followed by “provide safety for occupants” and “prevent heritage buildings from decay.”

Table IV shows that “enhance heritage buildings’ value” has the highest impact with a mean score of 4.86. Fortunately, Rahman, Ashraf, Akasah, Abdullah and Musa (2012) and Rahman, Akasah and Zuraidi (2012) mentioned that heritage buildings now have been declared as valuable assets in Malaysia. In maintaining the buildings, their originality and functionality, they need to be conserved without any damage to their physical structure to enhance the buildings’ value. A good and efficient maintenance can enhance the value of the heritage buildings. This is supported by Harun (2011), who stated that a good maintenance approach is important to protect the significant values of the heritage buildings.

“Provide safety for occupants” was ranked as the second highest with a mean score of 4.81. Rahman, Ashraf, Akasah, Abdullah and Musa (2012) and Rahman, Akasah and Zuraidi (2012) mentioned that good maintenance work for heritage buildings can ensure the safety of public life and their properties. According to Hashim and Mydin (2012), good maintenance work for heritage buildings helps to give the satisfaction of facilities available, safety and comfort to the users.

The item ranked third was “prevent heritage buildings from decay” with a mean score of 4.81. Harun (2011) stated that good and regular maintenance of heritage buildings can prevent the continuous decay of the buildings which can result in the destruction of the buildings.

<table>
<thead>
<tr>
<th>Maintenance work for heritage buildings</th>
<th>Mean</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhance the heritage building’s value</td>
<td>4.86</td>
<td>1</td>
</tr>
<tr>
<td>Provide safety for the occupants</td>
<td>4.81</td>
<td>2</td>
</tr>
<tr>
<td>Prevent heritage building from decay</td>
<td>4.81</td>
<td>3</td>
</tr>
<tr>
<td>Avoid the demolition of a heritage building</td>
<td>4.76</td>
<td>4</td>
</tr>
<tr>
<td>Raise public awareness</td>
<td>4.57</td>
<td>5</td>
</tr>
<tr>
<td>Avoid increasing cost in the future</td>
<td>4.35</td>
<td>6</td>
</tr>
<tr>
<td>Enhance tourism industry</td>
<td>4.27</td>
<td>7</td>
</tr>
</tbody>
</table>

Table IV. Impacts of good maintenance work on heritage buildings in Malaysia
This is supported by Rahman, Ashraf, Akasah, Abdullah and Musa (2012) and Rahman, Akasah and Zuraidi (2012), who stated that there is no doubt heritage buildings will rapidly decay if good and better maintenance work is not carried out.

5. Conclusion
As heritage buildings have their own value and significance, they must be protected and preserved. Heritage buildings will deteriorate as time passes and thus need continuous care and regular maintenance to prevent defects and decay. All the maintenance problems arising should be studied first in order to know the factors that contribute to the problems. The owners of heritage buildings can utilize the findings in this study to help them in managing and operating their buildings in effective ways, mainly in the maintenance aspect such as managing the budget. Heritage buildings are valuable assets for Malaysia and the society needs to appreciate and be aware of their important values that should be passed down to the future generation. In order to protect these heritage buildings, maintenance works need to be properly and regularly carried out without affecting their original value. The factors that lead to the lack of maintenance work for heritage buildings need to be addressed. A standard guideline on how to correctly manage maintenance work needs to be established. Each individual needs to own up to responsibly taking care of these valuable buildings instead of just depending on certain parties.

References


**Further reading**


**Corresponding author**

Azlan Shah Ali can be contacted at: asafab@um.edu.my

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