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MAINTENANCE MANAGEMENT SYSTEM OF ADMINISTRATION HERITAGE BUILDINGS IN MALAYSIA

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ABSTRACT: Maintenance activities are being carried out continuously to ensure that the building can function effectively at all time. Maintenance of the historic buildings is a routine activity that should be carried out because the historic building should the heritage values and were left by the previous generation. Therefore, maintenance work plays an important role in order to maintain and sustain the quality and safety of visitors to these buildings. Additionally, the maintenance activities aim to keep the heritage buildings in the original condition without altering the original structure and design. Thus to achieve this, an effective and systematic maintenance is required in addition to the high maintenance cost. Therefore, management of maintenance that will govern, plan and carry out all maintenance work procedures that will determine the effectiveness of maintenance activities carried out in one building. This study focuses on historic buildings in Georgetown, Penang specifically in the administration building.

KEYWORDS: building maintenance, management system, heritage building Georgetown

INTRODUCTION

The purpose of this paper is to look at the maintenance and maintenance management of administration heritage buildings in Georgetown Penang, Malaysia. This paper presents the maintenance managements system of administration heritage building done on Town Hall building as shown in Figure 1 and Georgetown World Heritage building as shown in figure 2.



Figure 1: Town Hall Building



Figure 2: Georgetown World Heritage building

Figure 1 show the Town Hall building, is located along Jalan Padang Kota Lama, the old Town Hall was the oldest Municipal Building in Penang. Its foundation was first laid on 1st January 1879 by Lt. Governor Sir Archibald Edward Harbord Anson. Upon completion in 1880, the building was officiated by Frederick Weld, the then Governor of the Straits Settlements.

The Old Town Hall was once a premier place for George Town's social events, balls, public speeches, art exhibitions and amateur concerts for the town's European community. Apart from administrative and social functions, the Old Town Hall housed the Penang Library for more than 20 years after the Prince of Wales Library was moved there from the old Chinese Protectorate Office in Downing Street. (igeorgetownpenang)

Meanwhile figure 2 show the Penang Heritage Centre (GTWHI), is located in the Syed Alatas Mansion at 128 elegant, Armenian Street, Penang Museum, in august 2002 Penang Heritage Centre has been transferred to the Street And Armenian Carvon. The Heritage Centre, Penang is housed within the elegant Syed Alatas Mansion at 128, Armenian Street, the site of a successfully completed pilot restoration project for the conservation and rehabilitation of Penang's historic Acheen Street – Armenian Street cultural heritage enclave.

Penang Heritage Centre is a government body under the State Economic Planning Unit of the Penang State Government. It was set up in June 1995 with an objective to instil a sense of awareness of local history and cultural heritage and to encourage developers, property owners and heritage lovers to restore heritage buildings by realising their economic potential. With the inscription of George Town as a UNESCO World Heritage Site, the centre is now also the World Heritage Office.

This research focuses on the heritage administration building, located at Georgetown, identify the practices of the care of historic buildings, identify the parties involved in the work of maintenance and management as well as infrastructure facilities provided for the use and comfort of the target occupied and do not forget maintenance costs involved in carrying out maintenance work during its execution.

Maintenance work performed on the island's historic buildings is important to continue to make this building can be used and always in good condition. Apart from that, it is also important for us to maintain the historic treasures value as heritage building which has already received worldwide recognition and recognized by united nation, education scientific cultural organization (UNESCO)

Maintain the historic values of the building are very important in economic development especially in the tourism sector. Therefore essential to ensure the quality of the historic building continues to be emphasized. In addition, the policies laid down by the authorities in the maintenance work and management also is an important role to serve as guidelines to the authorities to set out maintenance work. With the management and the efficient and effective Maintenance is needed in the care and restoration of historic buildings.

METHODOLOGY

In order to collect the information from these departments involved in a maintenance system of administration heritage building, a few procedures are followed. First of all, the approvals from the owner or his representative must be obtained. After got the permission, the observation survey on site at both of case study was taken to know the actual condition of building.

Besides that, literature review for writing the previous studies on the effectiveness of maintenance management including maintenance management practices implemented in the heritage administration building at Penang. Another research methodologies were used is a archived data from the responsibilities to get early information for this study and prepared the researcher some knowledge about the maintenance management.

Research methods in a structured interview (interview survey) to the practitioner who is experienced in the management maintenance of public facilities (government) in the set of indicators measuring effectiveness of maintenance management. The target group in the implementation of this research are from the building management, the heads of offices, staff and the technicians involved in maintenance management and maintenance work on building which chosen the site of a research.

Buildings Maintenance Management system

The definition was given by committee on Building Maintenance BS 3811:1976 is a improve the facilities or to restore it. For example every of the building, it is services and surrounds to a currently acceptable standard and to sustain the utility and value of the facility.

For building maintenance work and management, especially government buildings in the Penang Town Hall building in particular, it will be maintained by the department of building maintenance unit building under regulation, the local planning authority, Penang Island Municipal Council (MPPP).

According to Fairuz Ikmal (2005) defines the maintenance management as the activities carried out for the purpose of protecting the building to stay in good condition, safe, and can perform its functions properly.

Thus, apart from the department of building maintenance units, the Council has set up a department which in charge of quality and value of heritage buildings around the world that are the heritage department of Georgetown. Heritage department was established in 2011 after Georgetown received recognition as a UNESCO world historical city in 2008.

Recognising the importance of maintenance work, a management organization in monitoring the course of work is very crucial. Maintenance management is an important aspect in the performance of maintenance work, especially in historic buildings.

Based on "Jabatan Warisan Negara" (2009) gave defines a heritage building as a building or groups of separate or continuous buildings that because of architecture, design landscaping, and have outstanding universal value from the historical, artistic or scientific.

Historic buildings require special maintenance to sustain its aesthetic value from the ancient times, it can be seen in terms of building materials, the unique architecture and historical heritage values still exist in every heritage building.

For historic buildings which are privately owned, the owner's own the responsibility for maintaining and safeguarding the value of history in the heritage buildings and these activities will be monitored by the department in advisory member.

ASSESSMENT OF MAINTENANCE MANAGEMENT SYSTEM

In the maintenance managements system, a few factors need to consider before do be an effective system. In this research has been find the factors which are important to be considered in Maintenance managements system at the administration Heritage Building are listed as few factors. The most important factors in Maintenance Management System are 'cost/budget'.

i. Cost/Budget Of Maintenance

The cost/budget of maintenance is the most important factor in the Maintenance Management System at Administration Heritage Building is derived from the interview with the officers Unit Maintenance of Building Department.

Based on the interview with Mr Juhan (Penolong Pegawai Seni bina Kanan) at Unit Maintenance of Building Department, the cost/budget are main factors in the does the maintenance work. Because of the building is an old building, which regular maintenance needs work to ensure that building still in good condition.

Besides that, to be maintenance effective on the administration heritage building, the responsible bodies need a higher cost to manage the overall cost of maintenance on the heritage building.

ii. The material

The case study is an administration heritage building which has been built for many years, so the problem for that building which is always occur either involving for that building or the structure. So the second factors are a material. The damages are big problem for the heritage building. Because of that, the maintenance work needed to improve quality and safety For Town Hall Building and the Georgetown Heritage Centre Building.

Because it involves the heritage value which the maintenance officer need to preserve the value of historical for each building, so the technician maintenance must use the same material to replace the damage inside/outside the both of building.

iii. Workers

The workers are the main asset to manage and carry out the maintenance work and also being a third factors need to consider. For the maintenance on the administration heritage building, skilled and unskilled workers are highly needed because of the need to maintain the heritage value on historical building.

The skill workers will manage and guide the maintenance work and the unskilled worker will be a person to do the maintenance work on site. So both of them are related to each other.

iv. Management organization chart

The next factors are a management organization chart is responsible shown by the position and the tasks. The organization chart is a management team which involve in the maintenance work for each case study, a Town Hall Building and the Georgetown World Heritage Centre Building.

There are group of individual which responsible in plan of maintenance work either for the future plan work or the current maintenance work. Besides that, there are also responsible to control the operation of maintenance work based on the guideline because as a discussed before the maintenance work for the heritage building need a special maintenance work.

v. Procedure of work

The maintenance work for the heritage building is a different with the current building, this is because besides to maintain the building condition, the maintenance responsible also need to preserve the value of architectural and the historical for both of building.

So the formal scheduled work must provide to make it clear and effectiveness. And also to make a maintenance team know and easy for them to carry out of maintenance work. From that also indirectly make the maintenance work be effectiveness and the building permanent the quality.

vi. The professional skill

The professional skill is human resources which have a special skill and idea to do the maintenance work and solve the problem occur in the building. This person is most important person to make maintenance work done effectiveness and building in a good condition and safety. The professional skill will responsible with the maintenance work and give the direction especially to the technician involves in the maintenance of Town Hall Building and the Georgetown Heritage Centre Building. He/she will guide the procedure of work maintenance and ensure the both of building safe to the occupants.

Maintenance works a most important thing to given a good performance of heritage building. There are several factors that should be considered in regard to maintenance work so that maintenance work can provide a satisfactory outcome for all parties. Among the factors to be considered are:

i. Factor of Safety

Safety factor is an important factor whether involving employees who maintain the buildings or public buildings. Work in assessing the extent to which security features can be harmful to humans must be done carefully and efficiently. Each of the damage should be recorded to enable the correct action performed. Building near the public interest must also be considered.

ii. The Comfort of Occupants

The situation is critical to create a comfort to the users of the building. Systematic maintenance system is important so that all the facilities available in it can give satisfaction and comfort to the public. A historic building that has a good maintenance system is able to attract the attention of the public and

this will certainly attract the tourists. Good maintenance system is very important, especially for historic buildings that have a high historical value and caught the attention of tourists.

iii. Increased The Costs

The purpose of maintenance carried out on a historic building is to ensure that the building will always be in good condition and satisfies all parties who use the building. With the maintenance of the system is able to control the rising costs involved. This is because if any damage is left for too long without any improvement then likely will become more serious damage and indirectly need a higher cost to repair the serious damage.

CONCLUSIONS

Maintenance objectives should be consistent with the subordinate to achieve the goals of the building. The relation between maintenance objectives and production goals is reflected in the action of keeping the building in a good condition or other product and the facilities and services in the best possible condition especially in heritage building.

This article has been discussed about how maintenance department is organized in administration heritage building in Georgetown Penang. Thus, it can be suggested that there must be a strong relationship between the management system and maintenance work and those administration managements should be considered good which were proved as less demanding in terms of maintenance.

This research has revealed several important factors which need consider at maintenance managements system of heritage building. The work has aided understanding of avoidable building maintenance management's issues caused by administration system faults. The consequence of poor managements system has been considered from the minimum level of maintenance work such as many problems occurs on heritage building.

REFERENCES

- [1.] Ahmad, R.B.H. (2006) Maintenance Management and Services (Case Study: PERKESO, Buildings in Peninsular of Malaysia), Unpublished Master's Thesis, University Technology Malaysia.
- [2.] The Chartered Institute of Building (1984) Managing Building Maintenance, British Library Cataloguing in Publication Data.
- [3.] Herbert W. Stamford III, PE (2010) Effective Building Maintenance, Protection of Capital Assets, The Fairmont Press, Inc.
- [4.] Mohd Sabri Bin Mat Deris (2007) Tahap Keberkesanan Pengurusan Penyelenggaraan Fasiliti Bangunan Di Sektor Awam Malaysia (University of technology Malaysia)
- [5.] Mahmoud Sodangi(2010) Maintenance Management Framework for Conservation of Heritage Buildings in Malaysia, Moden Applied Science Journal Mahmoud



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