



THE MAINTENANCE MANAGEMENT OF MASJID
BUILDINGS IN FEDERAL TERRITORY OF
KUALA LUMPUR AND PUTRAJAYA

BY

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A dissertation submitted in partial fulfilment of the
requirements for the degree of Master of Science in
Building Services Engineering

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ABSTRACT

This research explores whether maintenance management exists at 54 masjids in Wilayah Persekutuan Kuala Lumpur and Putrajaya and to assess the performances of the maintenance program there. The relevant personnel of the masjid were interviewed based on the structured questionnaires. This research is an exploratory research whereby, it will look into the basic question of maintenance in masjid, to find out whether or not maintenance management exists for masjid buildings. Literature review shows no evidence of maintenance management of masjid. The objectives of this research are to find out the availability of information and documentation of maintenance management and to assess the performance of maintenance management. The research methodology is by conducting site visits to the selected representative masjid, developing structured questionnaires, interviewing maintenance management personnel and conducting the data analysis. As the results, it is found that best practice of good house-keeping, effective management and sufficient maintenance cost budgets affected the performance of maintenance management of the masjid buildings. The performance of the maintenance management in masjid need more improvement on the strategic and structure framework on the maintenance management.

Keywords: Maintenance, Maintenance Management, Masjid

ملخص البحث

يستكشف هذا البحث ما إذا توجد إدارة الصيانة لـ 54 مسجداً بولايته برسيكوتون كوالا لمبور، وبتراجايا، ويُقيّم طريقة الأداء لبرنامج صيانتها. وقد أجريت مقابلات مع أشخاص ذات الصلة من موظفي المساجد عن طريق الاستبيانات. وهذا البحث هو بحث الاستكشافي، حيث يتم بموجبه على تركيز مسائل المتعلقة للصيانة، لمعرفة وجود إدارة الصيانة لبناء المساجد أو عدم وجودها. الدراسات السابقة تظهر إلى أنه ليس هناك البراهين لإدارة الصيانة لتلك المساجد. وتتمثل أهداف البحث للعثور على معلومات ووثائق الدالة على وجود إدارة الصيانة، لتقيّم كيفية أداء العمل. و منهجية البحث يتم عن طريق القيام بزيارات أعضاء ممثلي المساجد ، وتطوير الاستبيانات المركبة، وإجراء مقابلات مع الأشخاص القائمين بالصيانة، ومن ثم تحليل المعلومات لنتائج. و اكتشفت الدراسة عن وجود صيانة جيدة، وإدارة فعالة ، وميزانيات كافية لتغطية التكاليف والتي أثرت على أداء إدارة صيانة المباني ، إلا أن إدارة الصيانة لهذه المساجد ما زالت في حاجة إلى تحسين إطار البنية الاستراتيجية والتركيبية.

APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion; it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Master of Science (Building Services Engineering).

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DECLARATION

I hereby declare that this dissertation is the result of my own investigation, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

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IN FEDERAL TERRITORY OF KUALA LUMPUR AND PUTRAJAYA**

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This dissertation is expressly dedicated to my beloved father, Haji Abdul Rasid Mohd. Dahlan who always there to support and encourage me in life; and always inspired me with his knowledge and experiences. I know that he would be the happiest father in the world to know that his daughter has successfully completed her thesis; and to my beloved mother, Hajjah Latifah A. Majid, for her continuous blessings and prayers and whose love and guidance throughout my life, can never be repaid. May Allah in His infinite Mercy blessed both of you with good health, wealth and happiness, in this world and hereafter...Amin.

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CHAPTER ONE

INTRODUCTION

1.1 RESEARCH BACKGROUND

This exploratory research will look into the basic question of maintenance in masjid, in the first place, whether or not maintenance management exists. Good maintenance management systems are essential for economic viability and operational safety (Rapp and George, 1998). Safety should be the main objective since during mass prayer many lives involved if there is a disaster. Economic viability is the other main objective of maintenance management since masjid should set a good example in reducing wastage in line with Islamic principle (Qur'an, *al-Isra*:27).

1.2 PROBLEM STATEMENTS

Maintenance is a glaring problem in Malaysian public buildings, for example at Malaysian Immigration Headquarters (BERNAMA, 2007), Parliament House (The Star, 2007), and New Courthouse (Zuhaila Sedek, 2007). Literature review showed no report on similar problem in masjids; however, maintenance of masjid is an emerging concern in Malaysia (BERNAMA and Vasuvedan 2008).

Miles and Syagga (1987) describe three main problems in maintenance: inadequate financial, bad management, and poor building design.

1. Financial is the main measurement for maintenance activities. Frequently, respective authorities always implicated that maintenance budget is the easiest part to cut if there is any financial problem.

2. Passive management that due to poor housekeeping and waste among the maintenance personnel. The maintenance manager and staff should alert and responsive to the maintenance problems. Human resources are the key of an effective maintenance management.
3. Designs may also contribute to the maintenance problems. Materials and elements used in the building construction may affect the type of maintenance for the building. Unfortunately, it is uncommon that in the design stage both designer and owner may neglect maintenance as one of the consideration in design. Poor building design also include the poor quality materials used.

In two last decades ago economy boom and prosperity result a great surge in the demand and supply for building and infrastructure development in Kuala Lumpur. As the population growth, the numbers of residential area became larger and larger. The numbers of masjid buildings in Kuala Lumpur were also increasing accordingly to the population. This could be seen in the projection of masjid and for the year 2010 – 2020 (see Table 1.1). As such, many masjids have been renovated or expanded due to the increasing of the population. Proper maintenance management should be conducted in all masjid buildings in Kuala Lumpur for the following reasons.

- a. To ensure cleanliness and comforts for Muslim to perform their prayers as masjid being houses of worship that deserved the utmost attention of every Muslim.
- b. To ensure its functions and prolong the masjid buildings life cycle
- c. To project the good image for KL as ‘World Class City’

Table 1.1
Projection of Masjid in the year 2010 – 2020

Type of Community Facilities	Year	KL City Centre	Damansara – Penchala	Sentul – Manjalara	Wangsa Maju – Maluri	Bandar Tun Razak - Sg Besi	Bukit Jalil – Seputeh.
Masjid	2010	8	9	16	17	12	17
	2015	9	10	17	17	13	18
	2020	10	10	18	18	14	19

Source: Extracted from Projection Needs for Community Facilities 2010 – 2020, KLSP 2020, website: <http://klcityplan2020.dbkl.gov.my> (2008)

The vision of Kuala Lumpur as a World Class City by 2020 should include maintenance management to all the assets in Kuala Lumpur which are very important aspects to achieve the successful of this vision. This includes the maintenance management of religious facilities buildings of masjid. Therefore, a strategic maintenance plans or guidelines to ensure maintenance management being conducted in these buildings should be highlighted.

1.3 STUDY AREA

This research is the study area is restricted to masjid building in Kuala Lumpur and Masjid Putrajaya. JAWI (2008) divided the administration zones of masjid in Kuala Lumpur into six areas. The six zones are illustrated in Figure 1.1 and as in Table 1.2.

Table 1.2
Kuala Lumpur Zoning Area

No.	Area Defined by KLCH	Administration Zoning (JAWI)
1	Jln Ipoh – Kepong - Segambut	Zone 1
2	Sentul –Manjalara	Zone 2
3	KL City Centre	Zone 3
4	Wangsa Maju – Maluri	Zone 4
5	Bandar Tun Razak - Sg Besi	Zone 5
	Bukit Jalil – Seputeh	
6	Damansara – Penchala	Zone 6

Source: Kuala Lumpur City Hall (KLCH) and JAWI, 2008

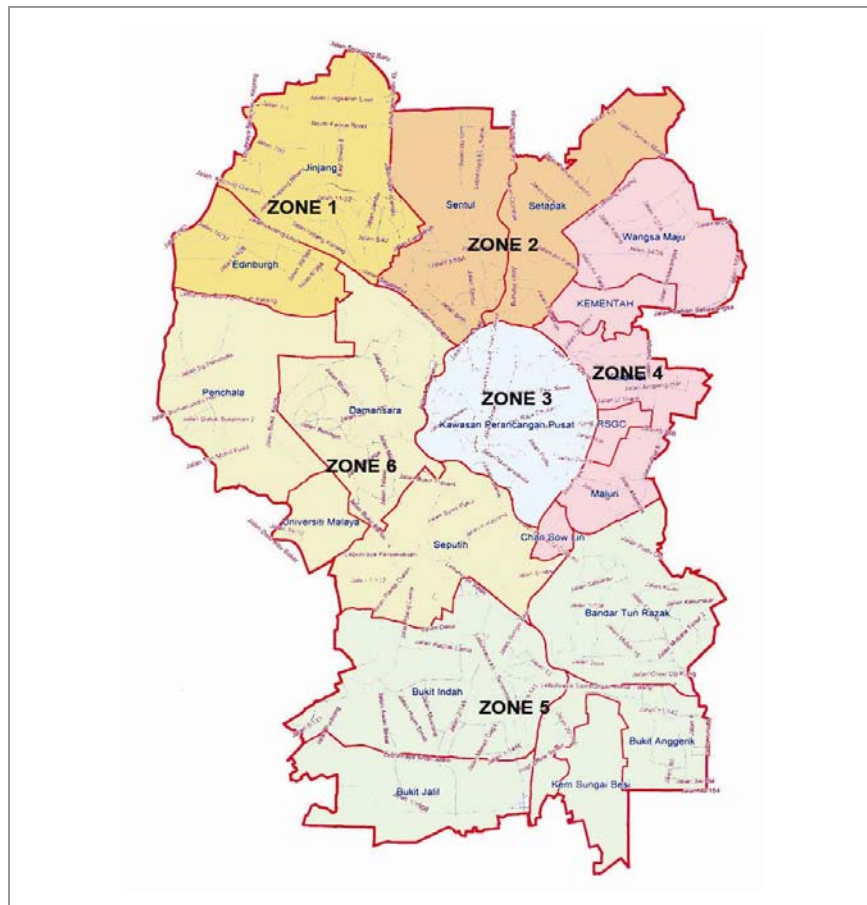


Figure 1.1: Map of Kuala Lumpur Masjids Administration Zones
Source: Modified from Federal Territory of Kuala Lumpur (Extract from KLCH),
<http://www.city.com.my/klft-map.htm>, viewed July, 2008

1.4 AIM AND OBJECTIVES

The aim of this study is to evaluate the maintenance management performance of the selected masjid buildings in federal Territory of Kuala Lumpur and Putrajaya. The evaluation of the maintenance management would reflect its performance and effectiveness of managing the maintenance for masjid buildings in Kuala Lumpur.

The objectives for this study are as follows:

1. To evaluate the availability of data in terms of information and documentations on maintenance management such as:
 - a. scheduling of the maintenance works or maintenance programs,
 - b. scope of maintenance works,
 - c. budget allocations for maintenance, organization of maintenance management personnel and,
 - d. evidence of complying with regulations.
2. To evaluate the performance of maintenance management by assessing the building managers' performance in the following:
 - a. meeting the maintenance programs,
 - b. up-dating maintenance records (or inventories),
 - c. sufficiency of the allocated budget to cater the actual maintenance costs and,
 - d. meeting the requirement of regulations (Fire regulations, consideration of the inspection from Ministry of Health and other building safety regulations)

1.5 RESEARCH OUTLINE

The research outline is illustrated as in Figure 1.3. The research aim and research objectives are defined in Chapter 1. Chapter 1 also included the research background, problem statements, scope of study and limitation of the study.

The literature reviews on definitions of maintenance, maintenance problems, maintenance components, maintenance of masjid, and maintenance management is discussed in Chapter 2. This also includes literatures on the dominant causes of defect and failures, type of maintenance and its importance, and any related issues on the maintenance management. Literatures on masjid, its definitions, masjid as a building and type of activities, and all types of masjid in Malaysia is included in this chapter. Chapter 3 is the research methodology of the data collection and the data analysis. It includes the masjid sampling. This chapter also discuss the structured interview questions that reveal the maintenance management performance of the masjid buildings. Chapter 4 is the results, findings and analysis of the research. Lastly, in Chapter 5 are the conclusion and recommendations.

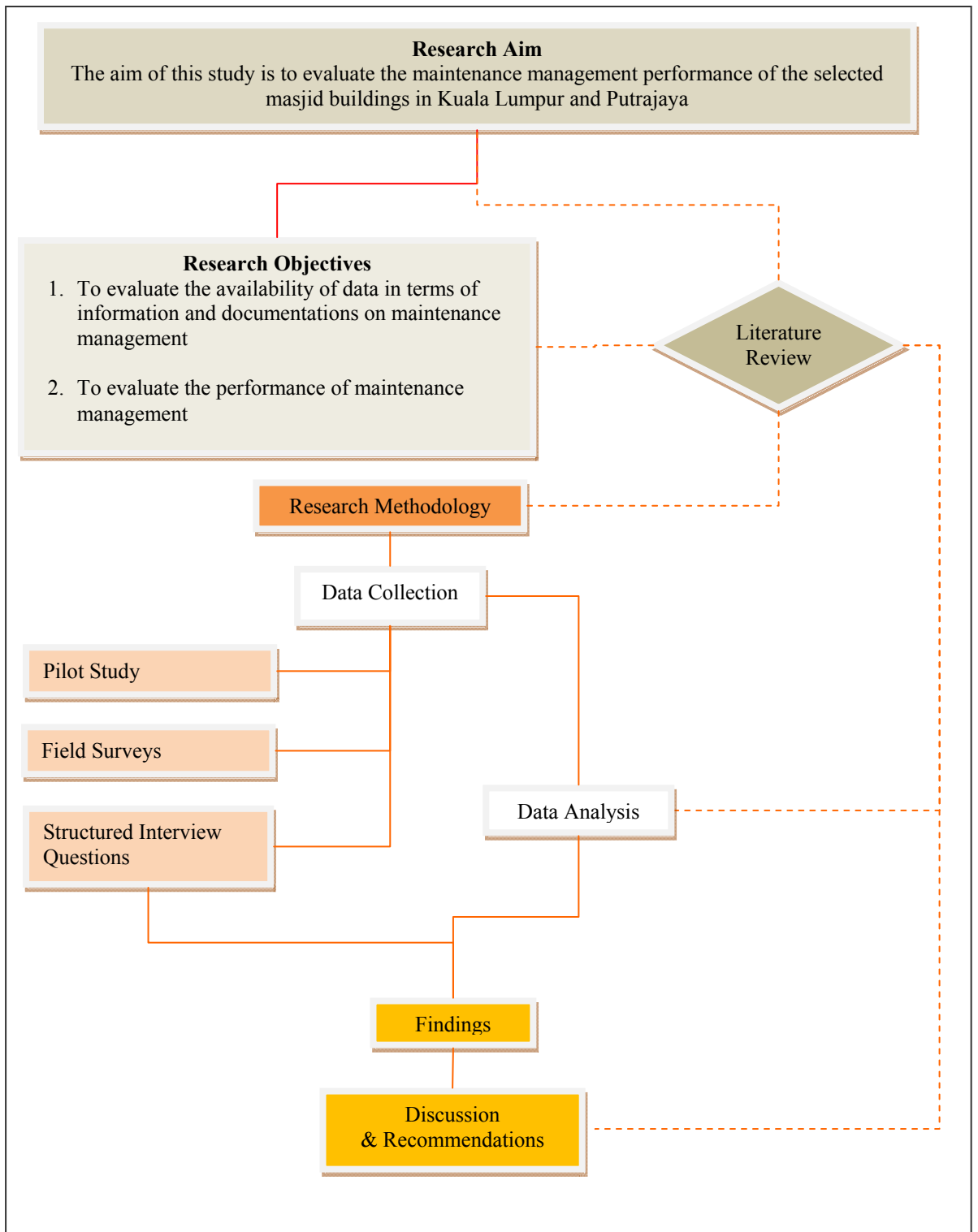


Figure 1.2: Research Outline

1.6 LIMITATION

Limitations of the research are the period of time to conduct the field study and different ranking of maintenance management personnel that being interviewed.

The field work sometimes could only be conducted during the weekdays that is difficult to do when you are working. Some would agree to be interviewed during the weekends and some may not agreed due to personal reasons. Due to many celebration and festive activities also limits the time to conduct the field work. So the time to conduct the field work has taken a long period of time.

Another limitation in this study would be the different level of personnel that being interviewed. This is because the work delegations on maintenance management are different from one masjid to another. This is due to the capacity of the masjid and the type of management either private or public masjid. So, again it limits the results of the study.

Owing to the limitation of time and resources, data collection will be only based on the result of the structured interviews, observation in the field study and literature reviews.

CHAPTER TWO

LITERATURE REVIEWS

2.1 INTRODUCTION

This chapter begins with a discussion on maintenance, to know the scope of maintenance, causes and the importance of maintenance. Then, further discussion on maintenance management of its components, system and strategies. Furthermore, related to this research is literature review on masjid, its type and activities. The conclusion of the chapter integrates the literature review and the objectives of the research.

2.2 MAINTENANCE

2.2.1 Introduction

This section discusses the definition and type of maintenance. It is also discusses the dominant causes of defects and failures.

2.2.2 Definitions of Maintenance

Maintenance is defined as work undertaken in order to keep, restore or improve every facility, i.e. every part of the building, its services and surrounds to a currently acceptable standard and to sustain the utility and value of the facility (Chanter and Swallow, 1996).

Burden (2004) define that the working definition for the term maintenance is providing upkeep, repair and care for building's and infrastructure integrity and

appearance after acquisition or after restoration at an acceptance level to enable it to perform its useful functions over time and to prevent deterioration of their structural fabric.

Horner et al (1997) divided building maintenance into several strategies:-

1. Reactive (routine or day-to-day) maintenance,
2. preventive that includes cyclic and condition bases maintenance and,
3. renovation or modernization that includes additional works or expanding of spaces.

Chan et al (2001) described maintenance as a simple process that fixed broken item or a logical approach of identifying the potential failure modes and possible consequences, evaluating the degree of criticality of each consequence and finally determining the appropriate maintenance action to be taken.

2.2.3 Types of Maintenance

Some authors ((Seeley (1997), Holmes (1994), Ashworth and Hogg (2002), Micheal R. et al. (1999), Newman (2001)) classified maintenance into two broad types as below:

- a. Reactive ('corrective' or 'unplanned') maintenance and
- b. Proactive ('preventive' or 'planned') maintenance.

Seeley (1997) classified reactive maintenance as planned and unplanned maintenance. Planned maintenance could be both preventive and corrective maintenance. As the name imply, planned maintenance is the type of maintenance whereby built asset and its contents (especially building) are maintained on schedule