CHAPTER I

INTRODUCTION

A. RESEARCH BACKGROUND

The determination of the beginning of lunar month is an important issue in Islam, because it involves the time of worship, especially in terms of determining the beginning of fasting in Ramadhan month, Idul fitri gairom in Shawwal and Idul Adha gairom in Zulhijah.[1]

Based on the guidelines contained in the Qur'an and the hadith and so far in the opinion of previous scholars in their "*al-kutub al-mu'tabarah"*, the method of determining the beginning of lunar month is generally focused on two main methods, namely *hisab* (astronomical calculation), the mathematical study used to determine the new Moon, and *rukyat* (astronomical observation).[2]

[1] The explanation of the importance of determination of the beginning of qamariah month been confirmed in the Qur'an, such as, in chapter Ynus: 5, al-Baqarah: 183-185, 189, 194.etc.

[2] The reason of the differences in the use of *hisab* and *rukyat* method is originated from differences in interpretation of a hadith of the Prophet Muhammad that narrated by Imam Bukhari and Muslim, which reads, "*Shumū li ru'yatihi wa afthirū li ru'yatihi fain ghumma 'alaihi fa istakmālu hu ṡalāṡīna yauman*" which means, do fast and eat (breaking of fast) if you have seen the new Moon, and when it is covered by clouds or overcast, then complete the month of Sha'ban to be thirty days. In general, the differences is resulting from the different understanding of term "*li ru'yatihi*" which has the meaning *'because of look at the new Moon"*. is *rukyat* here means *taaqquli* or *ta'abbudi* aspect, or it can be with the naked eye or with other intermediaries that support the procession of crescent observation, such as hisab. See Ahmad Izzuddin, *Fiqh Hisab Rukyat di Indonesia, Menyatukan NU dan Muhammadiyah dalam Penentuan Awal Ramadhan, Idul Fitri dan Idul Adha*, Jakarta, Airlangga, 2007.

Rukyat al-Hilal (crescent observation) is a method of determining the beginning of the lunar month which used as guidelines by a lot of Moslems in the world. *Rukyat al-Hilal* is an activity or effort to see the new Moon or crescent in the West of sky (the horizon), shortly after Sunset before the beginning of the month, especially before the month of Ramadhan, Shawwal and Zulhijah, to determine when a new month begins.[3]

The term of rukyat becomes important because it mentioned in many text redaction in the holly Qur'an and hadith (prophetic tradition). In the Holly Qur'an, the word *ray,* and its derivation is mentioned for about 187 times, 146 times (78%) mean as congnitively look (*rukyat bi al-Ilm)* and 41 times (22%) mean as visually look (*rukyat bi al-fi'li).* In the hadith, it mentioned up to 62 times; with its derivation, *rukyat* is mentioned no less than 195 times.[4] Which related to Islamic calender and determination of the beginning of lunar month is mentioned for about 49 times, with classification below : *raa* (20), *raaita* (13), *raaiti* (1), *raaitu* (11), *raaituni* (1), *raaituna* (1), *raaw* (4), *raaitum* (10), *yara* (19), *tara* (15), *taraina* (1), *tarawna* (1), *ara* (2), *araniy* (3), *arakum* (1), *taraya* (1), *yarayna* (3), *taraw* (2), *taraay* (1), *tarayna* (1), *ru'yan* (39), dan *ru'yat* (62). The example is a hadith that narrated by Humaid bin Mas'adah al-Bahiliy:

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[3] Muhyiddin Khazin, *Ilmu Falak dalam Teori dan Praktek,* Yogyakarta : Buana Pustaka, ed. III, 2008, p.173. The definition of the new Moon or crescent in astronomy is well known as "crescent", it is part of the Moon that appears brighter from earth because of the reflection of Sunlight after sunset. See: Muhyiddin Khazin, *Kamus Ilmu Falak,* Yogyakarta : Buana Pustaka, 2005, p.30.

[4] See Susiknan Azhari, *Kalender Islam; Ke Arah Integrasi Muhammadiyah - NU,* ed. 1 Yogyakarta : Museum Astronomi Islam, 2012, p. 75. More information in A.J Wensinck, *Al-Mu'jam al-Mufahrash li Alfadz al-Hadith an Nabawiy*, Leiden : E.J Brill, 1943, p. 199-206.

حدثني حميد بن مسعدة الباهلي حدثنا بشر بن مفضل حدثنا سلمة (وهو ابن علقمة) عن نافع عن عبد الله ابن عمر قال: قال رسول الله ص.م.: الشهر تسع وعشرون. فإذا رأيتموا الهلال فصوموا واذا رأيتموه فأفطروا, فإن غم عليكم فاقدروا له. (رواه مسلم)[5]

Means : "Narrataed to me Humaid bin Mas'adah Al-Bahiliy, Narrated to us Bisyru bin Mufadhal, narrated to us Salamah bin 'Alqamah, from Nafi' from Abdullah bin Umar, He said: I heard Muhammad Rasulullah PBUH said: "the number of lunar month is 29 days, when you see a new Moon then you must observe the fasting, and when you see it, then break your fast; in case the sky is cloudly, then calculate for it." (Narated by Muslim)

Therefore, it can be concluded from that the definition of *rukyat*, Terminologically broadly divided into three meanings, *firstly*, *rukyat* is seen with the eye (the naked eye). This can be done by anyone. *Secondly*, *rukyat* is seen through the heart or intuition. *Thirdly*, *rukyat* is seen by science. It can be reached by a man who has enough knowledge, including *hisab* (astronomical calculation) [6]

Up to now, *rukyat al-hilal* (crescent observation) is become one method in determining the beginning of lunar month which still used as guidelines by the majority of the Moslem community in the world, moslem government, etc, including Malaysia.[7]

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[5] Muslim bin Hajjaj, *Shahih Muslim*,Beirut: Dar Al-Kotob Al-Ilmiyah, ed. II 1992, p. 760.

[6] Susiknan Azhari, *Ilmu Falak Perjumpaan Khazanah Sains Islam dan Modern*, Yogyakarta: Suara Muhammadiyah, 2007, p. 114.

[7] Malaysia is a federation country with two states, Sarawak and Sabah. Located between 2º and 7º to the North of the Equator line, Peninsular Malaysia is separated from Sabah and Sarawak by the South of China sea. to the North of peninsular Malaysia are Thailand, while in the Southern neighboring with Singapore. Sabah and Sarawak is bordered by Indonesia while Sarawak also borders with Brunei. The population of Malaysia is about 28.3 million people with 60% of the population are Muslims. See http://www.tourism.gov.my/id-ID/Master/Web-Page/About-Malaysia/Fast-Facts/General, and Hashim Mehat, *Hukum Konstitusi di Malaysia; Perspektif*

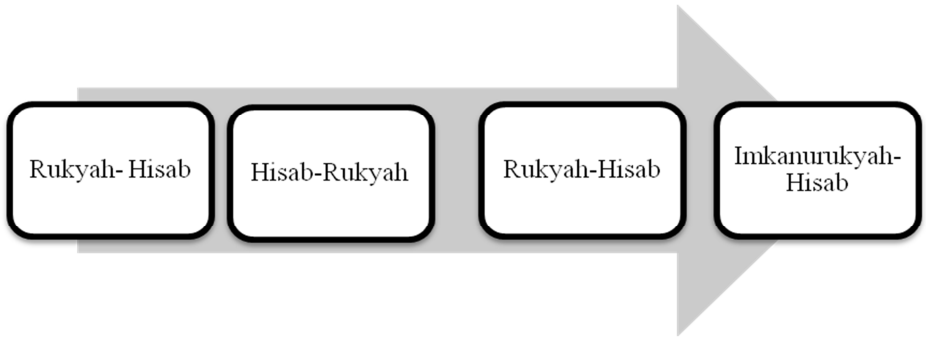
There are many different method in many country for determining the beginning of lunar month, among others :

No	Country / Organization	Using Method
1.	Saudi Arabia (Ummul Qura), ISNA (Khalid Shaukat)	calculation of the conjunction and the existence of Moon after Sunset in Mecca.
2.	Libya	conjunction before Subuh
3	Indonesia, Brunei Darussalam, Malaysia, and Singapura (MABIMS)	crescent visibility (*Imkān ar-rukyat*), if the height of the Moon above the horizon is not less than 2° and distance curve (Moon and Sun) not less than 3°, the age of the Moon is no-less than 8 hours (after the conjunction occurs)
4	Turki, Bosnia, Tunisia	if the height of the Moon above the horizon is between 2° to 5°
5	United Kingdom	Follow the result of crescent observation in South Africa or *Magribi*
6	Majlis Fatwa Eropa	Follow the determination result of Saudi Arabia

Agama, a paper in international Seminar Dynamics of Islamic value in the constitusion and legal formal in Indonesia. Sharia and Islamic Economy Faculty of Walisongo state for Islamic studies, November, 28th 2013.

Therefore we know that Malaysia is a country that uses *rukyat* and *hisab* based on the criteria *Imkān ar-rukyat* (crescent visibility) as the method of determining the beginning of Ramadan, Shawwal and Zulhijah.[8]

To see where the origins of *Imkān ar-rukyat* criteria, should be viewed in chronological order on how is the method of determination of the beginning of lunar month, especially in determining the beginning of Ramadhan, Shawwal, and Zulhijah. The chronology of fixation methods to determine the beginning of Ramadhan and Shawwal in Malaysia began with *rukyat and hisab*, next *hisab and rukyat* next *rukyat and hisab* and then *Imkān ar- rukyat – hisab* until now. Here is the chronology's picture :



It is indicating that the implementation of the crescent observation in Malaysia is still become a major reference in the preliminary of determination of lunar months, though the implementation should still refer to the criteria of *Imkān ar-rukyat*.

In the early stages, the implementation of crescent observation or *rukyat al-hilal* in Malaysia is done by the traditional Moslem scholars, such

[8] Jabatan Kemajuan Islam Malaysia (JAKIM), *Kaedah Penentuan Awal Hijrah*, Kuala Lumpur : National printing for Malaysia Berhad, 2001, p.1.

as muftis, kathis and the expert of astronomy and Islamic laws.. The proccess of *rukyat al-hilal* or crescent observation has been done officially since 1934 by Syed Tahir Alwe bin Al-Hadad[9] on the minarets of Sultan Abu Bakar mosque, Johor Bahru.[10]

Since the National Council for Islamic Religious Affairs was established in 1970,[11] official committees have been appointed to sight the new Moon of Ramadhan and Shawwal in three places, Teluk Kemang (Negeri Sembilan), Johor Bahru (Johor) and Kampung Pulau sayak (Kedah). By the end of 2011 AD, these places of crescent observation activity was

[9] He was an expert of Islamic astronomy in Malaysia at that time, he was born in Qaidoon, Hadralmaut. on August, 7th 1884. in 1935, he has authored the book *Ahkam Shariat* Johor. He is also the author to the book of *Anwarul Qur'an* in 1956. He also produced many books, especially in the fields of history, among them are; *'AI-Qaulul Faslul'* , *'Uqudul al-Mas'* and many others.See http://apps.islam.gov.my/efalak/?q=en/erhk-dato, accessed on January, Tuesday, 14th 2014, at. 09.00 WIB.

[10] Jabatan Kemajuan Islam Malaysia (JAKIM), *Kaedah Penentuan Awal Hijrah*, Kuala Lumpur : National printing for Malaysia Berhad, 2001, p.8.

[11] In 1968, the Malaysian Council of Rulers decided that there was a need for a body that could mobilise the development and progress of muslims in Malaysia, in line with the country's status as an islamic country which was growing in strength as well as fast gaining worldwide recognition. in realising the fact, a secretariat for the national council of islamic affairs of Malaysia was formed to protect the purity of faith and the teachings of islam. this secretariat was later expanded to become the religious division, prime minister's department which was later upgraded to become the islamic affairs division (*Baheis*). On 1st january 1997, in line with the country's steadfast Islamic development and progress, the department of Islamic development of Malaysia (JAKIM) was established by the government of Malaysia to take over the role of *Baheis*. as the main agency managing islamic affairs at the federal level and the secretariat to the national council for Islamic affairs malaysia (MKI), JAKIM performs the three (3) main functions below: legislation and standardisation of Islamic law, Islamic administration coordination, adjustment and the development of Islamic education. See http://www.islam.gov.my/en/about-jakim , accessed on January, Tuesday, 14th 2014, at. 09.50 WIB.

increased to 29 points, every states have at least one place for a crescent observation activity.[12]

There are some basic provisions relating to the election of crescent observation's place in Malaysia, the selected places for crescent observation that must be by the sea or high ground that allows the horizon can be seen clearly at the time of the Sunset. The conditions of natural geographical and weather for crescent observation's place is also must be considered. The most important, it is necessary to get permission and the official endorsement from the government of Malaysia, to make a legal place for crescent observation in Malaysia.[13]

One of qualified place that has been endorsed by the Malaysian government to be used as the place for implementation of the crescent observation in Malaysia is Baitul Hilal Teluk Kemang Port Dickson.

Baitul Hilal Teluk Kemang Malaysia is located at coordinate latitude North 2° 26' 44'' and longitude East 101°51'21'', and more precisely located at the observatory complex of Baitul Hilal Teluk Kemang Port Disckon, Malaysia.[14]

Baitul Hilal is one of the planetarium and observatory at Teluk Kemang Malaysia which intensely conduct the crescent observtion activity in

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[12] http://www.islam.gov.my/e-falak/tempat-cerapan, accessed on Sunday, September, 08th 2013, at 15.30 WIB.

[13] Interview with Nazhatultulshima Ahmad, the practitioner of Islamic astronomy at Baitul Hilal Teluk Kemang, Space Physics Laboratory, University of Malaya, on September 26th 2013.

[14] http://www.islam.gov.my/e-falak/tempat-cerapan , accessed on Sunday, September 08th 2013, at 15.30 WIB

every month of the lunar month. In its history, the first implementation of crescent observation on behalf of the Malaysian government implemented in Teluk Kemang, Port Dickson, Negeri Sembilan on Sha'ban 29th 1392 coincided on October 7th, 1972.[15]

Ahmad Zaki, as manager of Baitul Hilal Teluk Kemang said that Baitul Hilal Teluk Kemang has special privileges for crescent observation activities in Malaysia, which has a broad horizon line without having hindrance, and it's located at a fairly strategic position in Southeast Asia.[16]

The success of Baitul Hilal Teluk Kemang in crescent observation for determining the beginning of lunar month can be strong evidence and proof that the location of Baitul Hilal Teluk Kemang is in very strategic geoghrfically and astronomically place in Southeast Asia.[17]

Teluk Kemang also becomes one of the most frequently crescent observation's place in crescent sighting for the beginning of Ramadhan, Shawwal and Zulhijah in Malaysia, so far recorded, among others, on: Shawwal 1392/1972, Shawwal 1393/1973, Ramadan 1394/1974, Shawwal 1396/1976 Shawwal 1401/1981, Shawwal 1404/1984, Shawwal 1422/2001.

Not only that, nowadays, Baitul Hilal Teluk Kemang also is become one of the "center" of research on the new Moon (crescent) for every month

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[15] http://www.majlisraja-raja.gov.my/index.php/bm/profil/sejarah-cerapan-anak-bulan#section=p1, accessed on Sunday, September 08th 2013, at 15.45 WIB

[16] Interview with Ahmad Zaki bin Hamzah, the practitioner of Islamic astronomy at Baitul Hilal Teluk Kemang, Baitul Hilal Teluk Kemang, on October 5th 2013.

[17] http://www.majlisraja-raja.gov.my/index.php/bm/sejarah/rekod-cerapan-hilal#section=p1 , accessed on Tuesday, September ,10th 2013, at 06.00 WIB

of lunar month for 20 years starting from 2000 to 2020, in collaboration with the Physics and space Laboratory of University Malaya, Astronomical unit for Islamic development department of Malaysia, Astronomical unit for Islamic development department of Negeri Sembilan, and department of surveying and mapping of Malaysia (JUPEM), they incentive to do research on the new Moon in each month in the beginning of lunar month, it was intended to formulate a criteria of *Imkān ar-rukyat* which can be more established in the future.

Therefore, the method and contributions of Baitul Hilal Teluk Kemang in the implementation of crescent observation in Malaysia is very researchable and important subject to be known, and it's interested to be studied and researched deeply.

B. STATEMENT OF THE PROBLEMS

This research will be formulated into some main problems in the form of several questions as mentioned below:

1. How is the implementation of crescent observation at Baitul Hilal Teluk Kemang Malaysia?
2. How is the contributions of Baitul Hilal Teluk Kemang in the implementation of crescent observation in Malaysia?

C. AIM AND SIGNIFICANCE RESEARCH

This research has some specific purposes. These purposes are:

1. To know how is the implementation of crescent observation at Baitul Hilal Teluk Kemang Malaysia.
2. To know how is the contributions of Baitul Hilal Teluk Kemang in the implementation of crescent observation in Malaysia.

In addition, this research has also some significance mentioned below:

1. To enrich and add to the wealth of knowledge about how is the implementation of crescent observation at Baitul Hilal Teluk Kemang Malaysia
2. To enrich and add to the wealth of knowledge about how is the contributions of baitul hilal teluk kemang in the implementation of crescent observation in Malaysia
3. As an information data for the next researchers.

D. PREVIEW OF LITERATURE

This research is surely going to search some literature or sources from books, which are generally tell about crescent observation at Baitul Hilal Teluk Kemang Malaysia.

As far as the writer observation, there is no special detail research, which discusses about the implementation of crescent observation at Baitul

Hilal Teluk Kemang Malaysia and its contributions in the implementation of crescent observation activity in Malaysia. Some researches related to this research are:

1. Book "*Kaedah Penentuan Awal Hijrah*" written by the division of research for astronomy unit, Department of Islamic Development Malaysia (JAKIM).

   This book is a general guideline for the Malaysian government about how is the processes and mechanisms of implementation the crescent observation acitivity for entire crescent observation's place in Malaysia.

2. Paper "*Pensabitan Hilal Menerusi Teknik Pengimejan*", written by Mohd Zambri Zainuddin, Nazhatulshima Ahmad, Joko Satria A, Chin Wei Lon.[18]

   This paper tries to review on how to use digital camera technology for image capture the lunar crescent in the beginning of lunar month. This paper also express that many places which conduct the crescent observation in Malaysia are using the digital camera to capture the images of lunar crescent, included at Baitul Hilal Teluk Kemang Malaysia.

3. Paper "*Moon's Width For Crescent Visibility*" Written by Mohd Zambri Zainuddin, Khadijah Ismail and Amran Muhammad. [19]

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[18] Zambri Zainuddin, et al, "*Pensabitan Hilal Menerusi Teknik Pengimejan*" in Saadan Man and Mohd Saiful Nawawi (eds), *Dimensi Penyelidikan Astronomi Islam"* Kuala Lumpur : Jabatan Fiqh dan Usul Akademi Pengajian Islam, Universiti Malaya, 2013, p. 95

[19] Zambri Zainuddin, et al, *Moon's Width For Crescent Visibility*" in Saadan Man and Mohd Saiful Nawawi (eds), *Dimensi Penyelidikan Astronomi Islam"* Kuala Lumpur : Jabatan Fiqh dan Usul Akademi Pengajian Islam, Universiti Malaya, 2013, p. 133.

In general, this paper explains that Moon's width can be the additional parameter to augment the *Imkān ar- rukyat* for predicting the visibility of the lunar crescent in Malaysia. In addition, the researcher proposes the criterion based on Moon's width and elongation.

E. RESEARCH METHODOLOGY

1. Research Category and Approach

This research, under the title "*The Crescent Observation in Malaysia (An Analysis Study of Crescent Observation's Method Applied by Baitul Hilal Teluk Kemang Port Dickson Malaysia)"* is categorized into a *field research*. The research is conducted in the arena or field occurrence of symptoms which investigated by looking for some information related to the problem.[20]

This study will focus on the implementation mechanism of the crescent observation at Baitul Hilal Teluk Kemang Malaysia and its contribution for the development of crescent observation's method in Malaysia.

2. The Source and Data Type

Considering that the main source and data input of this research is some information of people who are involved directly with the activity of

[20] Sutrisno Hadi, *Metodologi Research*, Yogyakarta : Rake Sarashin, ed. 39, 2003 p. 10.

observation, so this research is also called *field research*, which has two types of data, primary and secondary source.[21]

The primary data is data that comes directly from the source data collected specifically and it is related to the problems studied, the data can be obtained from direct interviews or a questionnaire of research.

In this case, the researcher will conduct in-depth interviews (in depth interview)[22] with some important people who also responsible on managing the implementation of crescent observation at Baitul Hilal Teluk Kemang Malaysia. There are at least five informants who would be used as reference data, namely Prof. Dato Dr.Mohd Zambri Zainuddin[23], Dr.Nazhatulshima Ahmad[24], Joko Satria Ardianto[25], Mohd. Saiful Nawawi [26] and Ahmad Zaki bin Hamzah.[27]

Secondary sources are data which obtained from the other party and not directly derived from the research subjects, but it still relates to what the object of research. Secondary data can be in the form of books, journals, scientific papers, and many other that complete the necessary data of the study.

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[21] Sharia Faculty team, *Pedoman Penulisan Skripsi*, Semarang : Sharia Faculty of Walisongo State Institute for Islamic Studies, 2010, p. 12.

[22] Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktek*, Jakarta : Rineka Cipta, ed. 2, 1998, p. 146.

[23] Supervisor of Baitul Hilal Teluk Kemang Malaysia

[24] Researcher of Baitul Hilal Teluk Kemang Malaysia

[25] Researcher of Baitul Hilal Teluk Kemang Malaysia

[26] Researcher of Baitul Hilal Teluk Kemang Malaysia

[27] This information is obtained from a brief interview with Mohd.Saiful Nawawi practitioner of Islamic astronomy of University of Malaya, Malaysia through social media, Facebook.

3. The Method of Data Collection

a) Interview

This research will use in-depth interview method to the informants mentioned in the previous discussion by both face to face and the communication media, such as email, facebook and phone.

Those informants are the actors identified. To find the other informants who have not been identified yet, the writer will ask their names, addresses and other information to them (the informants identified) in order to be found who the next possible informants who can provide more information. It will be done continuously to get the satisfaction from their explanations.[28]

b) Observation

This research will use the observation method to get some data related to the mechanism of implementation of crescent observation at Baitul Hilal Teluk Kemang Malaysia. In this case, the writer will join in the process of crescent observation that conducted by Baitul Hilal Teluk Kemang Malaysia directly.

[28] Musahadi Ham, *Mengenal Metodologi Penelitian*, a paper presented in forum for new students orientation of Islamic Astronomy Concentration of the Family Law Major of Shariah Faculty of Walisongo State Institute for Islamic Studies on August 9 to 16 2008 at the Islamic Center of the Central Java Religious Affairs Ministry Office, p. 5

c) Documentation

This research will use the documentation method to collect the data related to the study topic. They will be from both the previous researches as mentioned in the preview of literature and other documents, which come from either Baitul Hilal Teluk Kemang Institution or many other informant.

4. The Method of Data Analyzing

The method of data analyzing, which will be used in this research is content analyzing by descriptive qualitative method.[29] With this method will be described about how is the method of implementation of crescent observation at Baitul Hilal Teluk Kemang and its contributions in the implementation of crescent observation in Malaysia.

F. RESEARCH OUTLINE

To complete the writing, this thesis is divided into five separate chapters. These chapters are:

CHAPTER I : INTRODUCTION

This chapter explains the background of this research (what causes this research should be done), the problems that should be solved by this research, the purpose and the

[29] Qualitative analysis basically uses logical thinking, analysis with logic, induction, deduction, analogy, comparison,etc.See : Tatang Amirin, *Menyusun Rencana Penelitian*, Jakarta : Raja Grafindo persada, 1995, p. 95

significance of this research, previewing the literature, research method and the research or writing outline for this thesis.

CHAPTER II :THE CRESCENT OBSERVATION IN MALAYSIA

There are two explanations in this chapter. The first explanation is about the general description of crescent observation (*rukyat al-hilal*), the legal ground of the crescent observation's implementation, and the history of using hisab (astronomical calculation) and rukyat (astronomical observation) for determining the beginning of lunar month in Malaysia, so far the generel description of Moon and its phases.

CHAPTER III :BAITUL HILAL TELUK KEMANG MALAYSIA AS CRESCENT OBSERVATION PLACE IN MALAYSIA

This chapter will describe the profil institution of Baitul Hilal Teluk Kemang and its history, activities, geographical conditions and Baitul Hilal Teluk Kemang as crescent observation place in Malaysia

CHAPTER IV :THE IMPLEMENTATION OF CRESCENT OBSERVATION AT BAITUL HILAL TELUK KEMANG AND ITS CONTRIBUTIONS TO THE

CRESCENT OBSERVATION ACTIVITY IN MALAYSIA.

This chapter will explain the result of analyzing the study of the implementation of crescent observation at Baitul Hilal Teluk Kemang and its contributions in the implementation of crescent observation in Malaysia.

CHAPTER V : CLOSING

This chapter will explain the conclusion, suggestion, and closing.