

Applicability of the New MABIMS Criteria and Its Impact in the Southeast Asia Region

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Abstract:

The polemic of differences in starting the fasts of Ramadhan, Shawwal and Zulhijah is still being debated among Islamic calendar experts in Indonesia. There is no agreement on the cause of the difference in determining the beginning of the Hijri Month. The MABIMS New Criteria is among the many criteria when starting the month. MABIMS criteria are agreed upon by the Office of Judges in Malaysia, the Ministry of Religion of the Republic of Indonesia, the Sultanate of Brunei, and the Minister of Religion of Singapore. How does this criteria apply in each country? This paper examines the sociological and astronomical aspects of the applicability of the New MABIMS Criteria and their impact in the Southeast Asian Region. I will be done by looking at the astronomical parameters in realizing an established Hijri calendar. Meanwhile, a socio-political approach contributes to seeing how far the new visibility criteria of MABIMS can be consistently agreed upon in their implementation. In a socio-political approach, the author uses Gelding's theory by adopting an enforceability scheme consisting of factual or empirical, normative or formal, and evaluative. The three enforcement schemes are used to analyze the applicability of the new MABIMS criteria and their impact on the Southeast Asian region. The results show that implementing the new criteria of MABIMS through the three approaches above can be carried out and accelerated toward Hijri Calendar Unifications by mutual agreement.

Keywords: New Criteria, MABIMS, Southeast Asia.

Introduction

The number of criteria in determining the beginning of the Islamic Calendar (Hijri Calendar) is one of the main reasons for the difference in starting the months of Ramadan, Shawwal, and Zulhijah. The absence of a single criterion in preparing and formulating the Hijri calendar has also become a polemic in uniting the Hijri calendar in Indonesia, the Southeast Asian region, and the world. In the history of the development of *Hisab Rukyat* (astronomical calculation and crescent observation) in Indonesia, there are several criteria used by Islamic community organizations such

as *Wujudul Hilal*, *Ijtima' qoblal ghurub*, and *Imkanur Rukyat* 2-3-8. The criteria for Imkan Rukyat 2-3-8 are a moon's minimum height of 2 degrees and an elongation of 3 degrees or an age of 8 hours. Everyone still applies their criteria to determine when the Hijri month begins.

Efforts to find an agreement for common criteria for the Hijri calendar have been carried out since 1978, with the holding of a conference on the unification of the calendar of the Islamic world initiated by the Organization of Islamic Cooperation (OIC) in Istanbul, Turkey. The conference, with the theme of the Deliberation of Hisab Rukyat Experts, was attended by representatives from 19 Islamic countries, including Indonesia, plus three non-governmental organizations from the Middle East and Europe¹.

In general, to predict the visibility of *hilal* (the new crescent moon), the following parameters are often used namely the age of the moon, the difference between the sunset and the moon, elongation, ARCV (height difference), DAZ (azimuth difference), and the thickness of the *hilal*. There are at least three prerequisites for realizing an established calendar: there is an agreement on the boundaries of the applicable area (national or global), there is an agreement on the single authority that determines it, and there are agreed criteria.²

In 2021, the proposed new criteria have been agreed upon by the Ministers of Religion of Brunei Darussalam, Indonesia, Malaysia, and Singapore (MABIMS), namely the height of the moon and its elongation are at least 3 and 6.4 degrees, respectively, commonly called criteria 3-6.4. The new MABIMS criteria that have been set by the government to date still leave problems in Indonesia, several Islamic organizations still have and apply their own criteria in determining the beginning of the lunar month.³ At the beginning of the application of the new MABIMS criteria in 1444 H/2022, there was a difference in the determination of the start of the month of Ramadan 1443 H either with the old criteria (criteria 2-3-8) or with the new criteria (criteria 3-6.4). The Indonesian

¹ There are three most important agreements in the 1978 Istanbul convention, namely first, agreeing on the only calendar for the Islamic world. Second, *rukyatul hilal* (moon sighting) of a country applies to all countries. Third, Mecca is made the center of the *rukyatul hilal* and information center to all Islamic countries. : UII, 18-19 May 2016), 14

² Thomas Djamaluddin, *Astronomi Memberi Solusi Penyatuan Ummat, Lembaga Penerbangan Dan Antariksa Nasional* (Jakarta: Lembaga Penerbangan dan Antariksa Nasional, 2011).

³ Nursodik Nursodik, "Kajian Kriteria Hisab Global Turki dan Usulan Kriteria Baru MABIMS dengan Menggunakan Algoritma Jean Meeus," *Al-Ahkam* 28, no. 1 (April 10, 2018): 119–40, <https://doi.org/10.21580/ahkam.2018.18.1.2353>.

government has set the beginning of Ramadan to be on April 3, 2022, as stated by the Minister of Religion of the Republic of Indonesia. This stipulation differs from the decision of the Muhammadiyah organization which stipulates that the start of Ramadan will be on April 2, 2022. Apart from the month of Ramadan, the difference also occurred for the month of Shawwal, according to the results of calculating the date line analysis at *Maghrib* (sunset) on 1 May 2022 in Indonesia, the position of the moon meets the criteria *wujudul hilal* and the MABIMS criteria so that Shawwal 1443 H is 2 May 2022. However, the dateline based on the new MABIMS criteria is in the western part of Indonesia, so the beginning of Shawwal 1443 H was on the following day, namely, 3 May 2022. It turns out that at *Maghrib* on 1 May 2022, the *hilal* was reported to be visible, and according to the criteria for geocentric elongation, the criteria have been met, so the Indonesian Government set 1 Shawwal on 2 May 2022.

The problem of absence of an agreement on criteria is the main problem for realizing a unified Islamic calendar. Previously, the old MABIMS criteria in 2016 were proposed to change from criteria 2-3-8 to new criteria 3-6.⁴ These criteria result from a review of proposed criteria to be used as a reference for an established Islamic calendar that can be applied globally. However, until now, they have not reached an agreement. This is because all parties can accept no provisions and agreements. Besides, it is also necessary to have a logical argument that approves or criticizes the various forms of existing calendar criteria.

Several types of research have been conducted on the integrated *hijri* calendar. This study indicates the possibility of realizing an integrated *hijri* calendar using the criteria for the visibility of the *hilal*.⁵ Research by Fadholi (2018) shows that Islamic organizations in Indonesia emphasize the MABIMS *hilal* visibility criteria as a guide in compiling the *Hijri* calendar in Indonesia. Then, Khanafi⁶ reviews the results of the 2017

⁴ Thomas Djamaluddin, "Kongres Kesatuan Kalender Hijri Internasional di Turki 2016: Kalender Tunggal," June 2, 2016, <https://tdjamaluddin.wordpress.com/2016/06/02/kongres-kesatuan-kalender-hijri-internasional-di-turki-2016-kalender-tunggal/>.

⁵ The proposed new MABIMS criteria are, the height of the *hilal* is not less than 3 degrees and the elongation angle is not less than 6.4 degrees. See, Djamaluddin Thomas, "Menuju Kriteria Baru MABIMS Berbasis Astronomi," October 5, 2016, <https://tdjamaluddin.wordpress.com/2016/10/05/menuju-kriteria-baru-mabims-berbasis-astronomi/>.

⁶ Khanafi, "Kriteria Rekomendasi Jakarta 2017 Dalam Upaya Penyatuan Kalender Global Hijriah Tunggal Perspektif LP2IF Rukyatul Hilal Indonesia (RHI)," 2018.

International Seminar in Jakarta from the point of view of the *Rukyatul Hilal* Falak Study and Development Institute (LP2IF RHI) for a Single Global Hijri Calendar. Nursodik⁷ tried to conduct a comparative study using the Jean Meeus Algorithm in the Turkish *Hisab* Criteria and the New MABIMS Criteria. Relatively new research related to the Dynamics of Application of the new MABIMS *Hilal* Visibility Criteria in Indonesia was carried out by Hariyono(2022), as well as the National and ASEAN Responses to the 2017 Jakarta Recommendations Concerning Criteria for the Beginning of the Month, Single Authority and Date Line carried out by Nizar. (2022).

For this reason, this research focuses on how the new MABIMS *hilal* visibility criteria apply to the unification of the Hijri calendar in ASEAN member countries or those in the Southeast Asia region. Especially Brunei Darussalam, Indonesia, Malaysia and Singapore. How the application of the New MABIMS Criteria and its impact in the Southeast Asian Region is reviewed using a *fiqh*, astronomical, and socio-political approach.

This study uses socio-legal research, using a multidisciplinary approach in the form of *fiqh*, astronomical, and socio-political studies. In the view of *fiqh*, the discourse of *hisab rukyat* in the world has experienced a paradigm shift. In the past, the study of *fiqh* was limited to examining the arguments (*naqliyah*) and their interpretations. Still, now it has shifted towards discussing the unification of the Global Hijri calendar by looking at the visibility of the *hilal* through *rukayat*. Astronomical studies can contribute to the new MABIMS visibility criteria, by looking at the astronomical parameters in realizing an established Hijri calendar. Meanwhile, through a socio-political approach, it contributes to seeing how far the new MABIMS Visibility criteria can be consistently agreed upon in their implementation and their impact on countries. In a socio-political approach, the author uses Gelding's theory by adopting an applicability scheme consisting of a judicial, sociological, and philosophical scheme. The three implementation schemes are used to analyze the applicability of the new MABIMS criteria and their impact on the Southeast Asian region.

⁷ Nursodik, "Kajian Kriteria Hisab Global Turki dan Usulan Kriteria Baru MABIMS dengan Menggunakan Algoritma Jean Meeus."

Discussion

Criteria for the Beginning of the Month for Countries in Southeast Asia

The Southeast Asian region, known as ASEAN, is a group of countries located in the southeastern part of the Asian continent, which initially consisted of 5 countries, namely Indonesia, Malaysia, the Philippines, Singapore, and Thailand. Then it increased to 10 countries: Brunei Darussalam, Cambodia, Laos, Myanmar, and Vietnam. ASEAN was established with the aim of increasing the economic, socio-cultural, and political growth of ASEAN countries.⁸

Criteria for Determining the Beginning of the Month in Malaysia

The authority to determine the beginning of the Hijri month in Malaysia belongs to the Malaysian Islamic Authority Bureau (JAKIM). In determining the beginning of the Hijri month, Malaysia uses the *rukyatul hilal* and astronomical calculation methods. In its history, Malaysia has undergone several changes in the method of determining the beginning of the Hijri month, from 1984 to 2021, namely:⁹

1. *Rukyat-Hisab* (in 1930-1970), this method uses the *hilal* sighting as the main guideline of the calendar while astronomical calculation as a supporting instrument for the *hilal* sighting.
2. *Hisab-Rukyat* (1970-1977). This method relies on astronomical calculation as the main reference for the Hijri calendar, especially if there are problems in implementing the *hilal* sightings.
3. *Rukyat-Hisab*. This method was then reapplied for 5 years from 1978-1983.
4. Astronomical calculation *Imkan Rukyat* (crescent visibility). Since 1984 until now, the method of determining the beginning of the Hijri month in the Malaysian calendar uses *imkan rukyat* astronomical calculation, especially the MABIMS criteria.

⁸ Koesrianti, *Association of Southeast Asian Nations (ASEAN): Sejarah Konstitusi Dan Integrasi Kawasan* (Surabaya: Airlangga University Press, 2014), 1.

⁹ Mohd Syaiful Anwar, Mohd Nawawi, and Mohd Zambari Zainuddin, "Asal-Usul Kriteria Imkanurrukyat MABIMS Di Malaysia" (Paper, Lokakarya Internasional Penyatuan Kalender Hijriah Sebuah Upaya Pencarian Kriteria Hilal yang Objektif Ilmiah, Semarang, 2012).

Criteria for Determining the Beginning of the Month in Brunei Darussalam

In determining the beginning of the Hijri month in Brunei Darussalam, the moon sighting method is used on the 29th day of the Hijri month. The hilal sighting is carried out after the sun sets at the end of the Hijri month on the 29th, especially for the determination of Ramadan and Shawwal. Meanwhile, the astronomical calculation method for Brunei Darussalam is used only as a guide for estimating the implementation of the hilal sightings.¹⁰ In particular, Brunei Darussalam has a different policy from other MABIMS countries, especially in following the criteria for *imkanur rukyat* which were mutually agreed upon in 1993, namely the criteria for imkanur rukyat 2-3-8. The difference lies in Brunei Darussalam's policy of standardizing the month to 30 days when the moon's position meets the MABIMS criteria. Still, the moon does not succeed in *rukyat*¹¹.

Criteria for Determining the Beginning of the Month in Singapore

In determining the beginning of the Hijri month, Singapore is guided only by astronomical calculations. Singapore only uses astronomical calculations because astronomy activists have difficulty carrying out *rukyatul hilal* in Singapore. The main obstacle due to weather conditions and natural conditions that do not support *rukyat*. This is due to the geographical factor that Singapore is near the equator so it experiences erratic weather changes, plus the thickness of clouds on the horizon is often found in places of *rukyat* in Singapore. Thus, technically, Singapore depends on the results of the *rukyat* of Islamic countries close to Singapore.¹²

New MABIMS Criteria: Efforts to Unify the Hijri Calendar

The discussion of hijri calendar criteria has been ongoing for a long time. For about three decades, there has not been a single criterion to become a reference for an established calendar system. One of the other calendars that have been established is the Gregorian calendar. It seems

¹⁰ Mohd Shukri Hanapi and Shahir Hassan, "Basis for Using the Rukyah Method for Determining the Arrival of Ramadan and Syawal in Brunei Darussalam," *Journal of Islamic Studies and Culture* 3 (January 1, 2015), <https://doi.org/10.15640/jisc.v3n2a2>.

¹¹ Shahir Akram Hassan and Mohd Shukri Hanapi, "Standard Operating Procedure (Sop) in Determining the Arrival of Shawwal in Brunei Darussalam," *Social Sciences and Humanities Journal*, 2015.

¹² Shahir Hassan and Assoc. Professor Dr. Mohd Shukri Hanapi, "STANDARD OPERATING PROCEDURE (SOP) IN DETERMINING THE ARRIVAL OF SHAWWAL IN BRUNEI DARUSSALAM" 10, no. 10 (November 1, 2015).

that Muslims all over the world also have a common goal to be able to unify the Hijri calendar like the Gregorian calendar. There are three prerequisites for realizing the unification of the Hijri calendar, namely having a single criterion, having a single authority, and agreeing on a date line.¹³

Regarding the criteria and studies that have been carried out, it becomes an agreement and minimizes errors in astronomical calculations. In 1994, it was agreed on the MABIMS criteria known as criteria 2-3-8, namely a minimum moon height of 2 degrees, a minimum moon-sun angle distance or elongation of 3 degrees, or a minimum moon age of 8 hours.¹⁴ However, in its development until now, it has not been entirely accepted by Islamic organizations, and astronomically, it is still being questioned.

MABIMS members have criticized the old MABIMS criteria since the 2010s because they were considered too low. The *hilar* at an altitude of 2 degrees is very thin, while the evening twilight is still quite bright. So then proposed higher criteria. The study that has been researched by Nursodik (2018) compared the Istanbul 1978 criteria, which stated a minimum height of 5 degrees and 8 degrees of elongation, with the new MABIMS criteria.

Furthermore, the new MABIMS criteria were motivated by the 16th Muzakarah Rukyat and Islamic Calendar of MABIMS Member States (Ministers of Religion Brunei Darussalam, Indonesia, Malaysia, and Singapore), on 2-4 August 2016 at the Baitul Hilal Port Dickson Complex Negeri Sembilan Malaysia. The meeting has agreed to revise the old criteria with the new criteria. The old MABIMS criteria known as criteria (2-3-8)¹⁵ are considered astronomically too low, although several testimonies are legally acceptable because the witness has been sworn in by the Religious Court Judge. However, at an altitude of 2 degrees with an

¹³ Hassan and Hanapi.

¹⁴ In 1992, to achieve uniformity of dates in the Southeast Asian region, an unofficial meeting of the Ministers of Religion of Brunei Darussalam, Indonesia, Malaysia and Singapore (MABIMS) made the three requirements of the Imkanur Rukyah criteria as follows: a. Hilal height of at least 2 degrees, b. The curved distance of the crescent moon to the sun is at least 3 degrees, c. Hilal age 8 hours on the day of rukyah after the occurrence of *ijtima* (conjunction). See Khafid, Ing "International Date Line: Between Miladiyah and Hijri Calendar", Paper, presented at the National Conference on Unification of the Hijri Calendar, held in Jakarta, 17-19 December 2005, 2-3.

¹⁵ Kemenag, "Anggota Mabims Gelar Muzakarah dan Takwim Islam,"

<https://kemenag.go.id>, accessed February 12, 2023,

<https://kemenag.go.id/nasional/anggota-mabims-gelar-muzakarah-dan-takwim-islam-ndzzyb>.

elongation of 3 degrees or an age of 8 hours, the *hilar* is still too thin so it is impossible to beat the light of the twilight. The evening twilight is still quite strong at an altitude of 2 degrees after sunset. Therefore, based on the draft decision of *Muzakarah Rukyat* and *Takwim Islam*, the member states changed the visibility criteria for the *hilar* of MABIMS as follows:¹⁶

1. The criteria for *imkanur rukyat* for MABIMS member countries in determining the Hijri calendar and the beginning of the Hijri month are: "When the sun sets, the height of the *hilar* is not less than 3° from the horizon and the angular distance (angle of elongation) of the moon to the sun is not less than 6.4°."
2. The angular distance parameter (elongation angle) referred to is from the center of the Moon to the Sun.
3. The implementation of these criteria in the preparation of the Hijri calendar will begin in 2018/1439 H.
4. The *hilar* image technique may be used in *rukyyatul hilar* following the conditions:
 - a. It is observed after Sunset.
 - b. The observer is a Muslim and fair.
 - c. The equipment used maintains the principle of *rukyyat*.

Analysis of Applicability of the New MABIMS Criteria in Southeast Asia

Applicability of the New MABIMS Criteria in Jurisprudence Studies

Every year, when welcoming Eid al-Adha, Muslims question the problem of determining the start of the month of Zulhijah, which is sometimes different from Saudi Arabia. The problem is related to the difference when standing at Arafah. For Muslims who are outside the city of Mecca and do not carry out the Hajj pilgrimage, it is *sunnah* to carry out the Arafah fast. So far, the basis for Muslims to determine the beginning of the Hijri month is the hadith related to the command for the sighting of the *hilar*. The hadith is then implemented as a mandatory endeavor carried out by Muslims in the world.¹⁷ As for the results of *rukyyat*, there are different schools of thought regarding its application. The *Jumhur Ulama* school, which includes the Hanafi, Maliki, and Hanbali schools of thought, states that when the *hilar* is sighted, the determination of fasting

¹⁶ Thomas, "Menuju Kriteria Baru MABIMS Berbasis Astronomi."

¹⁷ Jaenal Arifin, "FIQIH HISAB RUKYAH DI INDONESIA (TELAAH SISTEM PENETAPAN AWAL BULAN QAMARIYYAH)," *YUDISIA : Jurnal Pemikiran Hukum Dan Hukum Islam* 5, no. 2 (January 20, 2016), <https://doi.org/10.21043/yudisia.v5i2.704>.

becomes one and applies to all Muslims worldwide. Meanwhile, scholars of the Syafii school of thought argue that the implementation of the results of the *hilar* sighting only applies to that area and does not apply to areas that are far apart due to differences in the appearance of the *hilar* in various regions.¹⁸

In fact, the steps that can be taken in using both opinions, both the *Jumhur Ulama* school and the Shafii school, are having a single authority. If you follow the Syafii school of thought, then the authority that must determine the results of the *hilar* sighting is the local government and/or inter-state organizations within the regional scope. Whereas when following the *Jumhur Ulama* school of thought, the sole authority that determines the results of the *hilar* sighting *isbat* (decision) is an organization that can unite nations. Therefore, now experts in jurisprudence and astronomy, whose problems were initially only about astronomical calculation and *rukyat*, each party began to realize the importance of unifying the Hijri calendar as time and technology progressed.

The shift in the discourse of astronomical calculation and *rukyat* in the view of *fiqh* as adopted from Thomas Kuhn's theory, that the study of *hisab-rukyat* which used to be limited to studying the arguments and their interpretations, is now experiencing a paradigm shift towards exploring the unification of the Global Hijri calendar. Concerning that, in *fiqh* there is the concept of *Ittihadul Matla'* ¹⁹ which is used in determining the beginning of the lunar month in the MABIMS region, which aims to unite Muslim countries in determining the start of the hijri month.

According to Djamaluddin (2022), related to *ittihadul Mathla'* in the ASEAN region, it can be considered a legal area based on an agreement. For example, in one Southeast Asian region, especially MABIMS countries, based on the results of calculating the height of the *hilar*, they have met the agreed criteria, namely the height of the *hilar* above 3 degrees and an elongation of 6.4 degrees. So, when the *hilar* is seen (*Imkan*) anywhere as long as it is still in the territory of the MABIMS country, then all MABIMS countries can accept it.

Applicability of the New MABIMS Criteria in Astronomical studies

Basically, the new MABIMS criteria were developed to replace and revise the old criteria "2-3-8" (old MABIMS) which were considered

¹⁸ Ibnu Hajar Al-Haytami, *Tuhfah Al-Minhaj Fi Syarh al-Minhaj*, (Beirut: Dār Ihyā' at-Turās al-'Arabiyy, 1983), 3: 380.

¹⁹ Susiknan Azhari, *Ensiklopedi Hisab Rukyat* (Yogyakarta: Pustaka Pelajar, 2008), 107.

astronomically too low. However, several testimonies were legally acceptable because the witness had been sworn in by the Religious Court Judge. However, at an altitude of 2 degrees with an elongation of 3 degrees or an age of 8 hours, the hilal crescent is still too thin so it is impossible to beat the light of the *shafak* (evening twilight) which is still quite strong at an altitude of 2 degrees after sunset.²⁰

Therefore, according to the Astronomy expert team, the New MABIMS Criteria has reasons and scientific data evidence as criteria that are expected to unite the Islamic calendar in the Southeast Asian region. As has been determined by the MABIMS countries regarding the application of the new MABIMS criteria (3-6,4). There are several scientific reasons for the New MABIMS criteria, namely:

- a. *Imkanur rukyat* or *hilal* visibility is a criterion based on long-term sighting data analyzed by astronomical calculation.
- b. *Imkan rukyat* or the visibility of the *hilal* in general is determined by the thickness of the moon's crescent and the disturbance of the light of the *shafak*. The hilal will be visible if the moon's crescent (*hilal*) is thick enough so that it can beat the light of the *shafak*. The thickness of the *hilal* can be determined from the moon elongation parameter (the distance between the moon and the sun angle).²¹
- c. From the results of long-term sightings for hundreds of years, it is known that the minimum elongation so that the hilal is thick enough to be able to observe it is 6.4 degrees (Odeh, 2006). Data analysis of about 180 years of astronomical calculation at sunset in Banda Aceh and Pelabuhan Ratu also proves that an elongation of 6.4 degrees is also a prerequisite for the moon to be above the horizon at sunset (see Figure 1 and Figure 2).

²⁰ "Naskah Akademik Usulan Kriteria Astronomis Penentuan Awal Bulan Hijriyah," April 19, 2016, <https://tdjamaluddin.wordpress.com/2016/04/19/naskah-akademik-usulan-kriteria-astronomis-penentuan-awal-bulan-hijriyah/>.

²¹ If the elongation is too small (the moon is too close to the sun), the hilal is very thin. Shaft light parameters can be determined from the height. If it is too low, the light of the hilal is still too strong so that it can overpower the very thin hilal light. So, the criteria for imkan rukyat (hilal visibility) can be determined by two parameters: the elongation and height of the moon.

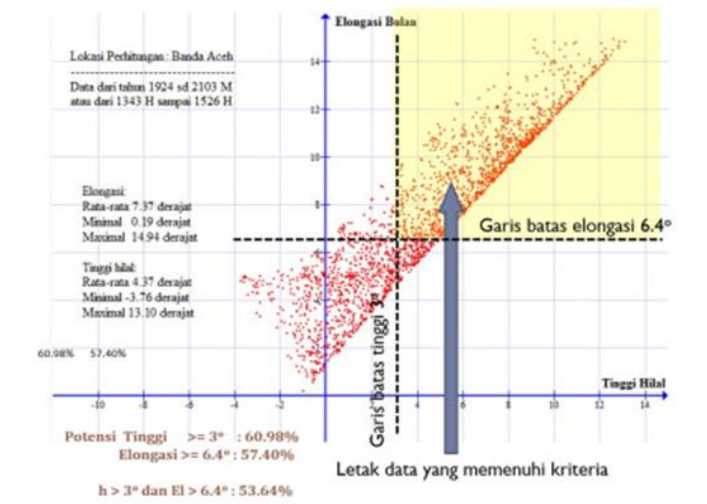


Figure 1. Graph of astronomical calculation 180 years at *ijtima* (conjunction) with an elongation of 6.4° markaz (reference place): Banda Aceh.²²

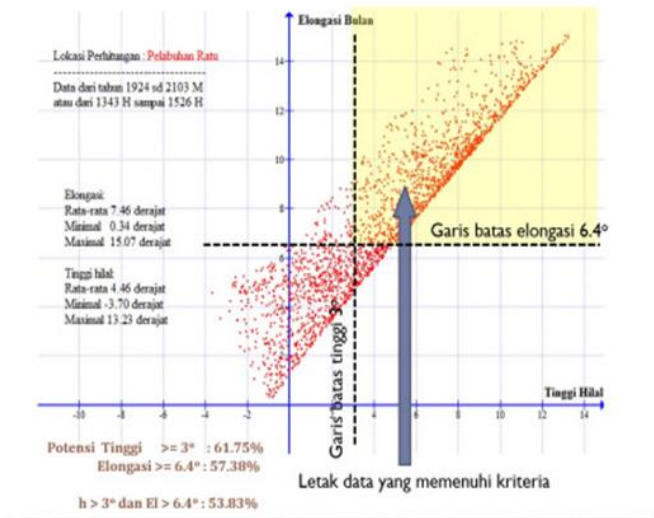


Figure 2. Graph of astronomical calculation 180 years at *ijtima* with an elongation of 6.4° markaz (reference place): Pelabuhan Ratu.²³

- d. From the global *rukyat* data, it is known that there are no astronomically reliable testimonies of the *hilal* that the moon-

²² Thomas, "Menuju Kriteria Baru MABIMS Berbasis Astronomi."

²³ Thomas.

sun height difference is less than 4 degrees or the moon's height at sunset is not less than 3 degrees (see Figure 3).

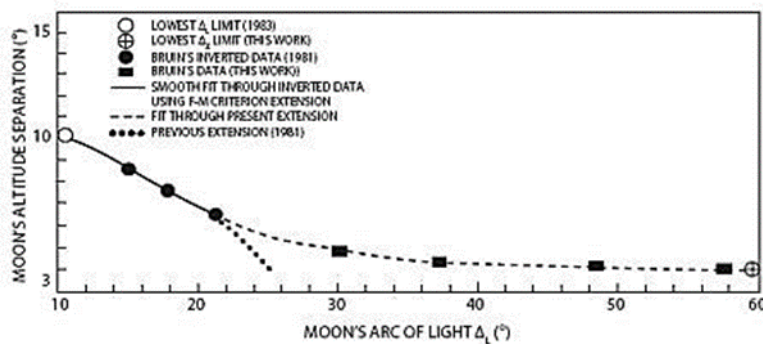


Figure 3. Ilyas (1988) provides criteria for the visibility of the *hilar* with a minimum Moon-Sun height difference of 4° (minimum Moon height of 3 degrees).²⁴

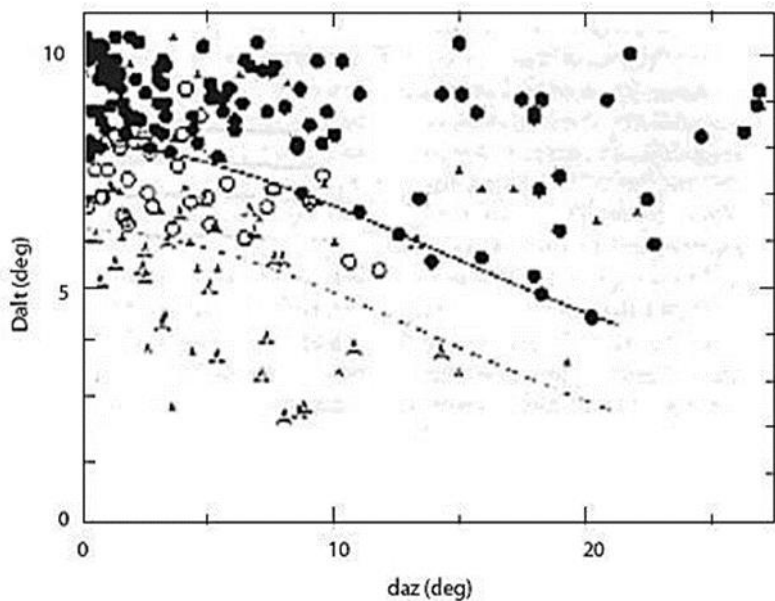


Figure 4. From SAAO data, Caldwell and Laney (2001) made the criteria for the visibility of the *hilar* by separating observations with the naked eye (black circle) and with optical aids (white moon). Generally, the minimum requirement for the moon-sun height difference (DALT) is > 4° or the moon's height is > 3 degrees.²⁵

²⁴ Thomas.

²⁵ Thomas.

Another scientific analysis, data about 180 years of the Moon's position, with a hypothetical criterion called criteria 29. Assuming that if the *ijtima* before *maghrib* is the 29th, then the previous 28 days is the 1st. If there is a day lag between the 29th and the 1st of the following month, then there is an additional day (30th) or *istikmal*. Moon height data with the possibility of *istikmal* or without *istikmal* is shown in Figure 5.

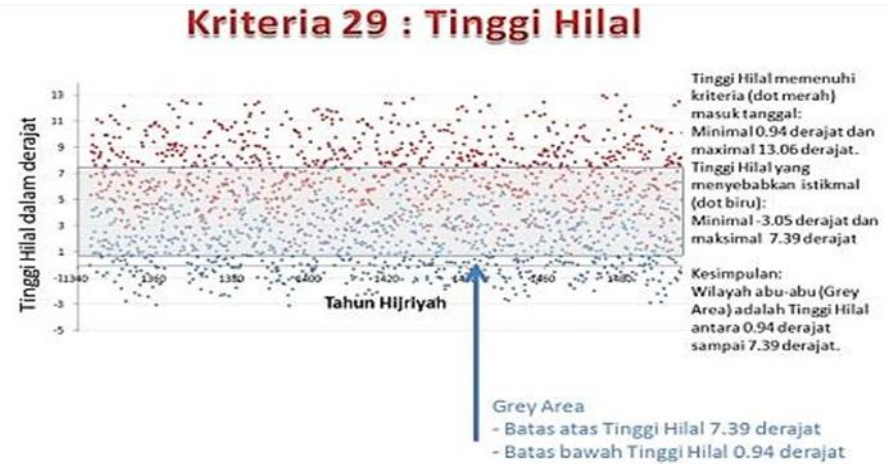


Figure 5. Criteria 29: Hilal Height²⁶

This data can be interpreted, if the moon's altitude is more than 7.4 degrees, it can be ascertained that the next day is the 1st or there is no *istikmal*. In the altitude range of 0.9 – 7.4 degrees, there is still a possibility of *istikmal* or not. Still, with a height of 3 degrees (see the distribution of red dots, generally above 3 degrees), there is typically a chance that the next day will be the 1st or the start of the month.

Based on the above analysis, the new MABIMS criteria are refinements to the criteria used by the *Hisab Rukyat* Team and Islamic organizations to bring all these criteria closer to the astronomical calculation and hilal sightings according to astronomical studies. Thus, the aspects of *rukya*t and astronomical calculation have a strong footing, not just references to *syar'i* propositions but also operational interpretations based on science-astronomy that can be mutually accepted. Don't let the criteria that serve as a guideline be based solely on the interpretation of *syar'i* propositions

²⁶ Thomas.

without a scientific basis in astronomy or based on reports from old sightings that are astronomically controversial.²⁷

Applicability of the New MABIMS Criteria in socio-political studies

According to Gelding's theory of applicability, there are several categories of applicability. 1). Factual or Empirical Applicability, 2) Normative Applicability, and 3) Evaluative Applicability. Gustav Radbruch then explained other terms for these three behaviors. According to Radbruch, normative or factual validity can also be called juridical validity (*juristische geltung*), factual or empirical validity in other words is sociological validity (*sociologische geltung*), and evaluative validity is also called philosophical validity (*philosophische geltung*). In relation to this article, the author focuses more on the term with juridical, sociological and philosophical validity.

Opportunities for the application of the new MABIMS criteria can be seen by several indicators of factual or empirical aspects or socio-political, juridical aspects that normatively these criteria can be tested scientifically-astronomically as an established criterion. Furthermore, the evaluative or philosophical aspect means that the new MABIMS criteria appear to be accepted by all MABIMS members and are obligatory to implement these criteria.

The newly approved MABIMS New Criteria for implementation in 2022 based on an ad-referendum signed by all ministers of Religion of MABIMS member countries is part of the philosophical validity of its implementation in the practical realm. However, the juridical aspects related to scientific testing are still being studied, especially regarding the elongation parameters' applicability in implementing the New MABIMS criteria. This question arose after the PBNU Falakiyah Institute established the Imkan Rukyat Nahdlatul Ulama criteria using geocentric elongation, even though the figure is the same 6.4 degrees or the topocentric elongation is 5.4 degrees.

If you see references to the MABIMS New Criteria regarding elongation, refer to Odeh.²⁸ In Odeh's paper, it is stated that the elongation used is topocentric elongation. The minimum value of

²⁷ Thomas Djamaluddin, "ANALISIS VISIBILITAS HILAL UNTUK USULAN KRITERIA TUNGGAL DI INDONESIA," August 2, 2010, <https://tdjamaluddin.wordpress.com/2010/08/02/analisis-visibilitas-hilal-untuk-usulan-kriteria-tunggal-di-indonesia/>.

²⁸ Mohammad SH Odeh, "New Criterion for Lunar Crescent Visibility," *Experimental Astronomy* 18 (April 1, 2004): 39–64, <https://doi.org/10.1007/s10686-005-9002-5>.

topocentric elongation is 6.4 degrees. Therefore, juridical enforcement will be implemented when the new standard criteria match, and there is no difference in setting the criteria. At the "Indonesian Standard Taqwim Synchronization" meeting in March 2023 it was finally agreed to use the geocentric elongation criteria of 6.4 degrees.

The new MABIMS policy has the potential to cause conflict in society, especially among people who are very attached to their traditional calendar. The dynamics of managing such conflict will depend on several factors, including the nature and extent of the conflict, the degree of involvement of member country governments, and the strategies used to promote such policies. One potential source of conflict is the diversity of regional religions and cultures. The proposed calendar needs to consider the diverse religious and cultural traditions of member countries to be acceptable to all. Thus, MABIMS policies need to strike a balance between promoting regional integration and respecting the cultural and religious diversity of member countries and Islamic organizations.²⁹

Impact of the Applicability of the New MABIMS Criteria in the unification of the Hijri Calendar in the Southeast Asian Region

The new MABIMS criteria is an ideal astronomical criterion that can become an agreement between the schools of astronomical calculation and *rukyat* which have been in polemics for a long time, especially in Indonesia. Adherents of the *Hisab* Method and *Rukyat* Method can be bridged by these criteria. This is evidenced by the criteria of a 3 degrees hilal height in the western region of Southeast Asia, the hilal in eastern Indonesia to the international date line in the Pacific Ocean has been above the horizon at sunset in that area. Therefore, the new MABIMS criteria with a *hilal* height of 3 degrees with the *markaz* of the western part of Southeast Asia is a form of alignment and conformity with the global hilal manifestation criteria. In addition, other evidence in the practice of this criteria, adherents of the school of astronomical calculation, these criteria can be practiced as a calendar guide for Muslim worship. Whereas for followers of the *Rukyat* school of thought, these criteria can also be the basis for rejecting the testimony of the *hilal* if it falls under the new MABIMS criteria. And it can also be used as a guide in

²⁹ Abdul Mufid and Thomas Djamaluddin, "The Implementation of New Minister of Religion of Brunei, Indonesia, Malaysia, and Singapore Criteria towards the Hijri Calendar Unification," *HTS Theological Studies* 79, no. 1 (2023): 1–8, <https://doi.org/10.4102/hts.v79i1.8774>.

determining the beginning of the Hijri month when conditions for the hilal sighting are constrained by weather. For this reason, a joint commitment is needed in implementing and implementing the new MABIMS criteria in Indonesia. This can be realized if the *rukyat* and astronomical calculation practitioners agree to enforce it.

In essence, the new MABIMS criteria have the potential to be used as calendar unification criteria for regional and global scope. Moreover, the results of the 2019 MABIMS meeting stated that the new criteria could be applied regionally after there was agreement and understanding from all parties related to determining the start of the Hijri month. Within the regional scope, especially the ASEAN region, the determination of the Hijri calendar can be carried out by the Southeast Asian Hisab-Falak Syar'I organization, which is called the Bureau of Authorization for Rukyat and Islamic Taqwim for MABIMS Countries. That means that a single authority at the Southeast Asian level (i.e., MABIMS) is more realistic to enact and implement than at the Global level. This is due to constraints on the unification of calendars at the global level. One of the obstacles to the unification of calendars at the global level, if implemented, for example, in terms of the principle of *rukyat* or also *imkanur rukyat*, the most fortunate are the time zones at the western end of the Earth. Such as those in the Americas and islands to the west of the Pacific Ocean and to the east of the International Date Line. This is because a country which is in the westernmost region has a great chance of becoming *rukyat imkanur* (possible to observe). Meanwhile, Muslims in the Eastern region of the world, such as the Southeast Asia Region (ASEAN), have many cases of sacrificing the principle of *imkanur rukyat*, let alone *rukyat fikliyah*.

The idea of having a single Hijri calendar system at the national, regional and global levels is indeed the goal of Muslims all over the world. However, these levels are of course adjusted to the existing priority scale. For example, the goal of uniting the Hijri calendar at the global level is difficult to realize, at least it can be implemented at the regional level or in the Southeast Asian region. As the rule of fiqh which reads: Something that cannot be done entirely, do not leave it entirely. This means that if the big goal of unifying the Global Hijri calendar cannot be implemented, then with the new criteria MABIMS can become a bridge to unify the Hijri calendar at the national level and in the Southeast Asia (ASEAN) region.

Efforts to realize a global Islamic calendar are carried out in MABIMS countries by covering three prerequisites: criteria, territorial boundaries

and authority. The criteria currently recommended and agreed upon by MABIMS countries are the New MABIMS criteria. It is evident that these criteria received a positive response from 4 countries namely, Malaysia, Brunei Darussalam, Indonesia, and Singapore on December 8, 2021, at the unofficial annual meeting of state ministers of religion MABIMS ratified the New MABIMS criteria which were signed and to be implemented in 2021 or according to the readiness of each country to implement it.

Therefore, the prospects for implementing the new MABIMS Criteria in Southeast Asia are transparent and open. From a geographical point of view, the natural conditions of the MABIMS countries around the equator can cause erratic weather, which often becomes an obstacle to implementing rukyat. Therefore, the opportunity for the implementation and enforcement of the New MABIMS Criteria in the ASEAN region is very open, especially in supporting the possibility of failure of the rukyat being implemented, while sticking to the results of the existing *imkan rukyat* based on astronomical calculation. In addition, the new MABIMS criteria are a joint endeavor to realize the unification of the Hijri calendar in the Southeast Asian region. Regarding the new criteria, this is not perfect. Still, it can minimize errors in astronomical calculations tested by astronomers across countries without ignoring religious principles in determining the beginning of the Hijri months.

The validity of a calendar system requires three prerequisites. There is an agreement on criteria. There is an agreement on the boundaries of the area of application. And there is an authority that looks after it. The new MABIMS criteria already have these three prerequisites. The new MABIMS criteria were agreed upon in 2021 and began to be implemented in 1443 H/2022. Regional boundaries of its application in the ASEAN region, at least in four countries: Brunei Darussalam, Indonesia, Malaysia, and Singapore. However, the practical implementation also needs to be studied in practice. Until now, the new MABIMS criteria have only been applied for two years, 1443 H/2022 and 1444 H/2023.

Proof by rukyat is also essential as validation of this new criteria. In Indonesia, the new MABIMS criteria reject hilal testimony that is too low because it is considered doubtful. However, if there is valid testimony, for example, supported by evidence of the hilal image, the testimony can be accepted at the *itsbat* (decision) meeting. The data can be used as input for improving the criteria. This needs astronomical proof to get a scientific basis.

Regarding the area of application, regional areas have the potential to become trials for the broader application of the Islamic calendar. Not just within the national boundaries of a country. There is an aspiration to realize a global Islamic calendar. But it's not easy. It needs the agreement of all Islamic countries. The process was very long to reach a regional agreement among the MABIMS countries. The draft of the new MABIMS criteria was technically agreed in 2016. However, the official agreement at the ministerial level of Religion was implemented in 2021. It will take about five years to discuss it until it can be agreed upon at the Government level.

The concept of *Ittihadul Matla'* or the unity of the hilal sighting area, is also known as the *Wilayatul Hukmi* concept or the unitary jurisdiction. This can be realized if there is one authority that decides. The principle follows the fiqh principle that *Hukmul Hakim ilzamun wa yarfaul khilaf* (authority decisions are binding and overcome differences). At the national level, the Government of Indonesia acts as an authority by setting the start of Ramadan, Shawwal, and Dzulhijjah to be enforced throughout Indonesia. However, in practice, groups of people still do not follow it because of different criteria. At the ASEAN level, the ministers of religion of the MABIMS countries can become a collective authority to unify the Islamic calendar regionally.

Conclusion

The new MABIMS criteria are part of an effort to unify the Hijri calendar at the Southeast Asian regional level. All members of MABIMS agree on these criteria from a fiqh, astronomical and socio-political aspect, namely the height of the hilal is 3 degrees and the elongation is 6.4 degrees. Regarding its validity and impact in Southeast Asia, the new MABIMS criteria have a strong foundation with their acceptance at the government level represented by the ministers of religion. However, socialization still needs to be carried out for implementation in society, especially among Islamic organizations. In addition, empirical implementation to achieve agreement and uniformity in Indonesia needs to be reviewed periodically. Seeing Indonesia's condition, where Islamic organizations have not entirely accepted these criteria, studies on this implementation must be carried out continuously. The New MABIMS Criteria is a new hope for efforts to unify the Hijri calendar in the Southeast Asian region.

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