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THE TRANSFORMATION OF *IMKAN AL-RU'YAH* (CRESCENT VISIBILITY) CRITERIA IN MALAYSIA: CHALLENGES AND SOLUTIONS

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ABSTRACT

This paper examines the *Imkan al-Ru'yah* method used in Malaysia to determine the visibility of the crescent moon at sunset, marking the beginning of the Hijri month. It explores the criteria for identifying the new moon, the challenges associated with its application, and potential solutions. Through an analysis of crescent sighting practices and local issues, the study highlights the complexities of the method. A review of existing literature evaluates the validity and adaptability of the latest criteria in light of advancing astronomical knowledge. Notably, the study identifies the role of social media in disseminating critical astronomical information to the Malaysian public. This finding underscores the need to integrate traditional methodologies with modern technology to enhance accuracy and accessibility in Hijri calendar determination. Ultimately, the paper emphasizes the evolving nature of astronomical methods and advocates for a balanced approach that harmonizes scientific advancements with established traditions.

Keywords: *Imkan al-Ru'yah, criteria, problems, solutions*

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Introduction

A calendar is a system that organizes and tracks time, helping people manage their daily lives, plan events, and synchronize activities with others. Calendars typically consist of days, weeks, months, and years, and they serve as essential tools for structuring and measuring time in various cultures and societies worldwide.

One of the significant calendar systems is the Hijri calendar, also known as the Islamic or lunar calendar. The Hijri calendar is a lunar calendar used by Muslims to determine the dates of important religious events, such as Islamic holidays, and the timing of religious obligations, like fasting during Ramadan and performing Hajj to Mecca. Unlike the Gregorian calendar, the most widely used and solar-based calendar, the Hijri calendar is based on the moon's phases.

The Hijri calendar has 12 months of 29 or 30 days, depending on the lunar cycle, resulting in a year of about 354 or 355 days. This shorter lunar year means the Hijri calendar drifts about the Gregorian calendar, moving backward by approximately 10 to 12 days each year. As a result, the Islamic months, and holidays, such as Eid al-Fitr and Eid al-Adha, vary yearly compared to the Gregorian calendar. The sighting of the new moon is traditionally used to determine the date in the Hijri calendar.

The Hijri calendar is closely related to the moon's movement around the earth in its orbit. This is because the new moon is a measure of the beginning of a new month in the Hijri calendar, especially in determining the beginning of Ramadan and Shawwal. Because of this, the Hijri calendar is also known as the lunar calendar. As The Prophet Muhammad, Peace Be upon Him, said:

> Translation: “Fast if you see it (the moon) and break your fast if you see it (the moon).”
>
> (al-Bukhari (1909) and Muslim (1081))

Another hadith:

> Translation: “If you see the new moon, then fast, and break the fast if you see it.”
>
> Narrated by Muslim (1081)

In determining the new moon, Islamic astronomers have also developed various methods to determine the new Hijri month. Among them are *Ru'yah* (observation), which involves looking at the new moon, and *Hisab* (calculation), which involves making calculations for the appearance of the new moon. A method is also created under the *Hisab* method: *Imkan al-Ru’yah* (expected visibility). Malaysia uses the *Imkan al-Ru’yah* method to determine the beginning of the Hijri month.

The *Imkan al-Ru’yah* method has specific criteria to achieve the result of the visible new moon. Many Islamic astronomers work tirelessly to study the criteria for sighting the new moon. Among them are Yaqub Ibn Tariq (E.S. KENNEDY, 1968), Al-Tusi (Giahi et al., 2003), and many more to this day. They strive to develop the best and most scientifically acceptable appearance criteria. Based on their observations and calculations, several astronomers from China, Greece, Babylonia, India, Islam, and Western scientists have prepared their vision standards. In this century, Malaysia, Indonesia, Brunei, and Singapore, as members of the Informal Annual Meeting of Religious Ministers (MABIMS) for Brunei Darussalam, the Republic of Indonesia, Malaysia and the Republic of Singapore, also did not miss out on submitting new criteria for *Imkan al-Ru’yah* based on astronomy researchers in their respective countries.

As said above, the *Imkan al-Ru’yah* Method has criteria for new moons to meet the conditions for determining the beginning of a new Hijri month. This method combines *Ru'yah's* and *Hisab's* methods at once. *Imkan al-Ru’yah* also needs to be based on moon sighting data to anticipate moon sightings in line with the development of science and technology.

The *Imkan al-Ru'yah* criteria were first introduced from 27th until 30th November 1978, during the conference on determining the beginning of the month of Hijri held in Istanbul. Delegates from 20 countries attended this conference. Malaysia and Indonesia are Southeast Asian countries that sent representatives to the conference. The purpose of the conference is to coordinate the determination of the beginning of the Hijri month in every Islamic country in the world. The conference has produced several resolutions on the criteria of *Imkan al-Ru'yah*, which were agreed upon. The criteria are:

i. The moon is deemed visible if the angle between the sun and moon at sunset is at least 7-8 degrees. The selected criterion is 8 degrees (Mohammad Ilyas, 1994), which means that the crescent moon must be at least 8 hours old when it sets since it is considered the safe value (This is an alternate criterion provided by Malaysia's National Council for Islamic Religious Affairs).

ii. The moon is at least 5 degrees 23 in height at sunset.

The moon age criterion has been in use in Malaysia since 1972, according to Abdul Hamid Tahir, who wrote the following in his book: "The moon age criterion of 8 hours after *Ijtima'* (conjunction) has been used for a long time from 1972 to 1977 when the country practiced the method of early determination of fasts and holidays based on *Ru'yah* and *Hisab*, from 1978 to 1983 the method reverted to only *Ru'yah* and *Hisab* since 1984 (Tuan et al., 2013).

On June 1, 1992, the Informal Meeting of the Ministers of Religion of Brunei Darussalam, Indonesia, Malaysia, and Singapore decided to change the criteria for *Imkan al-Ru'yah* in Labuan (Mohd Zambri, 2022). The conditions of *Imkan al-Ru'yah* are that before the sun sets, *Ijtima'* (conjunction) occurred on the 29th day of the Hijrah month and, through the estimation of the existence of the new moon is positive and can meet one of the following conditions:

i. When the new moon sets, the age of the new moon is not less than 8 hours after the occurrence of *Ijtima'* or,

ii. When the sun sets, the height of the new moon above the horizon is not less than 2 degrees, and the distance between the new moon and the sun curve is not less than 3 degrees.

After conducting astronomical research, Brunei, Indonesia, Malaysia, and Singapore presented new criteria for the *Imkan al-Ru'yah* method. Finally, new criteria for *Imkan al-Ru'yah* have been presented and agreed upon by all national representatives from MABIMS members. The criteria are:

i. When the Sun sets, the height of the new moon from the horizon is not less than 30 degrees, and

ii. The curve or elongation distance is not less than 6 and 40 degrees.

This new *Imkan al-Ru'yah* criteria was officially implemented in Malaysia on the 1st of Muharram 1443H, which equals the 9th of August 2021 (Mohd Zambri, 2022).

Problem Statement

The criterion of *Imkan al-Ru'yah* was first introduced during the Hilal Summit for Determining the Beginning of the Hijri Month in Istanbul on November 26th until 29th, 1978, with two resolutions, namely the first: the height of the crescent moon is not less than 5° when the sun sets. Second, the distance of the crescent-sun curve is not less than 8° at sunset. The National Council for Islamic Religious Affairs of Malaysia adopted the Istanbul Declaration of 1978 with an alternative condition that the age of the new moon must not be less than 8 hours when the new moon sets.

This *Imkan al-Ru'yah* criterion was initially used for the early determination of Ramadan, Shawwal, and Zulhijjah only. At the same time, the *Wujudul Hilal* method determined the other months (the presence of the moon). In 1995, the Islamic Calendar Technical Committee established *Imkan al-Ru'yah* criteria for all Hijrah Months in implementing the Hijrah Calendar. The Hijrah Month begins at maghrib (sunset) when the crescent moon is visible. The sophistication of technology and calculations

now allow us to accurately estimate the Moon's position. However, predicting whether the crescent can be seen at a location is quite challenging.

The results of the study found that the use of the 2° height of the Moon and the distance of the Moon-Sun curve of 3° when the Sun sets or the age of the Moon at eight hours when the Moon sets causes non-uniformity of the actual points of visibility of the Moon. In addition, there is a view that says the use of strict statistical conditions causes the evening of the moon sighting day; there is a potential where the observation of the Hilal (crescent moon) occurs in a state of intimate (conjunction) has not yet occurred. The committee began to collect moon sighting records from Malaysia, Indonesia, Brunei, Darussalam, and Singapore to conduct research.

Because the criteria of *Imkanal-Ru'yah* often change over time, through this study, the researcher tries to investigate the challenges that arise from the changing requirements of the *Imkan al-Ru'yah* method and give remedies to improve this method for users.

Research Objectives

i. Clarify the rationality behind the changes in *Imkan al Ru'yah's* criteria occasionally.

ii. Starting the problems and challenges faced by the changes in the criteria of *Imkan al-Ru'yah.*

iii. Provide solutions for the problem of changing the criteria of *Imkan al-Ru'yah*.

Research Methodology

In studying this topic, the researcher will rely on the qualitative method by relying on three approaches: the historical approach, in describing. Historical reality introduces the possibility of a visionary from ancient times until now. Inductive approach through research follows the monthly meteorological data obtained in each Hijrah month. Next, the curriculum is deductive, stating challenges and solutions to problems related to applying vision capabilities and then displaying it in research.

Literature Review

The work of Mohd Zambri (2023), *Kriteria Imkan al-Ru'yah yang Baru 1443 Hijrah*, explores the methods used in determining the Hijrah months in Malaysia through various calendar systems. This study also examines the astronomical relationship between the Sun, Moon, and Earth, while providing a historical account of *Imkan al-Ru'yah* from its inception to the present.

Meanwhile, Mohammad Ilyas (1994), in his article *Lunar Crescent Visibility Criterion and Islamic Calendar*, investigates the historical evolution of lunar crescent visibility criteria. His research includes an analysis of the probability of moon sightings, complemented by diagrams illustrating observational data. The study also considers both Islamic and Hindu perspectives on astronomy and outlines modern standards for determining the beginning of the lunar month.

A historical perspective on *Imkan al-Ru'yah* is also presented by Mohd et al. (2015) in *Sejarah Kriteria Kenampakan Anak Bulan di Malaysia*. This study delves into the development of the Hijrah calendar system in Malaysia, discussing its various classifications and the changes it has undergone over time. The authors further examine the evolving standards of lunar visibility and how these have been modified since the introduction of *Imkan al-Ru'yah*.

Expanding on this, Odeh (2004), in *New Criterion for Lunar Crescent Visibility*, published in *Experimental Astronomy*, focuses on both traditional and contemporary approaches to lunar sighting. The study highlights how moon observation techniques have transitioned from the Babylonian era to Islamic astronomy, ultimately leading to the establishment of a modern standard based on scientific advancements. Key variables influencing lunar visibility criteria are also examined.

In a related study, Izzatul Najihah (2022), through *Perkembangan Kriteria Astronomi dalam Meramal Kenampakan Anak Bulan*, traces the historical evolution of astronomical criteria used in predicting the visibility of the lunar crescent. This research outlines the progression of lunar sighting methodologies from the Babylonian period (circa 500 CE) to the present, illustrating the continuous refinement of these criteria.

Recent updates to lunar visibility criteria are further discussed in *Kriteria Imkan al-Ru'yah Baru (MABIMS)* by Saifulanwar (2022). This study highlights significant revisions to the standards adopted by Malaysia, Indonesia, and Brunei Darussalam, which were officially implemented in 2021, coinciding with Muharram 1443 Hijrah.

Finally, the newspaper excerpt *Kaedah Ru'yah dan Hisab* (Dr et al., 2022) provides an Islamic jurisprudential perspective on lunar sighting. The article discusses Qur'anic and Hadith-based arguments for determining the beginning of the Hijrah month through *Hilal* (crescent moon) observation. It also explores the differences in lunar calendar calculations across various countries and the role of *Imkan al-Ru'yah* in these determinations.

Discussion and Finding

The Rationality Behind the Transformation of Imkan al-Ru'yah Criteria

The criteria for *Imkan al-Ru'yah* have undergone a series of changes and adaptations over a considerable period, starting from the 1978 International Conference for Determining the Beginnings of Lunar Months in Istanbul to the present day. These criteria remain the subject of ongoing research by scholars worldwide, striving to discover the most effective formula for identifying the first visible crescent moon. Malaysia initially adopted criteria based on the discussions at the Istanbul Conference in 1978, with an additional stipulation introduced by Mohd. Khir Mohd. Taib, which required the Hilal (new moon) age to be no less than 8 hours when the moon sets. They adjusted the criteria, setting the altitude at 5.5 degrees and the elongation at 7.5 degrees (Mohd et al., 2015). However, these criteria were subsequently replaced by the *Imkan al-Ru'yah* criteria (KIR 1995) and later evolved into the 2021 New *Imkan al-Ru'yah* Criteria (KBIR 2021) (Izzatul Najihah, 2022).

According to Mohd Saiful Anwar Mohd Nawawi's research (2015), the shift from utilizing the Istanbul Conference 1978 criteria, which required an altitude of 5 degrees and an elongation of 8 degrees, along with the condition that the Hilal's age should be at least 8 hours, to the 1995 *Imkan al-Ru'yah* Criteria (KIR 1995) criteria in Malaysia was prompted by a controversy that transpired in the states of Perak and Johor.

In 1983, these two states observed the start of Shawwal on 12 June by employing the *Wujud al-Hilal* method (moon above the horizon). During this particular incident, a group of fishermen relayed that they had observed the moon while fishing in the ocean. Once ashore, the news rapidly disseminated, gaining credibility when acknowledged by the marines on duty at sea during that time. The information reached the mufti, who, upon learning of the sighting, recommended direct communication with the Tuanku Sultan because His Majesty is the one who has the power to declare the Shawwal celebration.

The Sultan expressed confidence in its authenticity. Subsequently, His Majesty ordered all state government machinery to disseminate the information to the public through state institutions. Consequently, Perak and Johor celebrated 1 Shawwal a day earlier than other states, based on the confirmed sighting of the moon. In contrast, other states commenced their Shawwal celebrations on 13 June using the *Imkan al-Ru'yah* (Istanbul Conference 1978) method. Consequently, a committee was formed on 14 December 1989 to reevaluate the criteria for the early determination of Ramadan and Shawwal.

After an extensive review of the Hilal Summit report in Istanbul from 1978, a thorough examination of moon sighting records, on-site observations conducted in Malaysia, an in-depth study of the 8-hour moon age criterion, and an analysis of moon sighting data in Indonesia, the committee recommended specific criteria for moon visibility in Malaysia. These criteria stipulated that during sunset, the moon should have an altitude of not less than 2 degrees and an elongation from the moon to the sun not less than 3 degrees. Furthermore, when the moon sets, its age should be no less than 8 hours. These criteria became the 1995 *Imkan al-Ru'yah* Criteria (KIR 1995). However, in 2021, these criteria were once again revised.

According to Mohd Zambri Zainuddin and Mohd Saiful Anuar Mohd Nawawi in their paper *"Kriteria Imkan al-Ru'yah Yang Baru 1443 Hijrah,"* before the introduction of the 2021 New *Imkan al-Ru'yah* Criteria (KIR 2021), there was another set of criteria known as the 2013 *Imkan al-Ru'yah* Criteria (KIR 2013), which suggested that the Hilal (new moon) could be sighted if its altitude was not less than 3 degrees and its elongation from the sun was more than 5 degrees.

Notably, these 2013 *Imkan al-Ru'yah* (KIR 2013) criteria were not officially adopted for use. The transition from the 1995 *Imkan al-Ru'yah* Criteria (KIR 1995) to the 2013 *Imkan al-Ru'yah* Criteria (KIR 2013) occurred for two reasons. The first reason was related to inconsistencies in determining the actual location of moon visibility. The second reason was the belief that the stringent statistical conditions in the 1995 *Imkan al-Ru'yah* Criteria (KIR 1995) might lead to situations where moon observations in a more intimate setting could not be accommodated.

In 2016, the *Muzakarah Rukyah Dan Takwim* Islam was convened, involving members from MABIMS (Minister of Religion Brunei, Indonesia, Malaysia, and Singapore). During this gathering, a thorough review of the moon sighting criteria was conducted, and the resulting criteria proposed that the moon's altitude should not be less than 3 degrees, and the elongation between the moon and the sun should not be less than 6.4 degrees. These criteria are now known as the 2021 New *Imkan al-Ru'yah* Criteria (KIR 2021). The decision to adopt these criteria, particularly the elongation of 6.4 degrees, stemmed from recommendations made by several MABIMS members, including Indonesia, Singapore, and Brunei.

Odeh's research influenced the choice of 6.4 degrees for elongation presented in his paper titled "New Criterion for Lunar Crescent Visibility." (Odeh, Mohammad, 2004) The 3-degree altitude requirement was also based on data from Malaysia, specifically the 2013 *Imkan al-Ru'yah* Criteria (KIR 2013). Consequently, the transition from the 2013 *Imkan al-Ru'yah* Criteria (KIR 2013) to the New *Imkan al-Ru'yah* Criteria (KIR 2021) can be attributed to the discussions and consensus reached during the *Muzakarah Rukyah Dan Takwim Islam* in 2016.

Problems and Challenges Faced by the Changes of Imkan al-Ru'yah's Criteria

The transformation of the new *Imkan al-Ru'yah* criteria that has been officially used started on 1 Muharram 1443H, 9th August 2021, has led to a few challenges. The challenges affected the authorities as well as society. Due to the new criteria enforced in August 2021, the year 2022 has become the first year the criteria were used to determine the entering of the new Hijri months.

Problems and Challenges faced by the Authorities

First, what do the authorities mean here are the state mufti departments, astronomers, and observatories found in Malaysia? Hence, like what Muslims in Malaysia have gone through in 2022, where Malaysians celebrate Hari Raya Shawwal a day earlier than indicated on the calendar, this issue brings confusion to Malaysians because it has never happened before. Some people believe that the date stated in the calendar is the exact date we use to celebrate Hari Raya every year and that it is fixed. However, did the sudden Shawwal celebration happen because of the unpreparedness of the authorities, such as the observatory and the mufti department, which were not ready to face the transformation of the new *Imkan al-Ru'yah*? Being unprepared, they could not predict Hari Raya Shawwal would fall a day earlier.

After conducting interviews or posing questions to astronomers following the emergence of the issue, they conceded that there might be a need for better preparedness in applying the new criteria. This potential requirement could be attributed to the necessity for gaining more experience with the recently introduced criteria, given that it has not been in use for an entire year. Furthermore, they may require assistance grasping the requisite skills and acquiring sufficient knowledge regarding the new criteria. Consequently, a comprehensive understanding of the new criteria becomes crucial, ensuring clarity in determining results.

Moreover, another indication prompting the authorities to prepare is the absence of new moon pictures on social media. Despite the Labuan observation station promptly sending a report directly to the Keeper of the Rulers Seal, the information was not disseminated through social media. This underscores the importance for authorities to be proactive and prepared, recognizing the significance of leveraging social media platforms to communicate critical information effectively (Ahmad A., 2023).

Problems and Challenges Faced by the Researchers

The challenges of transforming the *Imkan al-Ru'yah* criteria are not confined to the authorities; researchers are also significantly impacted. Their experiences reflect that the criteria's evolution does not enhance Hilal's predictability but exacerbates it. A notable instance is the occurrence of Eid al-Fitr 2022, dubbed the Sudden Shawwal celebration according to Media Mulia (Utusan Malaysia, 2022). Tan Sri Syed Danial Syed Ahmad, the Keeper of the Rulers Seal, declared that Muslims in Malaysia would celebrate Hari Raya Shawwal the following day on 2nd May 2022. This decision was based on observations in Labuan, where the Hilal (new moon) was sighted. However, the *Imkan al-Ru'yah* criteria did not fully meet the requirements mentioned in the 2021 New *Imkan al-Ru'yah* Criteria (KIR 2021).

Amree Ahmad (Kosmo, 2023) reported that 30 individuals observed the Hilal (new moon) at 6.38 pm, just 10 minutes after sunset, and the sighting persisted for seven minutes. Notably, all witnesses expressed satisfaction with the sighting. This event highlights the challenges faced by both authorities and researchers in adapting to the transformed criteria, leading to unexpected outcomes in predicting the visibility of the Hilal.

The situation is surprising, with people in Labuan, Sabah, reportedly sighting the Hilal (new moon) despite the 2021 New *Imkan al-Ru'yah* Criteria (KIR 2021) not being fully satisfied. The introduction and implementation of the KBIR 2021 after a year did not yield accurate predictions, indicating that the criteria are still in an early and imperfect stage.

Despite years of observation, numerous summits, and discussions, researchers have yet to identify the perfect criteria for predicting the first sight-able of the new moon. Even the unanimous selection of Odeh's (2005) criteria, with an elongation limit of 6.4 degrees, did not prevent an unexpected sighting of the Hilal (new moon) for Shawwal in 2022.

Adding to the complexity, Malaysia's 2013 *Imkan al-Ru'yah* Criteria (KIR 2013), researched for over 20 years, initially chose an elongation of 5 degrees, which appeared more precise and relevant. This incident underscores the challenges researchers face in obtaining sufficient data to develop accurate models and formulas for predicting the visibility of the new moon. The lack of precision in current data and models necessitates constant criteria evaluation. Repeated occurrences of such events could lead to public skepticism regarding the authorities' expertise and knowledge in this domain.

Problems and Challenges faced by the Society

The controversy surrounding the Shawwal celebration falling a day earlier in 2022 continued to be a trending topic among netizens, extending into the following year. The unexpected occurrence of the sudden Shawwal celebration in the previous year contributed to the heightened discussions. Consequently, in 2023, many Malaysians began making assumptions about the expected date for the Shawwal celebration—anticipating either an earlier date or the officially anticipated one.

These assumptions stem from a collective apprehension among netizens, fearing a recurrence of the previous year's issue that led to last-minute chaos in completing Hari Raya preparations. The rush to prepare a holiday meal at short notice, as experienced the night following the unexpected announcement in the prior year, has left a lasting impact on individuals, prompting them to speculate and plan cautiously for the upcoming celebrations.

The discussion on the date of Hari Raya Shawwal gained further traction due to reports that Indonesians had set the celebration for recognition on Saturday. Adding to the complexity, the International Astronomical Centre in the United Arab Emirates (UAE) also announced that the end of Ramadan might occur on April 20th, suggesting they would celebrate a day earlier than the anticipated date in Malaysia, April 22nd.

This date discrepancy among countries, including Egypt and the UAE, became notable. It is essential to recognize that comparing declarations in various nations may not directly apply to Malaysia due to the distinct methods used in each country, influenced by differences in the Matla' (the location where the new moon is first sighted). These variations in approach contribute to the diversity of declared dates for Hari Raya Shawwal across different regions.

The predictions made by netizens regarding the date of Hari Raya are primarily based on their general knowledge, lacking the depth of understanding and skills required in astrology. These assumptions typically rely on calculations and do not involve the traditional method of moon sighting. On social media platforms, Malaysians have been actively forecasting that Hari Raya will occur a day early this year. The rapid dissemination of this issue indicates contemporary society's reliance on technological advancements and easy access to information.

Furthermore, these assumptions proliferate because individuals nowadays possess the skills and often use software that provides information on sighting the new moon of Shawwal. However, there is a notable gap in aligning these predictions with the specific methods applied in Malaysia. The divergence in approaches and reliance on technology contribute to the spread of speculative information without necessary validation against established criteria or practices in the country.

The issue has garnered the attention of authorities, including astronomers and the Department of Islamic Development Malaysia (JAKIM). In response, these authorities have issued reminders to all Malaysians, urging them not to make assumptions about the date of Hari Raya. Additionally, there is a request for all parties to respect the decision or ruling made by the Conference of Rulers.

JAKIM specifically commented on disseminating a screenshot displaying the "Final Notice of Ramadan 1444H 20 April 2023." This information was believed to be broadcast through an advertisement display in a mosque (Astro Awani, 2022). Despite the expected date of the Hari Raya Shawwal celebration being April 22nd, the advertisement indicated that Hari Raya would fall on April 20th. This discrepancy in information has led to speculation and confusion among netizens regarding the date of Hari Raya Shawwal this year.

The Perak Mufti Department released a video on TikTok on April 7th, explaining that, based on calculations, the new moon of Shawwal would not be visible on April 20th, indicating that Hari Raya would fall on April 22nd. The video outlined the methodology behind the calculations. Notably, these calculations were conducted without direct moon sightings, contrasting with the methods traditionally applied in Malaysia, which involve calculations and actual moon sightings.

Despite the information being disseminated by the astrology department and considered reliable, people still sought clarification regarding this departure from the established practices. This underscores the significance of aligning communication methods with familiar and accepted traditions, especially in matters as culturally significant as determining the date of Hari Raya Shawwal.

The Solutions to the problem of changing the criteria of Imkan al-Ru'yah

Solution for the Criteria

As stated above, Malaysia started practicing the *Imkan al-Ru'yah* method in 1992 to determine the beginning of the Hijri month. At that time, the criteria used were:

i. When the sun sets, the height of the crescent moon should not be less than 2 degrees, and,

ii. The distance between the sun and the moon is not less than 3 degrees or,

iii. The moon's age at sunset is not less than 8 hours.

The criteria for determining the moon's visibility at sunset has significantly changed, explicitly starting in Muharram 1443 Hijrah. This alteration in the criteria is not exclusive to Malaysia; it is now adopted by neighbouring countries such as Brunei Darussalam, Indonesia, and Singapore, which were members of MABIMS. The updated standards, which differ from the previous ones, are as follows:

i. When the sun sets, the height of the crescent is not less than 3 degrees and

ii. The elongation of the sun and the moon is not less than 6.4 degrees.

Nevertheless, the new moon sighting data at Tanjung Chinchin on 29 Ramadan 1443H negates the criteria of *Imkan al-Ru'yah* when the new moon is visible even though it does not meet the criteria set for the *Imkan al-Ru'yah* method. The results of the sighting were as follows:

i. Altitude: 5 degrees and 27 minutes.

ii. Elongation: 5 degrees and 57 minutes.

If you look at the determination of the new *Imkan al-Ru'yah* criteria, this data does not reach the level for Elongation, which is 6 degrees and 24 minutes. Although not reaching the set criteria, the new moon can be seen with Allah SWT's permission.

Hence, it is recommended that the current *Imkan al-Ru'yah* criteria be subject to a thorough review by the relevant authorities. This review process should involve collecting additional observational data from observatories within Malaysia or neighbouring countries in the region. Similar to the approach taken by the Review Committee, which traveled to Indonesia to exchange moon sighting data, collaborative efforts in gathering observational results are essential. Each recorded observation outcome about the moon should be meticulously documented for future reference.

By consistently and systematically observing the moon, the accumulated data will be valuable in assessing the applicability and validity of the latest *Imkan al-Ru'yah* criteria. Furthermore, post-consensus on the new criteria, there should be a comprehensive examination of the necessity of maintaining the 8-hour moon age after *Ijtima'* (conjunction). This evaluation will ensure the updated criteria's continued relevance and effectiveness. Because space is a dynamic and ever-changing realm, every movement and change must be recorded occasionally. Furthermore, modifying the criteria needs to be continuously studied because it is not limited only there.

Solution for Society

Calendars play a crucial role in human life, providing a structured way to measure and organize time. They are essential for scheduling activities, planning events, and coordinating tasks in various aspects of personal, professional, and societal life. Additionally, calendars guide the observance of cultural and religious events, help record historical milestones and contribute to economic planning. They are tools for managing educational timelines, fostering astronomical and seasonal awareness, and supporting personal development. In an interconnected world, calendars facilitate global coordination and communication across different time zones and cultures. Overall, the importance of calendars lies in their ability to bring order to time, enabling efficiency and organization in diverse aspects of human activity.

The celebration of 1 Shawwal 1433H, scheduled on the calendar to fall on Tuesday, May 3, 2022, caused a discrepancy, which led to surprise among Muslims in Malaysia because the actual day of celebration differed from the calendar, which was a day earlier. Due to the incident, a few Muslims among Malaysians make their assumptions by saying that the *Ru'yah* (vision) of the new moon to determine the beginning of the new Hijri month is merely fulfilling the conditions without knowing its actual function. They said so because the horse calendar they hung on the wall of the house was written for the dates of important events and had been set in advance.

Due to concerns questioning the authority's decision in establishing the commencement of the Islamic month, the responsible entity needs to emphasize educating the general public about the accurate procedures involved. Entities like the Malaysian Syar'ie Astronomy Association should be more proactive in spreading astronomy information, particularly in determining the beginning of the Hijri month. It is imperative to enhance scientific discourse through various contemporary channels such as social media, television, and other accessible mediums.

Conclusion

In conclusion, the anticipated visibility of the new moon in Malaysia underscores the significance of addressing uncertainties surrounding the determination of the commencement of the Islamic month. A relevant issue exists regarding the authority's decision-making process in this matter. To mitigate these uncertainties, a comprehensive approach to prioritizing public education and awareness is needed.

The responsible entity, exemplified by organizations like the Malaysian *Syar'ie* Astronomy Association, should be more proactive in enlightening the general public about the intricate procedures involved in ascertaining the start of the Islamic month. This educational initiative is not merely about dispelling doubts but fostering a broader understanding of the scientific methodologies employed in moon sighting. By enhancing public knowledge, individuals can appreciate the complexities in determining the new moon's visibility, fostering a more informed and receptive society.

Furthermore, recognizing the contemporary communication landscape and leveraging various mediums to disseminate information is imperative. Social media platforms, television broadcasts, and other accessible channels should be utilized to amplify scientific discussions on astronomy, especially about calculating and observing the new moon. This multifaceted approach ensures that information reaches a broader audience, transcending geographical boundaries and demographics.

By collectively addressing these dimensions, we can alleviate doubts surrounding the authority's decisions and cultivate a culture of scientific literacy and engagement within the broader population. Consequently, the expected visibility of the new moon in Malaysia becomes a matter of astronomical observation and a catalyst for fostering a more transparent, reliable, and enlightened understanding of the Islamic calendar among the Malaysian populace.

References

Abdullah, R. (2023, March 31). Tular 'raya mengejut' sekali lagi, Jakim tampil beri penjelasan. *Astro Awani*.

Ahmad, A. (2023, April 13). Raya terkejut 2022 sah, 30 lihat anak bulan di Labuan. *Kosmo*.

Ahmad, N., Mohd Nawawi, M., Zainuddin, M., Mohd Nasir, Z., Mohamad Yunus, R., & Mohamed, I. (2020). A new crescent moon visibility criteria using circular regression model: A Teluk Kemang, Malaysia case study. *Sains Malaysiana*, *49*(4), 859–870.

Bhari, D. A. (2022, June 22). Kaedah rukyah dan hisab. *Metro*.

Ilyas, M. (1994). Lunar crescent visibility criterion and Islamic calendar. *Quarterly Journal of the Royal Astronomical Society*, *35*, 425–461.

Izzatul Najihah. (2022, November 8). Perkembangan kriteria astronomi dalam meramal kenampakan anak bulan. Retrieved from *E-Hilal Universiti Malaya*: https://www.ehilal.my/perkembangan-kriteria-kebolehnampakan-anak-bulan/

Kennedy, E. S. (1968). The lunar visibility theory of Yaʿqūb Ibn Ṭāriq. *Journal of Near Eastern Studies*, *27*(1), 56–64.

Kennedy, E. S., & Miele, J. (1966). The crescent visibility table in Al-Khwārizmī's *Zīj*. *Wiley Online Library*, *19*(1), 73–78.

King, D. A. (1987). Some early Islamic tables for determining lunar crescent visibility. *Annals of the New York Academy of Sciences*, *500*(1), 185–225.

Mohd Nawawi, M. S. A., Man, S., Zainuddin, M. Z., Abdul Wahab, R., & Ahmad Zaki, N. (2015). *Sejarah kriteria kenampakan anak bulan di Malaysia* (History of the criteria for lunar crescent visibility in Malaysia). *Journal of Al-Tamaddun*, *10*(2), 61–75. Retrieved from https://ejournal.um.edu.my/index.php/JAT/article/view/8690

Mohd Saiful Anwar Mohd Nawawi, S. M. (2015). Origin of the criteria for the visibility of the lunar crescent in Malaysia. *UM Research Repository*.

Mohd Zambri Zainuddin, M. S. (2023). *Kriteria Imkan al-Ru'yah yang baru 1443 Hijrah*. Paper presented at *Webinar Falak Nusantara 1443H (Bulan Falak Malaysia)*, 16–19.

Mulia, M. (2022, May 1). Ramai terkejut Hari Raya Shawwal esok. *Utusan Malaysia*.

Odeh, M. (2004). New criterion for lunar crescent visibility. *Experimental Astronomy*, *18*(1), 39–64.

Saifulanwar. (2022, November 8). Kriteria Imkanurukyah Baru (MABIMS). Retrieved from *E-Hilal Universiti Malaya*.

Shaharudin, M. A. (2023, April 14). Bersedia awal, jangan kelam-kabut jika raya mengejut. *Kosmo*.

Vinod, G. (2022, May 2). The sudden Hari Raya announcement brought netizens to stitches over last-minute buying. *Focus Malaysia*.

Yazdi, H.-R. G. (2003). Nasir al-Din al-Tusi on lunar crescent visibility and an analysis with modern altitude-azimuth criteria. *Suhayl: Journal for the History of the Exact and Natural Sciences in Islamic Civilisation*, *3*, 231–243.