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SOCIO-HISTORICAL IMPLICATIONS OF THE HIJRI CALENDAR FROM THE PERSPECTIVE OF ASTRONOMY (Case Study of the Mystery of the Suro, Muharram Month)

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Abstract

The Hijri calendar is a calendar that is used as a guideline by Muslims, all Islamic sharia instructions related to Days, Weeks, Months, and years. Which is based on the lunar cycle, which is taken from the history of the Prophet Muhammad's Hijrah which began in 17 H / 638 AD. The formulation of the problem in this study includes: (1) How is the history of the initial determination of the Hijri calendar socio-historically in the Islamic world; (2) How is the determination of the initial Hijri month according to the perspective of astronomy. This type of research is qualitative research with a Library research approach. Library research is a method of collecting data by reviewing books, literature, notes, and various reports that are related and relevant to the problem being studied. This research aims to examine the history and methods of determination in determining and implementing the Hijri calendar. The research findings demonstrate the close relationship between history and society in the Hijri calendar, as the name derives from the Prophet Muhammad's migration from Mecca to Medina. The Hisab and Rukyat methods are used as interpretations of astronomy in determining the beginning of the Hijri month. This research also reveals the urgency of using the Hijri calendar in the Islamic world. The implications of this research are the history of the Hijri calendar, which has evolved over time, from the pre-Islamic Arab calendar to the history of its use in Indonesia. This demonstrates that the use of the Islamic calendar has been through a long period and through complex dynamics. Each long historical event carries profound meaning, and the use of the Hijri calendar must also be based on determining the beginning of the month, which involves various methods, such as the Hisab and Rukyat methods.

Keywords:
Calendar, Hijri, Astronomy, Social, History

Abstrak

Penanggalan Hijriah adalah sebuah kalender yang dipedomani umat Islam, semua petunjuk syariat Islam yang berhubungan dengan Hari, Pekan, Bulan, dan tahun. Yang berpatokan pada peredaran bulan, yang diambil dari sejarah Hijrahnya nabi Muhammad yang dimulai pada tahun 17 H/ 638 M. Rumusan masalah dalam penelitian ini meliputi: (1) Bagaimana sejarah penetapan awal penanggalan Hijriah secara sosio-historis di dunia Islam; (2) Bagaimana penentuan awal bulan Hijriah menurut perspektif ilmu falak. Jenis penelitian ini adalah penelitian kualitatif dengan pendekatan studi Pustaka (*Library research*). Penelitian Pustaka merupakan metode pengumpulan data dengan cara menelaah buku, literatur, catatan, serta berbagai laporan yang berkaitan dan relevan dengan masalah yang sedang di teliti. Penelitian ini bertujan untuk mengkaji sejarah dan metode penetapan dalam menentukan hingga mengimplementasikan penanggalan hijriah. Hasil penelitian menjelaskan bahwa keterkaitan antara sejarah dan sosial dalam penanggalan hijriah sangat berkaitan erat sebab pengambilan nama penanggalan hijriah diambil dari peristiwa hijrahnya Nabi Muhammad Saw dari mekah ke Madinah. Penggunaan metode Hisab dan Rukyat sebagai bentuk interpretasi Ilmu Falak dalam penentuan awal bulan hijriah. Penelitian ini juga mengungkap urgensi penggunaan kalender hijriah dalam dunia Islam. Implikasi dari penelitian ini adalah sejarah penggunaan kalender hijriah yang berkembang dari masa ke masa mulai dari sejarah kalender masyarakat arab pra-islam sampai dengan sejarah penggunaan kalender di Indonesia sebagai tanda bahwa penggunaan kalender islam ini melalui masa yang Panjang serta melalui dinamika-dinamika yang begitu kompleks sebab setiap historis yang Panjang mengandung makna yang dalam sehingga dalam penggunaan kalender hijriah harus juga berdasarkan pada penentuan awal bulan yang dalam penentuanya mengandung berbagai macam metode seperti halnya metode hisab dan rukyat.

Kata Kunci:
Kalender, Hijriah, Ilmu Falak, Sosial, Histori

A. Introduction

The history of human civilization has known various types of timekeeping systems. Timekeeping systems aim to provide humans with regularity in organizing and understanding the sequence of time. Among the timekeeping systems known to humans are "calendars" or "calendars."[1] The calendar or calendar system was once more popular or better known to humans as the Gregorian calendar. Although the Gregorian calendar, as commonly known in daily life, is not the only type of calendar, there are also the Chinese, Javanese, Indian calendars, and others. In the Encyclopedia Britannica, it is mentioned that there are about ten

[1]Susiknan Azhari, Ensiklopedia Hisab Rukyat, *Jurnal*, (Yogyakarta: Pustaka Pelajar, 2005), h. 87.

calendar systems that have developed in the world from ancient times to the modern era.

Of the ten calendar systems, each has its own system and method for determining dates.[2] Generally, the official calendar system used in Indonesia is the national calendar or the Gregorian calendar, also known as the solar calendar. The use of the Gregorian calendar or the national calendar is officially adopted because it is more popular compared to the Hijri calendar. However, since the majority of Indonesia's population is Muslim, the Hijri calendar, also known as the lunar calendar, has become an inseparable part of the national calendar.

The Hijri calendar is the second calendar system alongside the Javanese Islamic calendar, following the Gregorian calendar, which is in use in Indonesia. The calculation system used is the orbit of the moon around the earth, which was established by Caliph Umar ibn al-Khattab 17 years after the Prophet Muhammad (peace be upon him) migrated from Mecca to Medina.[3] The 1st of Muharram is commemorated as the Islamic New Year or Hijri New Year. On that day, many celebrate by holding various activities that are far from being extravagant. The community sometimes holds study sessions and group prayers. However, the shortcoming is that the origin of the Hijri calendar is never even discussed in those activities. The Hijri calendar holds significant meaning for Muslims.

Many ritual or worship activities are closely tied to the Hijri calendar, such as fasting during the month of Ramadan, Eid al-Fitr (1 Shawwal), and Eid al-Adha on the 10th of Dhu al-Hijjah. Proof that Muslims cannot be separated from this calendar. The existence of the Hijri calendar cannot be separated from the Arab people themselves. Some Islamic rituals are a continuation of Arab traditions, such as the sanctification of the Ka'bah and the Hajj ritual.[4] Even tho the Gregorian

[2]Susiknan Azhari*, "Ilmu Falak Teori dan Praktek*, (Yogyakarta: Lazuardi, 2001), h. 89.

[3]T. Djamaluddin, "Konsistensi Historis-Astronomis Kalender Hijriyah, 2002, http://media.isnet.org/kmi/isnet/Djamal/HijrNabi.html, Diakses pada 13 juni 2025.

[4]M.Solahuddin, "Sejarah Lahirnya Kalender Hijriah (*AL-TAQWIM AL-HIJR), Skripsi*, (Yogyakarta: UIN Sunan Kalijaga), 2009, h.1.

calendar is popular, it cannot be separated from the Hijri calendar because Muslims around the world need the Hijri calendar as a reference for observing and determining Islamic holidays.

The adoption of the Hijri calendar as a 12-month system is based on the lunar cycle of 354 days. This includes all Islamic law provisions related to time, such as days, weeks, months, and years. In one hijri year, there are 12 synodic months, each averaging 29.53 days, resulting in a total of approximately 345.37 days in a year. Thus, the Islamic calendar is shorter compared to the solar or Gregorian calendar, where the hijri calendar is 11.26 days shorter. As a result, the dates in the hijri calendar will continue to shift forward each year compared to the Gregorian calendar.[5]

The naming of the sacred months in the Quran includes four months: Dhu al-Qi'dah, Dhu al-Hijjah, Rajab, and Muharram. These four months are referred to as sacred months in the Quran because, fundamentally, they are considered special. The prohibition against waging war or committing acts of violence, except in emergencies, is why these months are called sacred months. Then it is clarified in Q.S At-Taubah 9/36, "Indeed, the number of months in the sight of Allah is twelve months, (as per) Allah's decree (in Lauhulmahfuz) at the time He created the heavens and the earth, among which there are four sacred months. That is the correct religion, so do not wrong yourselves therein (in those four months), and fight the polytheists all together as they fight you all together." Know that indeed Allah is with those who are righteous.[6]

Studies on the Hijri calendar are always closely related to discussions about the basic concept of the hilal. The concept of the hilal plays a very important role in the Hijri calendar, as the determination of the new month's beginning in that calendar depends on the presence of the hilal. In every aspect related to human

[5]Muh. Rasywan Syarif, "Diskursus Perkembangan Formulasi Kalender Hijriah", *ELFALAKY: Jurnal Ilmu Falak,* vol. 2 no. 1, 2018, h.48.

[6]Kementerian Agama RI. Al-Qur'an dan Terjemahannya", Q.S At-Taubah (9):36, 2019.

life and the universe, every step of the journey is never free from the influence of the socio dimension and the historical dimension. Furthermore, the connection between the socio and historical dimensions cannot be separated. Because in the utilization of space and time, there is always a dynamic between humans and the history that is created.

B. Methods

The type of research applied in this study is qualitative research using a library research approach.[7] The data collection method in this study uses the library research method. This approach uses various references and research findings that are relevant to this study and have a theoretical foundation pertinent to the problem being investigated. The term library research refers to the process of collecting data or materials needed for research from libraries, which includes books, encyclopedias, journals, documents, magazines, and various other sources. The researcher then delves into various sources related to the research topic. The researcher will also record relevant information regarding the Islamic calendar from the perspective of astronomy, as well as explore sources of information on the early history of the Islamic calendar. Thus, thru this study, the researchers aim to find the relationship between scientific theories and religious perspectives found in those sources, as well as to analyze the role of astronomy in understanding that relationship.

C. Result and Discussion

1. Definition of Astronomy

Falak, according to the language, means orbit or the circulation/path of celestial bodies, so falak science is the knowledge that studies the paths of celestial bodies, especially the earth, moon, and sun in their respective orbits, with the aim of determining the positions of these celestial bodies relative to one another in order to know the times on the surface of the earth. Falak science, in terminology,

[7]Milya Sari, "Penelitian Kepustakaan (*Library reseach*) Dalam Penelitian Pendidikan IPA. *NATURAL SCIENCE", Jurnal Penelitian Bidang IPA dan Pendidikan IPA*, 2020, h.43.

is the knowledge that studies celestial bodies such as the sun, moon, stars, and other celestial bodies with the aim of determining the positions of these celestial bodies and their positions relative to other celestial bodies.

Ilmu falak in English is also called "Astronomy." Astronomy is the science that studies celestial bodies with the aim of understanding the influence of these celestial bodies on a person's fate on Earth. This astrology is known as Ilmu Nujum. When observed specifically, there are indeed significant differences between ilmu falak and astronomy. In terms of scope, astronomy studies all celestial bodies, including the sun, planets, satellites, stars, galaxies, nebulae, and others. Whereas in Ilmu Falak, the scope of its discussion is limited to the sun, earth, and moon. It is only their positions as a result of their movements. This is because the command of worship cannot be separated from time. Meanwhile, time itself is based on the movement of celestial bodies, and all of this is related to position. Considering the importance of the discussion related to astronomy due to its close connection with worship times, there are several aspects that fall within the scope of the study of astronomy and the legal rulings on studying astronomy.[8]

2. Method and Guildelines for Determining the Beginning of the Hijri Month

a. Calculation and Observation

1) Calculation

The application of the science of hisab includes several astronomical calculation theories specifically to determine the positions of the moon and the sun to obtain information on when and on which part of the Earth's surface astronomical events occur. Initially, the development of hisab was only for the calculation of the beginning of the Hijri month. After science experienced rapid development, these calculations were used to determine the positions of other celestial bodies, while those related to determining prayer times are as follows:

a) Determination of the beginning of the Hijri months

[8]Alimuddin, “Sejarah Perkembangan Ilmu Falak”, Al-Daulah, Vol. 2, No. 2, (2013), h. 181-182.

b) Calculation of Prayer Times

c) Calculation of Qibla Azimuth

d) Determining the occurrence of Solar and Lunar Eclipses

e) Calculation of the visibility of the crescent moon from a location

The determination of the beginning of the month is very much needed by Muslims, considering that the performance of Islamic worship practices in their teachings often intersects with time, especially in the application of the calendar system.[9]

2) Observation

Rukyatt al-hilal is an activity of observing the appearance of the crescent moon visually by an individual or a group of people. Whether done with the naked eye without tools or with the use of aids. The tools used include binoculars, cameras, telescopes, binoculars, and others. If the crescent moon is sighted in a certain area, it can be used as a marker for the change of the month in that area; some believe it can apply to an entire country.[10] The appearance of the hilal can serve as a marker for the beginning of fasting during the month of Ramadan, as has been practiced since the time of the Prophet, as mentioned in the hadith which means: "Fast when you see the hilal and break your fast when you see the hilal." If the crescent moon is obscured from you, then complete the number of Sha'ban as thirty days.

b. Calculation Method

The importance of this calculation determination has led to the existence of many methods or systems of reckoning to calculate the positions of the moon, sun, and other celestial bodies. These reckonings are classified according to the methods used in relation to the level of accuracy or the results produced, including

[9]Bashori Alwi, "Dinamika Penetapan Awal Bulan Hijriah di Indonesia Untuk Mencari Titik Temu", *Disertasi,* (Semarang: Pascasarjana UIN Walisongo Semarang), 2020, h. 65-68.

[10]S, Farid Ruskanda, "*Rukyah Dengan Teknologi, Upaya Mencari Kesamaan Pandangan Tentang Penentuan Awal Ramadan dan Syawal* (Jakarta: Gema Insani Press, 1995), h.19.

1) Hisab Urfi

Hisab Urfi is a calculation method whose basic calculations use simple principles. In the hisab urfi system, the calculation of the Hijri month is based on the average age of the month, so in a Hijri year, the age varies between 29 days and 30 days. The hisab urfi system was initiated in the year 17 Hijri by Caliph Umar bin Khattab, who used it as a reference in compiling the eternal Islamic calendar. The scholars of astronomy agree that hisab 'urfi cannot be used in determining the beginning of the lunar month and the performance of worship, as the level of precision and accuracy of this system is considered less valid, making it unsuitable for determining worship times, except for the creation of the Islamic calendar.[11]

2) Hisab Taqribi

Hisab Taqribi is a calculation method that has already applied astronomical and mathematical principles but still uses simple formulas, resulting in inaccurate outcomes. This calculation method is a teaching of past Islamic astronomers and remains a reference for calculations in several pesantren (Islamic boarding schools) in Indonesia to this day. The results of this method's calculations will be very easy to trace when calculating the time of ijtimak and the height of the hilal before 1 Ramadan, Syawal, and Zulhijjah, by comparing the significant differences with the results of modern astronomical methods. Several references to books scattered in Indonesia that fall into the category of Hisab Taqribi include; "Sullam al Nayyirain, Ittifaq Dzatil Bainy, Fath al Rauf al Manam, Al Qawaid al Falakiyah."[12]

3) Hisab Hakiki

[11]Zulfi Zabika Amani, "Analisis Sistem Penanggalan Hijriah dalam Buku Almanak Sepanjang Masa Karya Slamet Hambali, *Skripsi,* (Semarang: Fak. Syari'ah dan Hukum UIN Walisongo Semarang, 2021), h. 38-40.

[12]Jaenal Arifin, "Fiqih Hisab Rukyah Di Indonesia (Telaah Sistem Penetapan Awal Bulan Qamariyyah),"*Jurnal Yudisia* 5, no. 2 (2014), h. 402.

Hisab Hakiki is a calculation method that applies astronomical principles and complex mathematics, using the latest formulas along with the most recent astronomical data, resulting in a high level of accuracy. However, there is a slight weakness in this calculation method, namely the use of calculators which causes the results to be less perfect or precise due to many digits being truncated because of the limited digits of the calculator. Several systems of hisab hakiki that have developed in Indonesia include: "Hisab Hakiki, Tadzkirah al Ikhwan, Badi'ah al Mitsal and Menara Kudus, Al Manahij al Hamadiyah, Al Khushah al Wafiyah."

4) Hisab Hakiki Tahkiki

This method is taken from the book al-Mathla al-Said Rushd al-Jadid, which is rooted in the system of astronomy and modern mathematics derived from the calculations of earlier Muslim astronomers and has been developed by modern (Western) astronomers based on new research. The core of this system is to calculate or determine the positions of the sun, moon, and the nodes of the moon's orbit with the sun's orbit in the ecliptic coordinate system. In other words, this system uses corrected tables and calculations that are relatively more complex than the group of haqiqi taqribi calculations and employs spherical trigonometry.

5) Hisab Contemporary/Modern

This method uses the latest research findings and employs advanced mathematics. The method is the same as the hisab hakiki tahqiqi method, but its correction system is more precise and complex in accordance with advancements in science and technology. The formulas are simplified so that they can be calculated using a calculator or computer. As a determination system, this calculation is divided into two categories, namely the calculation of ijtima' alone and the ijtima' and the position of the hilal above the horizon.[13]

[13]Zulfi Zabika Amani, "Analisis Sistem Penanggalan Hijriah dalam Buku Almanak Sepanjang Masa Karya Slamet Hambali, *Skripsi,* (Semarang: Fak. Syari'ah dan Hukum UIN Walisongo Semarang, 2021), h. 42-43.

c. Guildelines for Determining the Beginning of the hjri Month

The problem of determining the beginning of the Hijri month is always associated with the issues of Rukyat and Hisab, because beside the criteria issues in these two terms, they have also become a school of thot that has been used as a method in the confident determination of the beginning of the month. The problem actually begins from the disagreement over the method of determining the start of the Hijri month, between the use of calculation (hisab) and observation (rukyat). Both methods serve as guidelines for the two largest Islamic community organizations in this country, namely Muhammadiyah, which is known for its use of calculations (hisab), and Nahdlatul Ulama, which is known for its use of sighting (rukyat).

From the above description, it can be concluded that basically, the determination of the beginning of the Hijri month broadly falls into two types of criteria, namely the criteria of hisab and the criteria of rukyat. There are various groups in determining the entry of the Hijri month using this hisab system. Basically, there are two groups, one that relies solely on ijtima' and another that bases it on the position of the moon above the horizon at sunset.[14]

3. Determination of the Beginning of the Hijri Month from the Perspective of Community Organizations in Indonesia

The development of organizational calendar formulation tends to adopt the previous calendar by making corrections according to the scientific efforts of the organization. However, the impact sometimes results in a no-win situation for the organization's members. In Indonesia, there are many perspectives regarding the determination of specific times for the beginning of the Hijri month. In Indonesia, there are several Community Organizations that are still active in their fields. Especially in the process of determining important times in worship, two

[14]Ahmad Wahidi, Noer Yasin, and Ali Kadarisman, "The Beginning Of Islamic Months Determination In Indonesia And Malaysia: Procedure And Social Condition," *Ulul Albab* Volume 20, no. 2 (2019), h. 322.

community organizations (ORMAS) have emerged that still play their roles in Indonesia, namely:

a. Nahdatul Ulama

The determination of the beginning of the month, as explained in the previous discussion, is explicitly divided into two parts: the hisab method, which can determine the beginning of the Hijri month thru calculations, and the rukyat method, which is marked by direct observation either with the naked eye or with the aid of instruments. Nahdlatul Ulama (NU) itself uses both methods in sequence, namely the hisab method as a way to determine the position of the crescent moon and the sun, and other needs that arise after the calculation method is performed, which can then serve as a guideline to facilitate observation.

Observations can be conducted independently or by a designated team. NU itself has a team that specifically discusses issues related to determining prayer times, the beginning of the Hijri month, and matters related to the economy. NU has its own specific term related to the methods and ways of determining the beginning of the Hijri month. That term is known as Qath'i Rukyat.[15]

b. Muhammadiyah

The development of the field of science by the Muhammadiyah organization is very evident and highly influential, especially in the field of religious education. It even plays a role in determining the times of worship in Islam. One example of Muhammadiyah's involvement in determining worship times is in the determination of the beginning of the Hijri month. Muhammadiyah, in determining the beginning of the Hijri month, uses the method of hisab hakiki wujudul hilal, thru the Majelis Tarjih and Tajdid of the Muhammadiyah Central Leadership. Muhammadiyah uses the reference of wujudul hilal (the actual presence of the hilal), which means that when the moon is already above the

[15]Muhyiddin Khazin, "*Ilmu Falak Teori dan Praktik",* (Yogyakarta: Buana Pustaka, 2008), h. 175.

horizon after the occurrence of ijtimak (conjunction) and after sunset, regardless of its height, it signifies the beginning of the month.

The Tarjih Council Decision states, "Fasting and Eid celebrations are based on sighting, but using calculations is also acceptable." This means that calculations (hisab) and sighting (rukyat) are in a balanced position. But, in practice, Muhammadiyah does not perform rukyat because it is difficult, with the reasoning that Islam has valued the advancement of science. The Muhammadiyah concept of hilal is conceptual, which cannot be observed thru observation and can only be explained thru reason and knowledge. Muhammadiyah essentially uses hisab wujudul hakiki. Muhammadiyah defines hisab hakiki as astronomical calculation.

Muhammadiyah once used hisab imkanur-rukyat, which is a principle that states or considers the possibility of sighting the hilal. In this case, it is necessary to determine the height limit of the crescent moon, which according to scholars varies, with opinions ranging from 120, 70, 60, 40, to 20 degrees. However, in practice, the height of the crescent moon in Indonesia only reaches 1 degree or less. Even Muhammadiyah had previously determined based on the calculation of ijtima' qablal hurub, as proposed by Imam Ibn Yunus, that whether the hilal is present or not, visible or not, what matters is how long the ijtima' occurs before sunset (ghurub), so that the time after sunset marks the beginning of the new month. This opinion is also based on the general/scientific view that the moment of ijtima' is the actual (hakiki) transition of the month. This opinion was then abandoned because it was based on the hadith of the Prophet Muhammad (peace be upon him). That the first day of the new month begins when the new moon is sighted or has appeared. In the end, Muhammadiyah adheres to the principle of hisab wujudul hakiki (the calculation of the new moon).[16]

c. Al-Irsyad Al-Islamiyah

[16]Ahmad Fauzan, dkk, "Penetapan Awal Bulan Hijriyah dan Integritasnya Dengan Perhitungan Matematika", *Jurnal Religion: Jurnal Agama, Sosial, dan Budaya*, Vol. 1, No. 1, (2023), h. 123-124.

This Islamic community organization, which originated from a madrasa, operates in the fields of da'wah and Islamic education, addressing various issues faced by the Muslim community, including the determination of the beginning of the Hijri month. In the determination of the beginning of the Hijri month conducted by the Central Leadership of al-Irsyad al-Islamiyyah thru the announcement of the calculation results for the beginning of Ramadan, Shawwal, and Dhu al-Hijjah, it serves as a guideline for the members of al-Irsyad al-Islamiyyah in particular and the Muslim community in general. Regarding the determination of the beginning of the Hijri month, al-Irsyad al-Islamiyyah uses rukyatulhilal as stated in Umar Hubeis's fatwa on the use of hisab and rukyat, while hisab here serves only as a guide to perform rukyat accurately and effectively in its implementation, and based on the criteria of imkanu rukyat as the basis for its determination.

The calculation results used as a guideline for the al-Irsyad community are the results confirmed by the Calculation Team of the Central Leadership of al-Irsyad al-Islamiyah. However, for al-Irsyad al-Islamiyah, these calculation results are only provisional in their determination. For al-Irsyad al-Islamiyah, the final result that must be followed is the determination of the isbat meeting conducted by the government, in this case, the decision of the Ministry of Religious Affairs of the Republic of Indonesia as a state institution.[17]

d. Al-Jam’iyatul Washliyah

The method used in determining the beginning of the Hijri month employs "rukyat bil fi’li". This is as mentioned in the Decision of the National Fatwa Council of al-Jam’iyatul Washliyah in Banda Aceh in 2010 AD/1431 AH, which produced 18 decisions, including issues regarding the determination of the beginning of Ramadan, Eid al-Fitr, and Eid al-Adha. Meanwhile, calculations (hisab) remain valid as an auxiliary tool to achieve a measurable and high-quality sighting (rukyat). The

[17]Al-Irsyad, “Surat Keputusan al-Irsyad No. 96-SK-1433 Hasil Hisab Al-Irsyad”, diakses 11 Oktober 2025, http://alirsyad.org/tag/abdullah-djaidi-aliirsyad.

parameters in determining the beginning of the Hijri month use the criteria of imkanu rukyat with a crescent moon height of 2 degrees, elongation of 3 degrees, and a moon age of 8 hours, as per the results of the workshop in Cisarua, Bogor in 2011.

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e. Islamic Union

In its journey, the Persis Almanac has undergone several changes in criteria for determining the beginning of the Hijri month. Persis used the criterion of "ijtima' qablal ghurûb." This criterion was used by Persis for 5 years until the year 1416 H/1995 AD. After that, Persis changed to using the new criterion "Wujudul Hilal." In 1995 AD, Persis formed the Hisab and Rukyat Council (DHR) after the 11th congress on Saturday Wage to Monday Legi, September 2-4, 1995 AD / 6-8 Rabiul Akhir 1416 AH, in Jakarta in 1995 AD.

In 2002 AD, Persis switched from using the wujudul hilal criterion to the imkanu rukyah version of MABIMS. This transition was the result of a deliberation between the Hisab and Rukyat Council and the Hisbah Council of the Central Leadership of Persis in early 2002 AD/1422 AH, in Bandung. In the years 1423 H/2003 H, until 1433 H/2012 M, the determination in the creation of the almanac

[18]Ahmad Fadholi, "Pandangan Ormas Islam Terhadap Draf Kriteria Baru Penentuan Kalender Hijriah Di Indonesia", *Istinbath: Jurnal Of Islamic Law/Jurnal Hukum Islam,* vol. 18, No. 1, 2018, h. 207-208.

used the imkanu rukyah MABIMS criteria. This criterion is different from the one used by Muhammadiyah, although both use the hisab method in determining the beginning of the month.

The use of the Persis criteria and the MABIMS criteria by the Government (Ministry of Religious Affairs), namely first, the height (irtifa') of the hilal must be at least 2 degrees, second, the difference in azimuth between the Sun and the Moon must be at least 3 degrees (the horizontal distance between the Moon and the Sun), and third, the age of the Moon must be at least 8 hours (calculated from the conjunction until sunset). This criterion, in accordance with the Decision of the Hisbah Council of the Islamic Union, at the Hisbah Council Meeting, in the Haji Qanul Manazil building, Ciganitri Bandung, Sunday Pon, 26 Rabi'ul Awwal 1433 H/ 19 February 2012 AD regarding: "Criteria for the Determination of the Beginning of the Lunar Month; Between Wujudul Hilal and Imkanu Rukyat" Istinbath; The criteria for determining the beginning of the lunar month is to use imkanu rukyat, based on the principle of scientific, verifiable visibility of the hilal.[19]

D. Conclusion

Based on the discussion regarding the socio-historical implications of the Hijri calendar from the perspective of astronomy (case study of the mystery of the month of Suro/Muharram), the author can conclude the following:

The Hijri calendar was established during the time of Caliph Umar bin Khattab RA in the year 17 AH/638 AD as a response to the administrative needs of the Islamic government. The event of Prophet Muhammad's migration (Hijrah) from Mecca to Medina was chosen as the starting point because it holds significant historical and spiritual meaning. As Islam spread to various regions, the Hijri calendar not only became a tool for marking time but also a means of uniting the community and an identity of Islamic civilization. In the archipelago, the Hijri

[19]Ahmad Fadholi, "Pandangan Ormas Islam Terhadap Draf Kriteria Baru Penentuan Kalender Hijriah Di Indonesia", *Istinbath: Jurnal Of Islamic Law/Jurnal Hukum Islam,* vol. 18, No. 1, 2018, h. 210-211.

calendar interacts with local cultures (for example, the naming of Muharram as the month of Suro), which shows the socio-historical context in its acceptance.

The determination of the beginning of the Hijri month is closely related to astronomical phenomena, particularly the moon phase (hilal). In Islamic tradition, the methods known are rukyat (direct observation) and hisab (mathematical calculation). Differences in criteria (such as the imam of rukyat, wujudul hilal, or the minimum height of the hilal) cause discrepancies in the determination of the beginning of the month in various countries and Islamic organizations, including in Indonesia. Nevertheless, astronomy plays an important role in bridging modern science and Sharia provisions, thereby providing a stronger foundation for the efforts to unify the global Hijri calendar.

References

Alimuddin, “The History of the Development of Astronomy”, Al-Daulah, Vol. 2, No. 2, (2013).

Alwi Bashori, “The Dynamics of Determining the Beginning of the Hijri Month in Indonesia to Find Common Ground”, Dissertation, (Semarang: Postgraduate Program UIN Walisongo Semarang), 2020.

Amani Zulfi Zabika, “Analysis of the Hijri Calendar System in the Book Almanac Sepanjang Masa by Slamet Hambali, Thesis, (Semarang: Faculty of Sharia and Law UIN Walisongo Semarang, 2021).

Arifin Jaenal, “Fiqh Hisab Rukyah in Indonesia (Study of the Qamariyyah Month Determination System),” Jurnal Yudisia 5, no. 2 (2014).

Azhari Susiknan, Encyclopedia of Hisab Rukyat, Journal, (Yogyakarta: Pustaka Pelajar, 2005). Azhari Susiknan, "Astronomy Theory and Practice," (Yogyakarta: Lazuardi, 2001).

Djamaluddin T, “Historical-Astronomical Consistency of the Hijri Calendar, 2002, http://media.isnet.org/kmi/isnet/Djamal/HijrNabi.html, Accessed on June 13, 2025.

Fadholi Ahmad, “The Views of Islamic Organizations on the Draft of New Criteria for Determining the Hijri Calendar in Indonesia,” Istinbath: Journal of Islamic Law, vol. 18, No. 1, 2018.

Fauzan Ahmad, et al., “Determination of the Beginning of the Hijri Month and Its Integrity with Mathematical Calculations”, Jurnal Religion: Journal of Religion, Society, and Culture, Vol. 1, No. 1, (2023).

Irsyad Al, “Al-Irsyad Decision Letter No. 96-SK-1433 Al-Irsyad Calculation Results”, accessed October 11, 2025, http://alirsyad.org/tag/abdullah-djaidi-aliirsyad. Ministry of Religious Affairs of the Republic of Indonesia. The Qur'an and Its Translation”, Q.S At-Taubah (9):36, 2019.

Khazin Muhyiddin, "Astronomy Theory and Practice", (Yogyakarta: Buana Pustaka, 2008).

Muhammadiyah, “Understanding Rukyatul Hilal, Imkan Rukyat, and Wujudul Hilal”, https://muhammdiyah.or.id/2022/03/mengenal-rukyatul-hilal-imkan-rukyat-dan-wujudul-hilal/, Accessed on June 13, 2025.

Ruskanda S, Farid, “Rukyah With Technology, Efforts to Find Common Ground on the Determination of the Beginning of Ramadan and Syawal (Jakarta: Gema Insani Press, 1995).

Sari Milya, “Library Research in Natural Science Education Research”, Journal of Natural Science and Natural Science Education Research, 2020.

Solahuddin M, “The History of the Birth of the Hijri Calendar (AL-TAQWIM AL-HIJR), Thesis, (Yogyakarta: UIN Sunan Kalijaga), 2009.

Syarif Muh. Rasywan, “Discourse on the Development of the Hijri Calendar Formulation,” ELFALAKY: Journal of Astronomy Science, vol. 2 no. 1, 2018.

Wahidi Ahmad, Yasin Noer, and Kadarisman Ali, “The Beginning Of Islamic Months Determination In Indonesia And Malaysia: Procedure And Social Condition,” Ulul Albab Volume 20, no. 2 (2019).