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Imkān Al-Ru'yah by Ma'şūm Ali

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Abstract

This research review the thinking of Ma'şūm Ali about *Imkān al-Ru'yah* (The concept of New Moon Visibility, example and It's Application in Determination of the beginning Hijriyah month). This study will discuss three points. First, How the perspective of modern astronomy is about *Imkān al-ru'yah* criterion by Ma'şūm Ali . Second, how the implementation of the criterion is and what the contribution of the concept *Imkān al-ru'yah* by Ma'şūm Ali is for the determination of the beginning Hijriyah Month in Indonesia. The object of this study is the thought of Ma'şūm Ali about *Imkān al-ru'yah*. The approach taken is astronomical approach . The method of data analysis is using deduction holistika method .The results showed , first; the construction of *Imkān al-ru'yah* by Ma'şūm Ali is acceptable and applicable because of the astronomical formulations used as guidelines is correspond to the concept and theory of Sun and Moon movement. Second, implementation of criteria *Imkān al-ru'yah* practiced by Ma'şūm Ali himself. The contribution of the *Imkān al-ru'yah* criterion by Ma'şūm Ali is that this theory can be applied as an *Imkān al-ru'yah* theory in Indonesia based on theoretical data and empirical applications.

Kata kunci : *Imkān al-Ru'yah,* Ma'şūm Ali,

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A. Introduction

The phenomenon of the difference in determining the beginning of *Ramadan*, *Shawwal* and *Zulhijah* has always been an interesting issue among Indonesian muslims. This happen because these three months have an important meaning in the muslims' religious life. This is very natural to see in it there are annual worship rituals which are very significant for the religious life of Muslims.

Indonesia maybe the country that celebrate many holidays for Eid (festival). It can be seen in 1429 H where we found five Eids for the same holiday, starting from Friday to Tuesday. This happen because of many reasons that can be categorised into five points, they are:

1. Almost every group from the government to every institution in this country participates in determining the beginning of the *hijriyah* month, such as the Ministry of Religion (KEMENAG) of the Republic of Indonesia[1], community organizations (ORMAS) such as those carried out by Muhammadiyah[2], NU[3], and PERSIS[4], *hisab* experts, *Jama'ah-Jama'ah* and Islamic boarding schools.
2. There is a diversity of calculation patterns spread across Indonesia.
3. There is a diversity of patterns in determining the beginning of the *Hijriyah* month in Indonesia.

[1] In determining the beginning of the *hijriyah* month, the Ministry of Religion (a representative from the government) uses the *isbat* assembly. The *isbat* meeting held by the Ministry of Religion is a consensus from various parties related to the determination of the beginning of the *Hijriyah* month, such as mass organizations, intellectuals, scholars and ambassadors of Islamic countries. However, the Ministry of Religion itself has the main benchmark in determining the beginning of the *Hijriyah* month, namely the *Imkān ru'yah* method (*Hilal* visibility), (Ichtijanto. h. 149).

[2] Muhammadiyah is one of the oldest Islamic organizations in Indonesia which was founded in Yogyakarta on November 18, 1912. (Deliar Noer, *Gerakan Modern Islam Di Indonesia* (Jakarta: PT Pustaka LP3ES, 1996) h. 85). In determining the beginning of the month, Muhammadiyah uses the system of *wujūd al-hilāl*, where adherents of this system state that the turn of the new moon occurs after the Moon is above the horizon (in the science of reckoning the degree of the Moon is plus above the horizon). Muhammadiyah is also referred to as a representation of the school of reckoning in determining the beginning of the month in Indonesia.

[3] NU stands for Nahdlatul Ulama. NU is one of the largest Islamic ORMAS in Indonesia which was founded on January 31, 1926 AD/16 Rajab 1344 H (Zahro. h. 8). In determining the beginning of the *hijriyah* month, NU uses the method of *rukyah bi al-fil*.

[4] PERSIS stands for Persatuan Islam. This organization was founded in 1923. persatuanislam. To determine the beginning of the *Hijriyah* month, PERSIS uses the concept of *wujūd al-hilāl fi wilāyah al-hukm*, namely the *Hilal* benchmark is above the horizon and has fulfilled all Indonesian jurisdictions.

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4. There is no concrete criteria and clear reference in determining *Hijriyah* month which is approved by *Falak* science experts in Indonesia.
5. The existence of the egoism of each individual and group.

The main problem for the difference was the conflict between the two schools, namely the *hisab* school and the *rukyah* school. The third school, namely the *imākn al-ru'yah* adopted by the Government of the Republic of Indonesia that is intended to unite these the two schools. The concept of *imkān al-ru'yah* as a method of determining the beginning of the *hijriyah* month is currently seen as more ideal to bring together the two schools of thought above. However, it should be noted that the concept of *imkān al-rukyah* still leaves problems in its use and application.

The problems regarding the concept of *imkān al-ru'yah* include; First, is the concept of *istinbaṭ al-ahkām* which is considered unclear. Second, the practical use of this concept, does its use not need the process of *rukyah* or does it still need the application of *rukyah*? The third problem is the use of criteria as a reference. The Indonesian government uses the MABIMS criteria (Ministers of Religion of Indonesia, Malaysia, Brunei Darussalam, and Singapore) which agreed to unify the criteria for the visibility of the *Hilal* with the following provisions:

1. The height of the *Hilal* is not less than 2 degrees,
2. The angular distance of the *Hilal* to the Sun is not less than 3 degrees and
3. The age of the *Hilal* is not less than 8 hours after the conjunction occurs.

This is different from what was developed and agreed upon in the *Hilal* trial of Islamic countries around the world in Istanbul, Turkey in 1978 with the following provisions[5]:

1. The height of the *Hilal* is not less than 5 degrees from the western horizon,
2. The angular distance of the *Hilal* to the Sun is not less than 8 degrees and
3. The age of the *Hilal* is not less than 8 hours after conjunction occurs.

[5] Ichtijanto.h. 281-284

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The criteria used by the Government of Indonesia or MABIMS are also questioned by the *falak* science experts, because this height is considered as the criteria for the height of the *Hilal syar'i*, not the astronomical *Hilal*[6]. On the other hand, the community assumes that the issue of the two-degree

criteria is understood as a single criterion without considering the existing accumulative criteria. The fourth problem is the large number of *hisab* and *Falak* science books that have been developed and published in Indonesia, while the two-degree criterion has been understood by many people as the main benchmark for determining the beginning of the *Hijriyah* month in Indonesia, even by every *Hasib* (counter of the beginning of the Hijriyah month). This will rise to a separate polemic for each book that he uses, especially it will be different from the author of the book.

Even though long before that, Ma'shum Ali had determined the criteria for *imkān al-ru'yah* listed in the first Book of *Hakiki Tahkiki* in Indonesia, namely:

1. Moonlight (نور الهلال) by 1/5 finger (*uṣbu'*)/12' (*daqīqah*) and *Qaus al-mukś* 3° (degrees).
2. الهلال is 2/3 fingers with ارتفاع الهلال (height of the *Hilal*) by 6°.
3. الهلال reaches 2/3 fingers with *Qaus al-mukś*[7] 11°.

The *imkān al-ru'yah* criteria initiated by Ma'ṣūm Ali can be studied as a reference for the *imkān al-ru'yah* criteria in Indonesia. With his capacity, Ma'ṣūm Ali himself is an Indonesian expert in *falak* science who has been recognized by the community. This research becomes even more interesting when you see that Ma'ṣūm Ali's *imkān al-ru'yah* criteria are slightly different from those currently developing, such as MABIMS, Turkic criteria, and other criteria. In each of the criteria they only focus on the height of the Hilal (*irtifa' al-hilāl*), while the *imkān al-ru'yah* by Ma'ṣūm Ali on each criterion focuses on the lighting of the *Hilal*. From these various points of view, it is very interesting to review and

[6] The *syar'i hilal* is the hilal based on the results of *rukyat*, but the condition of the *hilal* cannot be documented or proven. While the Astronomical *Hilal* is the Hilal of the *ru'yah* that can be scientifically documented. Muhammad Hasan, 'Imkān Ar-Ru'yah Di Indonesia (Memadukan Perspektif Fiqih Dan Astronomi)' (IAIN WALISONGO, 2012).

[7] The arc along the Moon's trajectory is measured from the center of the Moon when the Sun sets to the center of the Moon when the Moon sets.

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examine more deeply how the thought of the *imkān al-ru'yah* by Ma'şūm Ali is.

B. Research Methods

The approach applied in this study is the astronomical approach[8]. This astronomical approach is aimed to see the relevance of the object of research in the current scientific development of astronomy. Meanwhile, the data analysis method carried out in this paper uses a holistic deduction method. This deduction research method[9] is an effort to understand the explicit thought of Ma'şūm Ali about *imkān al-ru'yah*. This method is also used to see and derive in detail the specific formulation of Ma'şūm Ali's *imkān al-ru'yah* in terms of astronomical science, or even other sciences that closely related with the *imkān al-ru'yah* such as the science of vision, meteorology and so on. While the holistic method[10] is an analytical method to answer the application and influence of the object of research in determining the beginning of the *Hijriyah* month in Indonesia, so that the thoughts and cases that have happened to Ma'şūm Ali can be viewed thoroughly from various aspects.

C. Results and Discussion

Ma'şūm Ali and the Theory of *Imkān al-Ru'yah*

1. Biography of Ma'şūm Ali

Ma'şūm Ali's full name is Muhammad Ma'şūm. He is the son of Kyai Ali. Born in Maskumambang, Gresik,

[8] Astronomy as said by Muhyiddin Khazin (2005: 9) in the Astronomy Dictionary is a science that studies celestial bodies and the universe. Thus, any research on celestial bodies such as the Moon and the Sun is included in the study of this science. Therefore, the astronomical approach in this research is very much needed in the study of the sight of the Hilal (new moon) or the visibility of the *Hilal* (*imkān al-ru'yah*). The use of the astronomical approach in this research is expected to be able to see research on the *imkān al-ru'yah* by Muhammad Ma'şūm bin Ali al-Maskuambangi in the development of the science of astronomy today.

[9] The deduction method in character study research according to Syahirin Harahap is understood as an effort to explain and apply the thoughts of a general character. Meanwhile, the opposite is the induction method, Harahap defines it as a generalization, where cases and elements of the character's thoughts are analyzed, then the understanding found in it is formulated in a general statement.(Harahap.h. 62) Likewise, with Moedji Raharto, he explained that in formulating the criteria method *Imkan al-Rukyah* (*Hilal* visibility) has two methods, namely the method of induction and deduction. Induction is a method of formulating empirical experience of successful observations with measurable quantities obtained from observations. While the deduction method in the visibility of the *Hilal* is to reduce the formulation of the reason why the *Hilal* can be seen by the eye. Raharto, *Pengantar Studi Hubungan Kalender & Fenomena Astronomi.*

[10] Holistics is a holistic view, also known as totalization or organic thought. Everything is seen in its continuity with one totality. Husserl calls it an aussenhoriezont, a phenomenon that must be seen within its horizon (Harahap. h. 63).

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around 1887 AD or 1305 H in a *pondok* founded by his grandfather, Sheikh Abdul Jabbar al-Maskuambangi. In his search for knowledge, at first Ma'şūm studied at the Maskumambang Islamic boarding school with his own father, kyai Ali. Young Ma'şūm was then sent by his father to study at the Tebuireng Jombang Islamic Boarding School led by KH. Hashim Asyari[11]. Ma'şūm is one of the early generation students from Haḍarah al-Shaykh KH. Hashim Asyari. For many years the young Ma'şūm served in Tebuireng, making him capable of all fields of religious knowledge, especially in the fields of *sharaf,* and *nahwu*. This is what made Hasyim Asyari interested in marrying him off to his first daughter, Khairiyah[12].

Like other Indonesian scholars, Ma'sum Ali made a scientific trip to Hijaz when he performed the pilgrimage in 1918-1919 AD. Everyone knows that he studied religion in Mecca, but no one knows for sure where and with whom he studied astrology, both astronomy and astrology. His learning process from the Mecca has become one of his *wasilah* to write *Badi'ah al-Miśāl Falak Science*.[13]

In 1913, Ma'şūm, who at that time was 26 years old and was married to Khoiriyah, had six children but only two daughters lived to adulthood, namely; Abidah and Jamilah. Abidah is married to his student Mahfud Anwar, the son of Kyai Anwar, the founder and leader of the Jombang Paculgowang Islamic Boarding School. The second daughter, Jamilah, is married to Nur Aziz, the son of Kyai Ma'şūm, the leader of the Singosari Islamic boarding school in Malang.[14] On Saturday the 24th of Ramadan 1351 or January 21, 1933, Ma'şūm Ali died after previously suffering from lung disease. He died at the age of 46 years.[15]

[11] KH. Hasyim Asy'ari is one of the national heroes who founded the Nahdlatul Ulama (NU) community organization (ORMAS) with KH. A. Wahhab Hasbullah (Surabaya), KHA. Bisyri Syamsuri (Jombang), KHR. Asnawi (Kudus), KH. Ma'shum (Lasem), KH. Ridlwan (Semarang), KH. Nawawi (Pasuruan), KH. Nahrowi (Malang), KH. Ridlwan (Surabaya), KH. Abdullah Ubaid (Surabaya), KH. Alwi Abdul Aziz (Malang), KH. Abdul Halim (Cirebon), KH. Muntaha (Madura), KH. Dahlan Abdul Qahhar (Kertosono), and KH. Abdullah Faqih (Gresik). This NU ORMAS was founded on January 31, 1926 AD/16 Rajab 1344 H (Zahro. h. 18).

[12] The unity of Hasyim Asy'ari and Kyai Abdul Jabbar's family by marrying off their children is followed by his younger brother Adlan Ali with one of Kyai Hasyim As'ari's nephews. Kyai Adlan Ali was also the one who later on the initiative of Hadratus Sheikh founded the Walisongo Cukir women's hut. Adlan became an influential Kyai and became the leader of the Tharekat Qodiriyah wa an-Naqsabandiyah in East Java (Dhofier. h. 66).

[13] Nasir. h. 45.

[14] Nasir. h. 49.

[15] Dhofier. h. 66.

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He has publised four books, namely:

a) *al-Amśilah al-Taşrifiyyah.* This book discusses and explains *'Ilm al-Şaraf* (Arabic grammar).
b) *Fatḥ al-Qadr*. Discusses about Arabic measurements in Indonesian.
c) *al-Durūs al-Falakiyah.* This book discusses about astronomy
d) *Badīʻah al-Miśāl.* About calculation of the beginning of the month.

2. Theory of *Imkān al-Ru'yah* by Ma'şūm Ali

An urgent problem that needs to be considered in the use of *rukyat* (Hilal observation) as the initial determination of the *Hijriyah* month is the presence of *gumma* (obstacles in the form of clouds or others). Some scholars see that it is sufficient and even obligatory to perfect the number of days to 30 days, and others make it up to *qadar* that consider the position of the *Hilal.*

For scholars who consider *Hilal* as an anticipation if the Hilal cannot be seen, has a criterion called *imkān al-ru'yah*, namely the possibility of the *Hilal* being seen as a solution. The concept of *imkān al-ru'yah* has existed since the differences in understanding the *gumma*, namely since the time of the great *tabi'in* led by Mutharrif bin Abdillah. One of the criteria of *salaf* scholars in *imkān al-ru'yah* is the criteria of as-Subki, namely the difference in distance (azimuth) 5° between the sun and the moon when the sun sets.

One of the Indonesian multi-disciplinary scholars, Ma'şūm Ali, has the criteria of *imkān al-ru'yah* as a benchmark for the *Hilal* that can be seen, namely[16]:

1. The light of the Hilal (نور الهلال) is 1/5 finger (uṣbu ')/12' (daqīqah) and Qaus al-mukś 3° (degrees).
2. الهلال is 2/3 fingers with ارتفاع الهلال (height of the Hilal) 6°.
3. الهلال reaches 2/3 fingers with Qaus al-mukś 11°.

Based on these three criteria, the author concludes that there are three components of Ma'şūm Ali's criteria of *imkān al-ru'yah*, namely *nūr al-hilāl* (light of the Hilal), *Qaus al-mukś* (Hilal bow) and *irtifā' al-hilāl* (Hilal height).

1) *Nūr al-hilāl* (light of the Hilal)

Nūr al-hilāl or the light of the *Hilal,* is the reflection of light from the Sun on the

[16] Ali. h. 30.

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shape of the new Moon which is then transmitted to Earth so that it reaches the eye of the observer. Muhyiddin Khazin (2005: 61) states that the light of *Hilal* is the width or thickness of the luminous *Hilal* which is calculated from the edge of the shape of *Hilal* to the center of it. Hilal light is the most important component in r*ukyat*. This is because the light of Hilal is an object that will be observed and seen in its shape. *Hilal* light itself is a manifestation of the shape of the new moon as a sign of the beginning of *hijriyah* month.

The use of the *Hilal* light as one of the components of the Hilal visibility criteria is often ruled out in modern criteria. Thus, it can be seen from the various criteria for the visibility of the *Hilal* which exclude the amount of *Hilal* light such as the Fotheringham, Maunder and Indian ephemeris criteria which emphasize the azimuth and height of the *Hilal* separation. In fact, in every criteria for the visibility of *Hilal*, it is the core of the *Hilal* light that should be observed.

The author views the urgency of applying the theory of *Hilal* light in the concept of *Hilal* visibility itself because each theory of *Hilal* visibility is a manifestation of a theory of visible *rukyatulhilal* application. This seems to be addressed by Ma'şūm Ali as a basic thing that must be used in the criteria for the visibility of the *Hilal* (*imkān al-ru'yah*). Ma'şūm Ali's criteria for the light of the *Hilal* in each criterion are 1/5^{jari} /12' and 2/3^{jari}.

2) *Qaus* al-mukś.

Muhyidin Khazin (2005: 58) defines *qaus al-mukś* as an arc along the Moon's trajectory measured from the centre of the Moon when the Sun sets to the centre when the Moon sets. *Qaus al-mukś* in modern criteria of visibility of the *Hilal* is rarely, even never used because it looks abstract and cannot be proven visually. This position is only in a theory of *hisab* itself. This condition causes the application of *qaus al-mukś* cannot be estimated positionally, and cannot be seen visually using either the eye or optical instruments.

If the use of *qaus al-mukś* is analyzed fundamentally with the concept of understanding terminology, it cannot

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represent the concept of *rukyat* either[17]. Therefore, the author concludes the concept of calculating qaus al-mukś is calculated from the center point of the Moon, not the lunar shape (*Hilal*).

3) *Irtifā' al-Hilāl (*Height of the Hilal)

The height of the *Hilal* in the world of astronomy is often called as *Irtifā' al-hilāl* (ارتفاع الهلال), and is called altitude or elevation in astronomical terms. Today, the height of the *Hilal* seems to be the end result of the process of calculating each *Hilal* reckoning. It happened because the height of the *Hilal* has always been an interesting topic of discussion among scholars, *falak* science experts, and even common people when discussing the determination of the beginning of the Hijriyyah month.

Modern scholars make *Irtifā' al-hilāl* as the main model for the *Hilal* concept that can be seen, such as the Maunder criterion, the Fotheringham concept, the Istanbul concept, and other scholars. It indicated that the use of the height of *Hilal* is a very important component in making the concept of *imkān al-ru'yah* (Hilal visibility).

In terms of its representation of the concept of *rukyat*, the height of *Hilal* is very representative of *rukyat*. Visually, *Irtifā' al-hilāl* can be seen in *rukyat* practice. In applying *rukyat*, *Irtifā' al-hilāl* is aimed at finding out the position of *Hilal* from its rise to its set.

Theory of *Imkān al-Ru'yah* by Muhammad Ma'şūm and the Bridge to Unify the Determination of the Beginning of the *Hijriyah* Month in Indonesia

The Application of *Imkān al-Ru'yah* by Ma'ṣūm Ali

Ma'şūm Ali in his book *Badī'ah al-Miśāl* explains that the position of the concept of *imkān al-ru'yah* can be proven and becomes a benchmark by the existence of *mutawātir* news where *Hilal* can be seen. It occurred in Madura and Makah areas of Saudi Arabia at that time.[18]:

a) News from Madura

Ma'şūm Ali said that the *rukyat* in Madura occurred on Sunday (Monday night) early in Shawwal 1342 H. The results are as shown in the table below[19]:

[17] The author understands that the existence of the theory of imkān al-ru'yah is a manifestation of rukyat, so that the existence or concept of understanding imkān al-ru'yah must be in accordance with the concept of rukyat.

[18] Ali. h.30

[19] Ali. h. 30

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Table. 1. Results of Calculation of *Badī'ah al-Miśāl* for the Sampang area of Madura

Name	º	‘	“
تعديل المطالع الفلاكية للقمر	43	32	21
مطالع الفلاكية للقمر	136	27	39
مطالع الغروب للقمر	226	5	25
مطالع الغروب للشمس	220	25	30
قوس المكث	5	39	55
فضل الدائر	83	57	51
ارتفاع الهلال	4	15	36
مكث الهلال	0	19	51
سمت الارتفاع للقمر	13	23	30
سعة المغرب للشمس	16	4	31
البعد بين السعة والسمت	- 2	41	1
سعة المغرب للقمر	12	48	12
نور الهلال	0	25	55

If the result above is compared to the concept of *imkān al-ru'yah* by Ma'şūm Ali, it may result as follows:

1. The first criterion is the *Hilal* light (نور الهلال) of 1/5 finger (0.0166 usbu‘/0.016%) and *Qaus al-mukś* 3° (degrees), then:

Table. 2. Madura First Criteria Comparison

Criteria	***imkān al-ru’yah***	**Result**
Hilal light	12‘	25’ 55’’ ‘[20]
Qaus al-mukś	3°	5° 39’ 55’’

Ma'şūm Ali's criteria when viewed from empirical data on the calculation of the *Hilal* position in Madura case, the first criterion cannot be tested, because the *imkān al-ru'yah* criteria have a lower value in either the *Hilal* light formulation or *qaus al- mukś.*

2. The second criterion الهلال is 2/3 fingers (0.0555 uṣbu'/ 0.055%) with ارتفاع الهلال (height of the Hilal) 6 °, then:

Table. 3. Comparison of the Two Madura Criteria

Criteria	***imkān al-ru’yah***	**Result**
Hilal light	40’	25’ 55’’
Hilal height	6°	4° 15’ 36’’

In Ma'şūm Ali's second criterion, the concept of *imkān al-ru'yah* can be accepted empirically (when viewed from the case of

[20] The result of the value of the Hilal light 0° 25' 55" x 0° 4' = 0.0287962963 or rounded to 0.0288. if used as a percent equal to 0.028%.

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rukyat Hilal in Madura). This is confirmed by the higher value of the *imkān al-ru'yah* theory test value compared to the empirical test in Madura.

3. Third Criterion الهلال reaches 2/3 fingers (0.0555 uṣbu '/ 0.055%) with Qaus al-mukś 11°, then:

Table.4. Comparison of the Third Madura Criteria

Criteria	***imkān al-ru'yah***	**Result**
Hilal light	40'	25' 55''
Qaus al-mukś	11°	5° 39' 55''

In both third and second criterion, the concept of *imkān al-ru'yah* can be accepted empirically (when viewed from the case of *rukyat Hilal* in Madura). This confirms that the third criterion can also be tested empirically with the theoretical value formulation higher than the empirical value formulation.

From the theoretical comparison of the concept of *imkān al-ru'yah* by Ma'ṣūm Ali with empirical data in the form of *Hilal* observation data (*rukyat Hilal*) seen in Madura on 29 Ramadan 1342 H or May 4, 1924 (to coincide with Sunday Legi), it can be concluded that the second and third criteria of the theory of *imkān al-ru'yah* by Ma'ṣūm Ali in the book *Badī'ah al-Miśāl* is successfully proven empirically through several stages.

b) News from Mecca

Ma'ṣūm Ali said that the *rukyat* in Mecca took place on Wednesday (Thursday Night), Zulhijjah 1343 H. This news can be used as a comparison to the theory of *imkān al-ru'yah* in the book *Badī'ah al-Miśāl*. If you look at the *ijtimak* that occurred on Sunday (Wage), June 21, 1925, at 09:12 WIB, the process of *rukyat* in Mecca should have been on a Monday night. The results are as follows:

Table. 5. Calculation Results of *Badī'ah al-Miśāl* in the Mecca area

Data	º	‘	“
تعديل المطالع الفلاكية للقمر	- 4	38	40
مطالع الفلاكية للقمر	184	38	40
مطالع الغروب للقمر	284	35	16
مطالع الغروب للشمس	280	57	38
قوس المكث	3	37	37
فضل الدائر	96	18	58
ارتفاع الهلال	1	54	36
مكث الهلال	0	11	4
سمت الارتفاع للقمر	21	31	49
سعة المغرب للشمس	25	18	2
البعد بين السعة والسمت	- 3	46	13
سعة المغرب للقمر	22	19	30
نور الهلال	0	20	45

When the result above is compared tothe concept of *imkān al-ru'yah* by Ma'ṣūm Ali, it can be found that:

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1. The first criterion is the *Hilal* light (نور الهلال) of 1/5 finger (0.0166 usbu‘/0.016%) and *Qaus al-mukś* 3° (degrees), then:

Table. 6. Comparison of the First Criteria in Makah

Criteria	***imkān al-ru’yah***	**Result**
Hilal light	12‘	20’ 45’’
Qaus al-mukś	3°	3° 37’ 37’’

By considering the position of the *Hilal* in Mecca, the first criterion cannot be tested, because Ma'şūm Ali's *imkān al-ru'yah* criteria have a lower value in either the *Hilal* light formulation or *qaus. al-mukś.*

2. The second criterion الهلال is 2/3 fingers (0.0555 uṣbu'/ 0.055%) with ارتفاع الهلال (height of the Hilal) 6 °, then:

Table. 7. Comparison of the Second Criteria in Mecca

Criteria	***imkān al-ru’yah***	**Result**
Hilal light	40’	20’ 45’’
ketinggian Hilal	6°	1° 54’ 36’’

In the second criterion, the concept of *imkān al-ru'yah* can be accepted empirically (when viewed from the case of rukyat Hilal in Mecca). This is confirmed by the higher value of the *imkān al-ru'yah* theory test value compared to the empirical test that took place in Mecca.

3. Third criterion الهلال reaches 2/3 fingers (0.0555 uṣbu '/ 0.055%) with *Qaus al-mukś* 11°, then:

Table. 8. Comparison of the Third Criteria in Makah

Criteria	***imkān al-ru’yah***	**Result**
Cahaya Hilal	40’	20’ 45’’
Qaus al-mukś	11°	3° 37’ 37’’

In the third and the second criterion, the concept of *imkān al-ru’yah* can be accepted empirically (when viewed from the case of *rukyat Hilal* in Madura). This confirms that the third criterion can also be tested empirically with the value of the formulation of the theoretical value higher than the formulation of the empirical value.

From the theoretical comparison of the concept of *imkān al-ru’yah* by Ma’ṣūm Ali in the book *Badī’ah al-Miśāl* with empirical data in the form of *Hilal* observation data (*rukyat Hilal*) seen in

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Mecca on 29 Zulkaidah 1344 H or June 21, 1925 (coinciding with on Sunday Wage), it can be concluded that the second and third criteria of *imkān al-ru'yah* by Ma'şūm Ali in the book *Badī'ah al-Miśāl* is empirically proven. The empirical in Mecca itself, according to the author, cannot be used as an absolute benchmark, because Indonesia's geographical and atmosphere is very different from that of Makah.

1. *Imkān al-ru'yah* by Ma'şūm Ali and the Theory of *Hilal* Visibility in Indonesia.

Ma'şūm Ali's criteria in his book *Badī'ah al-Miśāl* when compared with the MABIMS criteria are basically different. Of the three existing criteria, only the *Hilal* height formulation can be compared. The MABIMS criteria used by the Ministry of Religion of the Republic of Indonesia conclude the formulation of *Hilal* Visibility as follows. The *hilal* is two degrees above the horizon, the distance from the sun to the moon is at least three degrees, and the age of the moon after *ijtima'* is at least eight hours.

Of the three formulations, only the height of the *Hilal* can be compared. At the height of the *Hilal* offered, it can be seen that the criteria of Ma'şūm Ali' concept are higher than the MABIMS criteria with a four-degree deviation (2o used by MABIMS and 6o used by Ma'şūm Ali).

Thus, it can be concluded that the concept of *Imkān al-ru'yah* by Ma'şūm Ali theoretically and empirically can be used in Indonesia. In addition, the use of the *imkān al-ru'yah* concept is also a harmonic between the pure *rukyat* concept and the pure reckoning concept with the following advantages:

1) Can be used as a benchmark for *taqwim* (calendar).
2) Does not eliminate the main concept, namely *rukyat.*
3) The concept applies to the whole world with regional applications (there is a *hijri* date line).
4) According to empirical *Hilal* visibility
5) Excellent in *gumma* and abnormal areas.
6) The legal *istinbath* method is supported by various *salaf* scholars.
7) Used by scholars and *falak* science experts
8) Its use gives meaning to the dynamic movement of nature.

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In order to make the concept of *imkān al-ru'yah* be *salih li kulli zaman wa makān* requires some conditions. The conditions that must be considered are that there must be periodic *istiqra* (research) and the use of up to date reckoning or calculations.

D. Conclusion

The criteria for *imkān al-ru'yah* by Ma'şūm Ali in the perspective of modern astronomy can be accepted and applied because astronomically, the formulations used as theoretical guidelines are in accordance with the concepts and movements of the Sun and Moon as well as the criteria for the *imkān al-ru'yah* by Ma'şūm Ali. Empirically, the theory of *imkān al-ru'yah* by Ma'şūm Ali can be justified by the success of *rukyat* in Madura, East Java and Majalengka, West Java. As for the applicative contribution of *imkān al-ru'yah* criteria, this theory can be used as an *imkān al-ru'yah* theory in Indonesia based on theoretical data and empirical applications that occurred in Indonesia.

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