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# Historiography of the Thought of Imkan al-Ru'yat by Sayid Utsman bin Yahya

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**Abstract:** This paper aims to reveal Sayid Utsman's arguments that Imkan al-ru'yat (the possibility of sighting the new moon) is at an altitude of 7 degrees. The study seeks to analyze Sayid Utsman's thoughts on Imkan al-ru'yat from a historiographical perspective. This includes exploring the intellectual genealogy of Sayid Utsman's astronomical thought, understanding his perspective on Imkan al-ru'yat, and examining the criteria for Imkan al-ru'yat during his era. The research relies on qualitative data collected through documentation methods to gain an in-depth understanding of Sayid Utsman bin Yahya's thoughts on Imkan al-ru'yat. It is found that, according to Sayid Utsman, Imkan al-ru'yat is at an altitude of 7 degrees under certain conditions, and sometimes even reaches 8 degrees. Sayid Utsman's thoughts on Imkan al-ru'yat are a result of his studies with his grandfather, Sheikh Abdurrahman bin Ahmad al-Misry. In establishing the 7-degree criterion, Sayid Utsman cites the opinions of Imam Ibn Qadhi and Imam Ibn Hajar. It should also be noted that the Imkan al-ru'yat criteria during Sayid Utsman's era and for a century afterwards were considered to be at an altitude of 7 degrees.
***Keywords:*** *Historiography, Imkan al-ru'yat, Sayid Utsman bin Yahya*

## Intruduction

Sayid Utsman bin Yahya, a charismatic 19th-century scholar, had an intriguing thought regarding Imkan al-ru'yat at 7 degrees. In his book Iqazh an-Niyam fi ma Yata'allaq bi al-Ahillah wa ash-Shiyam, he states that the minimum visible altitude of the new moon (Hilal) is 7 degrees, or 8 degrees in certain conditions.[1] Based on the research by Rakhmad Zailani, it is stated that the Imkan al-ru'yat criterion of 7 degrees has been in effect since long before the era of Sayid Utsman and up to a hundred years after his fatwa era.[2] Mohamad Ilyas mentions that the crescent moon (hilal) can be observed if it has a height difference of more than 10.5 degrees for an azimuth difference of 0 degrees.[3]

There have been many studies discussing various criteria of Imkan al-ru'yat, both those proposed by earlier scholars and contemporary ones. These include the criteria of Imkan al-ru'yat by Ilyas, RHI, Muhammad Mansur al-Batawi, and Syaukat Odeh.[4]However, it is found that one

[1] Sayid Utsman bin Yahya, *Iqazh An-Niyam Fi Ma Yata'allaq Bi Al- Ahillah Wa Ash-Shiyam* (Jakarta: Al-Mubarokah, 1321).

[2] Rakhmad Zailani Kiki, "Polemik Keras Rukyatul Hilal Di Kalangan Ulama Betawi Abad Ke-19-20 M (1)," 2019, https://www.nu.or.id/fragmen/polemik-keras-rukyatul-hilal-di-kalangan-ulama-betawi-abad-ke-19-20-m-1-cwojm.

[3] Thomas Djamaludin, "Visibilitas Hilal Di Indonesia," n.d.

[4]Manshur Al-Batawi)," *Jurnal Hukum Islam*, 2015, https://doi.org/10.28918/jhi.v13i1.494; Rupi'i Amri, "Pemikiran Mohammad Ilyas Tentang Penyatuan Kalender Islam Internasional," *Profetika: Jurnal Studi Islam*, 2016, https://doi.org/10.23917/profetika.v17i01.2096; Mutoha Arkanuddin and Muh. Mahrufin Sudibyo, "Kriteria Visibilitas Hilal Rukyatul Hilal Indonesia (RHI) (Konsep, Kriteria, Dan Implementasi)," *Al-Marshad: Jurnal Astronomi Islam Dan Ilmu-Ilmu Berkaitan*, 2015; Iqnaul Umam Asshidiqi and Fathor Rausi, "Pemikiran Muhammad Mansur Tentang Imk?N Al-Ru'yah Dalam Kitab Mîz?N Al-I'tid?L," *AL - AFAQ : Jurnal Ilmu Falak Dan Astronomi*, 2021, 17,

earlier criterion of Imkan al-ru'yat, the thought of Sayid Utsman bin Yahya, has not yet been studied. There is a need for a study of the Imkan al-ru'yat criterion of Sayid Utsman as a scholarly heritage in the field of falak (Islamic astronomy) in its historical context.

The purpose of this paper is to understand the thoughts of Imkan al-ru'yat by Sayid Utsman from a historiographical perspective. This includes exploring the intellectual genealogy of Sayid Utsman's falak knowledge, understanding his thoughts on Imkan al-ru'yat, and identifying the criteria of Imkan al-ru'yat during his era.

This paper argues that there are many evolving criteria of Imkan al-ru'yat, both national and international, classical and contemporary, each with its parameters, yet unable to unify all perspectives. Interestingly, in the early 19th century, in Indonesia, specifically in Betawi, there was a charismatic scholar with his own criteria for Imkan al-ru'yat to determine the beginning of the lunar month. These criteria of Imkan al-ru'yat have not been previously studied and should be regarded as part of the scholarly heritage in the field of falak.

## Research Methodology

This research is a qualitative descriptive study that will explain the thoughts of Imkan al-ru'yat by Sayid Utsman from a historiographical perspective. The approach used in this research is a library research approach. Because the primary data source used in this research is the book by Sayid Utsman bin Yahya, namely Iqazh an-Niyam fi ma Yata'allaq bi al-Ahillah wa ash-Shiyam. Secondary data sources were obtained from previous research discussing Imkan al-ru'yat. The data obtained is used to explain how and from where Sayid Utsman's thoughts on Imkan al-ru'yat originate.

## Discussion

### Imkan al-ru'yat as a Method for Determining the Beginning of the Islamic Lunar Month

The term Imkan al-ru'yat comes from Arabic, where Imkan means possibility or capability[5], and al-Ru'yat means seeing or understanding. Literally[6], Imkan al-ru'yat means the possibility of the crescent moon (Hilal) being visible, which refers to the phenomenon where the position of the crescent moon, according to experience, can be seen with the naked eye.[7] In this context, besides calculating the crescent moon above the horizon, the observers must also consider other factors that allow the crescent moon to be visible.[8] Among the factors determining the visibility of the crescent moon are its height above the horizon and its position far enough from

https://doi.org/10.20414/afaq.v3i1.2633; Muhammad Shawkat Odeh, "TitleNew Criterion for Lunar Crescent Visibility," *New Criterion for Lunar Crescent Visibility"*, 2006, 43.

[5] AhmadWarson Munawwir, *Kamus Al-Munawir Arab-Indonesia Terlengkap* (Surabaya: PustakaProgresif, 1997)

[6] AhmadWarson Munawwir, *Kamus Al-Munawir Arab-Indonesia Terlengkap* (Surabaya: PustakaProgresif, 1997)

[7] Susiknan Azhari, *Ensiklopedi Hisab Rukyat* (Yogyakarta: Pustaka Pelajar, 2012).

[8] Ahmad Syifaul Anam, "Implikasi Imkanurrukyat: Tertolaknya Hasil Rukyat," n.d., 2.

the direction of the sun (elongation). In formulating hypotheses, one must also consider statistical data on the success and failure of crescent moon sightings (rukyat al-Hilal).[9]

Scholars have differing opinions on using Imkan al-ru'yat to determine the beginning of the Islamic lunar month. In his research, Ayi Muhammad wrote that according to al-Juzairi, there are two groups of scholars from the Shafi'i school of thought. The first group uses pure sighting (ru'yah murni), and the second group uses Imkan al-ru'yat.[10] As-Subki was the first scholar to raise the issue of Imkan al-ru'yat. As-Subki stated that astronomical calculations (hisab) could reject the testimony of crescent moon sightings if, according to calculations, the crescent moon could not be seen, either because of the small elongation value or its height, making it impossible to see based on experience or simulation.[11]

There are several parameters used in establishing Imkan al-ru'yat criteria, which are interrelated. These parameters are classified into two: empirical Imkan al-ru'yat parameters and physical Imkan al-ru'yat parameters. Here is an explanation of both:

*Empirical Imkan al-ru'yat Parameters*

Empirical Imkan al-ru'yat parameters are those based on the positional elements of the Moon and the Sun.[12]

- **Arc of Descent (aD)**, also known as the **Arc of Vision (ARCV)**, is the difference in altitude between the Moon and the Sun measured from their centers.
- **h** is the height of the crescent (Hilal), calculated from the center of the Moon's disk to the astronomical horizon.
- **Difference of Azimuth (Daz)** is the difference in azimuth between the Moon and the Sun.
- **Arc of Light (aL/ARCL)** is the angular distance between the Moon and the Sun.
- **Age** is the time interval between the conjunction (ijtima') and the Best Time (in hours).
- **Lag** is the time interval between the setting of the Sun and the setting of the Moon for the crescent (Hilal).

*Physical Imkan al-ru'yat Parameters*

[9] Susiknan Azhari, *Ensiklopedi Hisab Rukyat* (Yogyakarta: Pustaka Pelajar, 2012).

[10] Ayi Muhamad Taufik, "'Kriteria Imkan Al-Rukyah Menurut Pandangan KH. Muhammad Yahya Di Pelabuhan Ratu Sukabumi Jawa Barat'," (2019).

[11] "Https://Www.Youtube.Com/Watch?V=Adm-QQHBl4E," n.d.

[12] Badrul Munir, "Analisis Hasil Pengamatan Hilal Badan Meteorologi Klimatologi Dan Geofisika (BMKG) Pusat Tahun 2010 M-2015 M'" (2016).

Physical Imkan al-ru'yat parameters are criteria based on the physical properties of the Moon.[13]

- **Magnitude** is the brightness level of the Moon.
- **W** is the maximum width of the illuminated area measured along the diameter of the Moon.
- **R** is the radius of the Moon's disk as seen from Earth.
- **aR**, which is atmospheric refraction (-34').

**Intellectual Genealogy of Sayid Utsman bin Yahya**

Sayid Utsman bin Yahya was a charismatic scholar and mufti in the early 19th century. His full name is Utsman ibn 'Abdullah ibn 'Aqil ibn Umar ibn 'Aqil ibn Syekh ibn 'Abd al-Rahman ibn 'Aqil ibn Ahmad ibn Yahya (from where the family name Sayid Utsman bin Yahya is derived) ibn Hasan ibn 'Ali ibn 'Alwi ibn Muhammad Maula al Dawilah ibn 'Ali ibn 'Alwi ibn Muhammad Faqih Muqaddam ibn Ali ibn Muhammad Shahib Mirbath ibn 'Ali Khola' Qasam ibn 'Alwi ibn Muhammad ibn 'Alwi ibn 'Ubaidillah ibn Ahmad alMuhajir ibn Isa ibn Muhammad al-Naqib ibn 'Ali al-'Uraidhi ibn Ja'far Shadiq ibn Muhammad al-Baqir ibn 'Ali Zain al-'Abidin ibn Husein ibn 'Ali ibn Abi Thalib with Fatimah binti Muhammad SAW.[14] He was born in Pekojan, Batavia on 17 Rabiul Awal 1238 H/1822 AD and passed away on January 19, 1914 AD."[15]

During his lifetime, he was often sought for fatwas regarding various issues that arose in the community, including in the field of astronomy. One such issue was the determination of the beginning of the lunar month, which frequently arose in society. This prompted Sayid Utsman to write books addressing these questions. Among his works discussing the determination of the lunar month's beginning are *Qaul ash-Shawab*, *Iqaẓ an-Niyam fī ma yata'allaq bi al-Ahillah wa Ash-Shiyam*, *Keker Bulan*, *Tamyiz al-Haq min aḍ-Ḍalal fī masail al-Hilal*, and *Tauhid al-'adillah 'ala syuruṭ asy-syuhud al-Hilal.* Additionally, there were issues related to the direction of the Qibla, a frequent topic. This led Sayid Utsman to write a book titled *Tahrir Aqwa al-Adillah fi Tashil Ain al-Qiblah.*[16] These works demonstrate his profound knowledge in the field of astronomy.

His career and academic journey began by studying with his maternal grandfather from the age of 3 until he was 19. Among the knowledge Sayid Utsman gained from his grandfather were various manners and polite customs, as well as religious sciences including the Arabic alphabet,

[13] Badrul Munir, "Analisis Hasil Pengamatan Hilal Badan Meteorologi Klimatologi Dan Geofisika (BMKG) Pusat Tahun 2010 M-2015 M"" (2016).

[14] hammad Noupal, "Kontroversi Tentang Sayid Utsman Bin Yahya (1822-1914) Sebagai Penasehat Snouck Hurgronje" (n.d.).

[15] Radinal Mukhtar Harahap, "Narasi Pendidikan Dari Tanah Betawi: Pemikiran Sayid Utsman Tentang Etika Akademik," *Jurnal of Contemporary Islam and Muslim Societis* 2 (2018): 181.

[16] Rakhmadi, *Warisan Ilmu Falak Sayid Utsman Deskripsi Dan Analisis 7 Karya (w. 1331H/ 1913 M)* (Medan: Umsu Press, 2021).

how to read the Quran, tajweed (rules of Quranic recitation), tawhid (Islamic monotheism), fiqh (Islamic jurisprudence), tasawwuf (Islamic mysticism), sarf (morphology), and nahwu (syntax). He was also taught tafsir (Quranic exegesis), hadith (Prophetic traditions), astronomy, astrology, and other Islamic sciences. These disciplines served as the foundation for Sayid Utsman to further his studies under different teachers in Mecca.[17] He also learned the science of calculation (hisab) for determining the beginning of the lunar month from his grandfather. At that time, Sayid Utsman's grandfather had several students, one of whom was Abdul Hamid Ad-Damiri, the father of Muhammad Mansur al-Batawi. It was from Sayid Utsman's grandfather that the tradition of hisab for determining the lunar month in Batavia was passed down.[18]

After gaining knowledge from his grandfather, Sayid Utsman sought permission to go to Mecca to perform the Hajj pilgrimage and to meet his father and family in the month of Rajab 1257 AH, corresponding to 1841 CE. At that time, Sayid Utsman was 19 years old, as mentioned in the book *Qamar al-Zaman*. Besides performing Hajj and meeting his father and family, Sayid Utsman also studied with several teachers in Mecca, learning various disciplines.[19]

Among his teachers in Mecca were Sayid Ahmad Zaini Dahlan (a mufti of the Shafi'i school of thought in Mecca), Sheikh Ahmad Dimyati, Sayid Muhammad bin Husein al-Habsyi,[20] al-Habib Abdullah bin Husain bin Thahir, and al-Habib Abdullah bin Umar bin Yahya. Of these five teachers, Sayid Ahmad Zaini Dahlan was the most renowned in the Islamic world at that time, and Sayid Utsman was very close to him. On several occasions, he even served as an assistant in his teacher's study circles. Sayid Ahmad Zaini Dahlan himself was a scholar who mastered astronomy, and one of his works in this field is *Mukhtashar fi Ma'rifah as-Sinin wa ar-Rubu' al-Musytahir*.[21]

After studying with his grandfather and teachers in Mecca, Sayid Utsman continued his journey of seeking knowledge to Hadramaut, the hometown of his great-grandfather, Sayid Umar bin Yahya. He went to Hadramaut after living in Mecca for 7 years, at the age of 26. Besides seeking knowledge, his purpose for going to Hadramaut was also to visit his family there. He stayed in Hadramaut for 15 years.[22]

The education system in Hadramaut was informal and traditional. Among Sayid Utsman's teachers in Hadramaut were al-Habib Abdullah bin Husain bin Thahir, al-Habib Abdullah bin

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[17] Radinal Mukhtar Harahap, "Narasi Pendidikan Dari Tanah Betawi: Pemikiran Sayid Utsman Tentang Etika Akademik," *Jurnal of Contemporary Islam and Muslim Societis* 2 (2018..

[18] Muammar. Muslich Shabir Muhammad Falih Abdul Ghoni, "Geneology of Astronomy Science In Java," *Hikmatuna* 6, no. Jurnal for integrative islamic studies (2020).

[19] Rakhmadi, *Warisan Ilmu Falak Sayid Utsman Deskripsi Dan Analisis 7 Karya (w. 1331H/ 1913 M).*

[20] hammad Noupal, "Kontroversi Tentang Sayid Utsman Bin Yahya (1822-1914) Sebagai Penasehat Snouck Hurgronje" (n.d.).

[21] Rakhmadi, *Warisan Ilmu Falak Sayid Utsman Deskripsi Dan Analisis 7 Karya (w. 1331H/ 1913 M).*

[22] Rakhmadi, *Warisan Ilmu Falak Sayid Utsman Deskripsi Dan Analisis 7 Karya (w. 1331H/ 1913 M).*

Umar, al-Habib Hasan bin Shalih al-Bihr, al-Habib Muhammad bin Thahir, and al-Habib Alwi bin Saqqaf al-Jifri.[23] During his time in Hadramaut, it is likely that Sayid Utsman bin Yahya stayed in the city of Masilat al-Syekh, as this city housed an important library belonging to al-Yahya, a teacher whose opinions were frequently cited by Sayid Utsman throughout his scholarly and intellectual career.[24]

After several years of residing and studying in Hadramaut, Sayid Utsman continued his journey to seek knowledge in Egypt.[25] He stayed in Egypt for 8 months.[26] From Egypt, he continued his journey to Tunisia, where he studied with Sheikh Abdurrahman al-Maghribi,[27] Sheikh Muhammad bin Abdul Jawad, and Sheikh Ahmad bin Mansur. He was also reported to have met the Mufti Pasha living in the district of Qabis, about 5 miles from the capital of Tunisia, and studied with him for 5 months.[28]

After Tunisia, Sayid Utsman bin Yahya continued his journey to Algeria. Shortly after, he went to Fez, one of the major cities in Morocco, then to Istanbul, Persia, and Syria.[29] He then continued his journey to Palestine to visit Baitul Maqdis and Masjid al-Aqsa, where he had the opportunity to study again with Sheikh Abdul Qadir al-Jazairi. His journey ended with his return to Hadramaut. He stayed there for several years with his family and children before returning to Indonesia via Singapore.[30]

Sayid Utsman bin Yahya's journey for knowledge ended at the age of 40.[31] He began his role in the Nusantara by becoming a Quran teacher on a small scale in his hometown. He then became a teacher at the Pekojan mosque, replacing Haji Abdul Ghani, who was old and no longer able to teach.[32]

**Sayid Utsman bin Yahya's Thought on the Possibility of Sightings**

According to Sayid Utsman, the new moon (Hilal) might be visible when it reaches a height of 7 degrees, as written in his work *Iqazhun an-Niyam fi ma Yata'allaq bi al-Ahillah wa ash-Shiyam*:

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[23] Rakhmadi, *Warisan Ilmu Falak Sayid Utsman Deskripsi Dan Analisis 7 Karya (w. 1331H/ 1913 M).*

[24] Harahap, "Narasi Pendidikan Dari Tanah Betawi: Pemikiran Sayid Utsman Tentang Etika Akademik."

[25] Irfan Magdanta, "Konsep Tauhid Sifat Dua Puluh Dalam Pandangan Sayid Utsman Betawi Dan Tim Fakultas Ushuluddin Iain Antasari (Studi Perbandingan)" (UIN Antasari, 2019).

[26] Noupal, "Kontroversi Tentang Sayid Utsman Bin Yahya (1822-1914) Sebagai Penasehat Snouck Hurgronje."

[27] Magdanta, "Konsep Tauhid Sifat Dua Puluh Dalam Pandangan Sayid Utsman Betawi Dan Tim Fakultas Ushuluddin Iain Antasari (Studi Perbandingan)."

[28] Noupal, "Kontroversi Tentang Sayid Utsman Bin Yahya (1822-1914) Sebagai Penasehat Snouck Hurgronje."

[29] agdanta, "Konsep Tauhid Sifat Dua Puluh Dalam Pandangan Sayid Utsman Betawi Dan Tim Fakultas Ushuluddin Iain Antasari (Studi Perbandingan)."

[30] Noupal, "Kontroversi Tentang Sayid Utsman Bin Yahya (1822-1914) Sebagai Penasehat Snouck Hurgronje."

[31] Noupal, "Kontroversi Tentang Sayid Utsman Bin Yahya (1822-1914) Sebagai Penasehat Snouck Hurgronje."

[32] Rakhmadi, *Warisan Ilmu Falak Sayid Utsman Deskripsi Dan Analisis 7 Karya (w. 1331H/ 1913 M).*

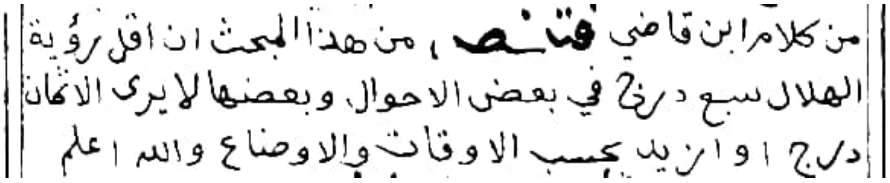


*Figure 1: The statement of Sayid Utsman declaring that the possibility of sighting (Imkan al-rukyat) is at a height of 7 degrees or more at a certain time, as found in the book Iqazhun an-Niyam fi ma Yata'allaq bi al-Ahillah wa ash-Shiyam.*

"From the statement of Ibn Qadhi, this discussion is established. The minimum limit for the possibility of sighting (Imkan al-Ru'yat) is 7 degrees in some cases, and in other cases, it is not visible except at a height of 8 degrees or more, based on the calculation of time and conditions."

In addition, Sayid Utsman also provided an explanation in his other works, stating that the new moon (Hilal) might be visible at a height of 7 degrees. Here is Sayid Utsman's statement:

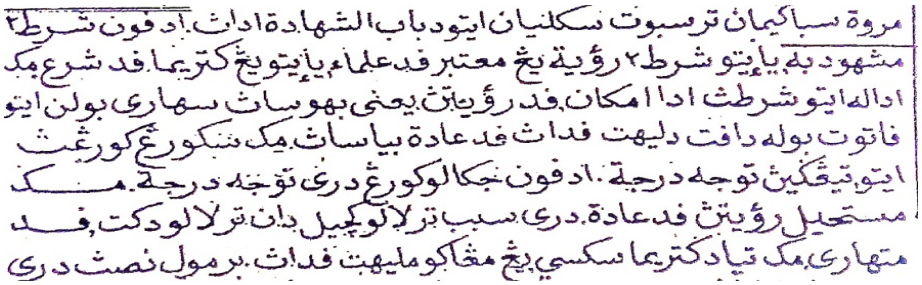


*Figure 2: Sayid Utsman's statement that the Imkan al-Rukyat (possibility of moon sighting) occurs at an altitude of 7 degrees, as found in the book Tamyi al-Haq min adh-Dholal.*

"According to customary practice, the moon can typically be observed when it reaches an altitude of at least seven degrees. If it is less than seven degrees, it is generally considered impossible to sight it due to its small size and close proximity to the sun, which renders any witness testimony of sighting it unacceptable."[33]

The "Criteria of 7 Degrees Imkan al-Ru'yat" was obtained by Sayid Utsman while studying with his grandfather, Sheikh Abdurrahman bin Ahmad al-Misry. This criterion follows the opinions of earlier scholars, namely Imam Ibn Qadli and Imam Ibn Hajar. To determine the altitude of the crescent moon at the 7-degree position, Sayid Utsman used a calculation system also taught by his grandfather. This calculation system belongs to the hisab hakiki taqribi system, where the solar and lunar data utilize the zeij (astronomical tables) created by Ulugh Beyk.

There are five types of solar and lunar data in the book Iqazh an-Niyam used to calculate the position of the crescent moon. The first is al-'alamah, which is the time of conjunction at the end of the first month and the beginning of the second month, marking the separation between the two. The second is al-hishoh, which is the inclination of the Moon's orbit from the zodiac at

[33] Mada Sanjaya Dkk, *Astronomi Ilmu Falak Habib Usman Bin Yahya Mufti Betawi (1822-1914)* (Bandung: Bolabot, 2021).

the equator. The third is al-Khoshoh, which refers to the position of the Moon in its orbit based on average calculations. The fourth is al-markaz, which is the position of the Sun in its orbit based on average calculations. The fifth is al-auj, which is the farthest position of the Sun from the Earth on its orbital arc.Additionally, the term muqawam asy-Syams refers to the actual position of the Sun at the time of conjunction, and Bu'du an-nayrayn is the corrected distance between the Sun and the Moon. These seven tables are written using the jumali script without dots except for the letter "nun," and the number of days in the al-'alamah column is written in Hindi numerals.[34]

Here are the seven tables of solar and lunar data along with their calculation methods:

1) **Al-'alamah**: The time of conjunction at the end of one month and the beginning of the next, marking the separation between them.
2) **Al-hishoh**: The inclination of the Moon's orbit from the zodiac at the equator.
3) **Al-Khoshoh**: The position of the Moon in its orbit based on average calculations.
4) **Al-markaz**: The position of the Sun in its orbit based on average calculations.
5) **Al-auj**: The farthest position of the Sun from the Earth on its orbital arc.
6) **Muqawam asy-Syams**: The actual position of the Sun at the time of conjunction.
7) **Bu'du an-nayrayn**: The corrected distance between the Sun and the Moon.

These tables are meticulously calculated and provide a comprehensive system for determining the position of the crescent moon.

*Table of Data for the Year Majmu'ah*

[34] Yahya, *Iqazh An-Niyam Fi Ma Yata'allaq Bi Al- Ahillah Wa Ash-Shiyam.*

*Table 1. Year Majmu'ah in the Book Ĩqaẓ an-Niyam fĩ yata'llaq bi al-Ahillah wa aṣ-Ṣiyam*
*Table of Data for the Year Mabsutoh*

الجدول الثاني في السنين المبسوطة الى قصة اي التي دون العشرة

| السنين المبسوطة | العلامة | الحصة | الخاصة | المركز | الاوج |
|---|---|---|---|---|---|
| | ايام عة ق | حر ق | حر ق | حر ق | ق . . |
| ١ | ع ح ج | . ح ز | ى ط ج | ا ط ب | ا |
| ٢ | ا ب ل | . ب و | ح ط ل | ا ح ك | ب |
| ٣ | ٦ ب ك | . ك ط | و ك ط ك | ى ك ج | ب |
| ٤ | ٣ ا ك | ا ب ب | ه ط ب | ى ب د | ح |
| ٥ | ٧ ك ب | ا ى ه | ح ط . | ى و ى | د |
| ٦ | ه د ا | ا ح ح | ا ى ج | ط ك ه | ه |
| ٧ | ٢ ه ط | ا ك ط | . ح ب | ط ك ب | و |
| ٨ | ٦ ك ى | ب د ك | ى ح ك | ط د ح | و |
| ٩ | ع ز ب | ب ب ك | ح ى ب | ح ط ك | ز |
| ١٠ | ا ب ه | ب ى ل | ز ح . | ح ب م | ح |

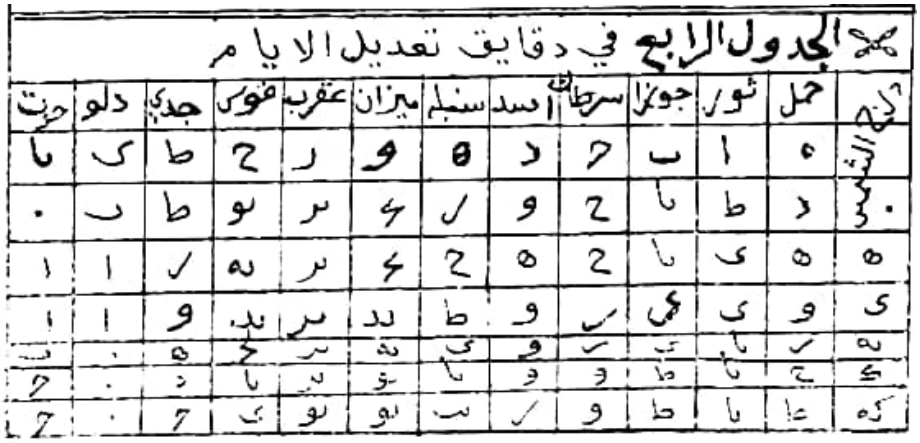
*Table 1 Year Mabsutah in the Book Ĩqaẓ an-Niyam fĩ yata'llaq bi al-Ahillah wa aṣ-Ṣiyam.*

*Table of Monthly Data*

الجدول الثالث في الشهور العربية فتقويم كل شهر تؤخذ من الشهر الذي قبله وتقويم شهر صفر بالصفر الحالي وتقويم شهر محرم من شهر الحج

| الشهور | العلامه | الحصة | الخاصة | المركز |
|---|---|---|---|---|
| العربية | ايام عة ق | حر ق | حر ق | حر ق |
| محرم | . . . | . . . | . . . | . . . |
| صفر | ا ب مد | ا . م | . كه مط | . كط و |
| ربيع الاول | ٣ ا ج | ب ا ك | ا كا ج | ا ج ح |
| ربيع الثاني | ع ب ب | ح ب ما | ب ب ر ك | ب ك ط |
| جمادى الاولى | ٦ ب ز | د ب ما | ح ح ز | ح ك ك |
| جمادى الاخر | ٧ ب م | ه ح كا | د ط ه | د كه ك |
| رجب | ٢ د كد | و د ا | ه د ند | ه كد ج |
| شعبان | ٣ ب ح | ز د مد | و . ح | و ح مه |
| رمضان | ه ه ب | ح ه ك | و كو ك | ز ك ا |
| شوال | ٦ ج ز | ط و ح | ز ك كا | ح كا ب |
| القعده | ا ز ك | ى و ح | ج ج ى | ط كا د |
| الحجه | ٢ ك د | ا ز ح | ط ح ط | ى ك ى |
| محرم | ع ح ج | . ح ح | ى ط ج | ا ط ز |

*Table 3: Monthly Data found in the book Ĩqaẓ an-Niyam fĩ yata'llaq bi al-Ahillah wa aṣ-Ṣiyam.*
*Table of Days Adjustment Data*




*Tabel 2 data ta'dil al-Ayyam yang terdapat pada kitab Ĩqaẓ an-Niyam fĩ yata'llaq bi al-Ahillah wa aṣ-Ṣiyam.*

*Table of al-khoshoh Adjustment Data*

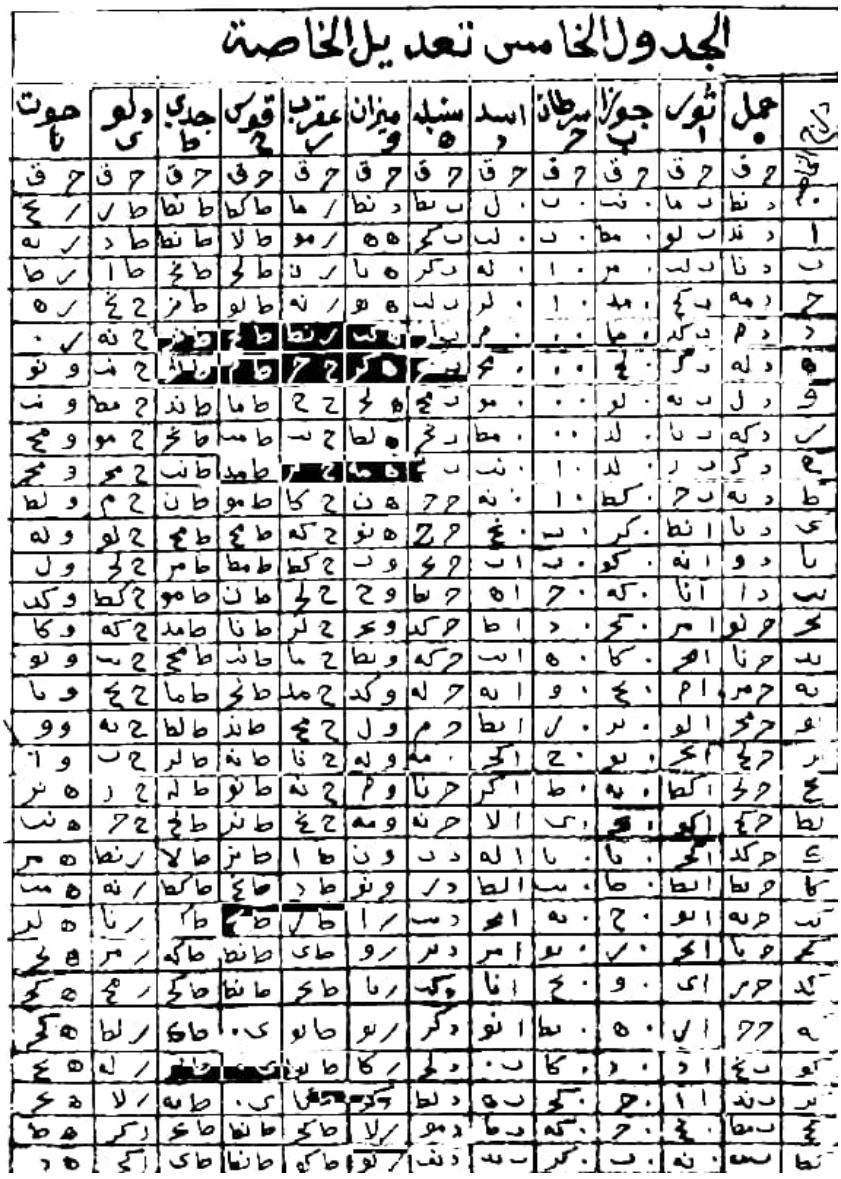
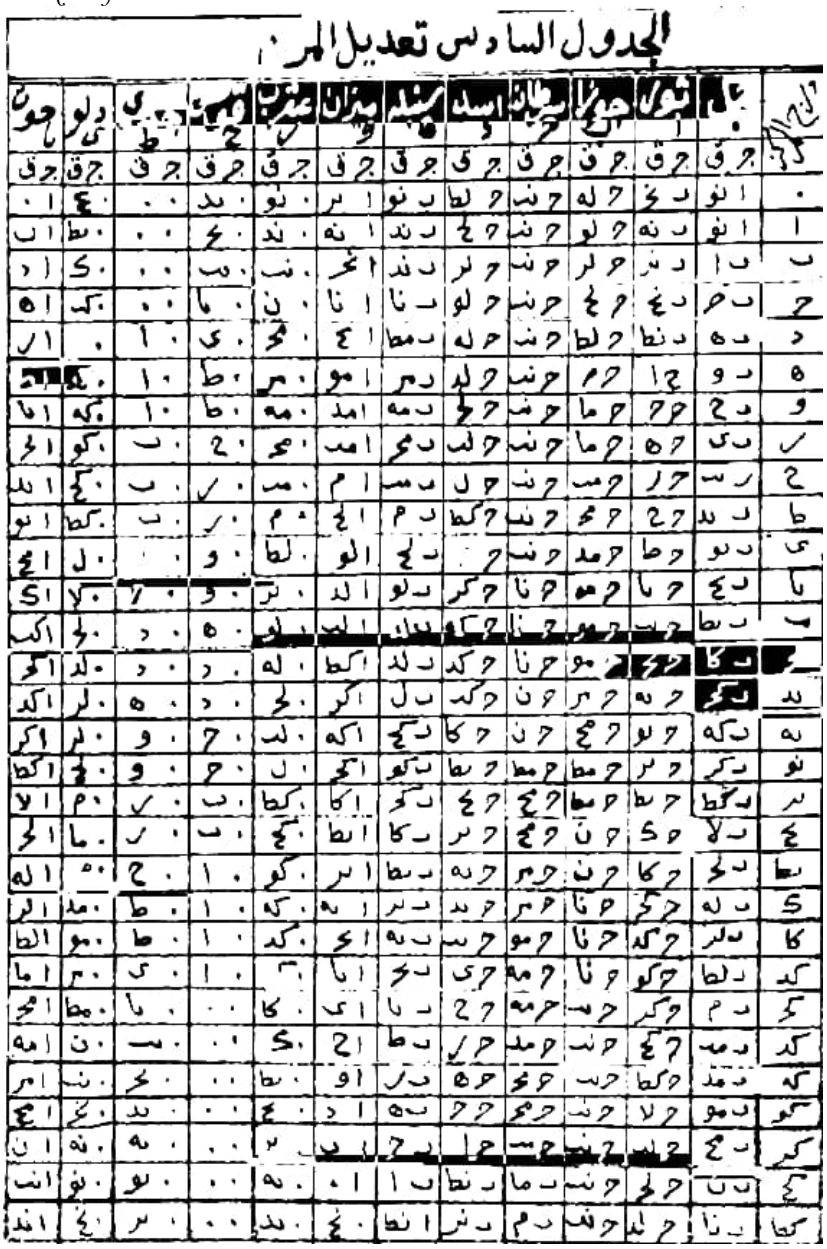



*Table 3 data ta'dil al-Khossoh yang terdapat pada kitab Ĩqaẓ an-Niyam fĩ yata'llaq bi al-Ahillah wa aṣ-Ṣiyam.*

*Table of al-Markaz Adjusment Data*




*Tabel 4 data ta'dil al-markaz yang terdapat pada kitab Ĩqaẓ an-Niyam fĩ yata'llaq bi al-Ahillah wa aṣ-Siyam. Table Hissoh as-Sa'ah Data*

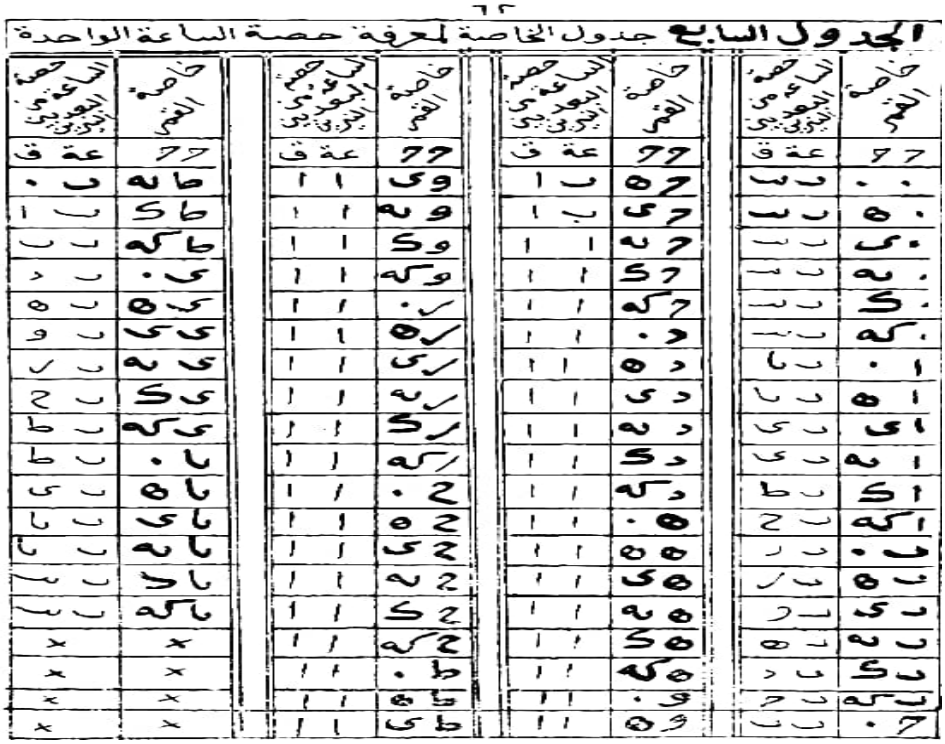


*Table 5 data hissoh as-sa'ah yang terdapat pada kitab Ĩqaẓ an-Niyam fĩ yata'llaq bi al-Ahillah wa aṣ-Ṣiyam.*

**Calculation Method[35]:**

a) The data for the year, month, and previous month, then add them according to their type. If the sum of the al-'alamah reaches 60, convert it to one hour. If the sum of the as-sa'ah (hours) reaches 24, convert it to one day. If the al-ayyam (days) exceed seven, subtract seven and its multiples. Note that the maximum values for daqaiq, al-Duruj, and buruj are 60, 30, and 12 respectively.

b) Determine the value of ta'dil khosoh.

c) Determine the value of ta'dil markaz.

d) Find the value of bu'du bayna nayyirayn by adding ta'dil khosoh and ta'dil markaz.

e) Find the value of ta'dil asy-syams by multiplying bu'du bayna nayyirayn by 5 and adding ta'dil markaz.

f) Find the value of wasat asy-syams by adding al-auj and markaz.

g) Find the value of muqawwam asy-syams by subtracting ta'dil asy-syams from wasat asy-syams.

h) Determine the value of ta'dil ayyam.

i) Find the value of bu'dul al-mu'addal by subtracting ta'dil ayyam from bu'du bayna nayyirayn.

[35] Yahya, *Iqazhun An-Niyam Fi Ma Yata'allaq Bi Al- Ahillah Wa Ash-Shiyam.*

j) Determine the value of hissoh as-sa'ah using the seventh data table with the khosoh data argument.

k) Find the value of ta'dil al-'allamah by multiplying bu'du al-mu'addal by hissoh as-sa'ah.

l) Find the value of al-'alamah al-mu'addalah by subtracting ta'dil al-'allamah from al-'allamah using reverse calculation. If the result shows 1ج ي, then the conjunction occurs on Sunday night, 3 hours and 10 minutes past, or at 9:10 PM on that Sunday night. After determining the conjunction time, proceed to determine the height of the Hilal by dividing the conjunction time by 0.5 (21:10 x 0.5 = 10.50).

**Criteria of Imkan al-ru'yat in the Era of Sayid Utsman**

The chain of Islamic astronomy knowledge that developed in Batavia originated from Sheikh Abdurrahman bin Ahmad al-Misry, the grandfather of Sayid Utsman bin Yahya. Sheikh Abdurrahman bin Ahmad al-Misry had several students, including Sayid Utsman bin Yahya and Abdul Hamid Ad-Damiri, the father of Muhammad Mansur al-Batawi. The chain of calculation for determining the beginning of the lunar month in Batavia came from Sayid Utsman's grandfather.[36] According to Sheikh Abdurrahman bin Ahmad al-Misry, Imkan al-ru'yat occurs at a height of 7 degrees.

According to Rakhmad Zailani, a researcher and writer on the intellectual genealogy of Betawi scholars, the 7-degree Imkan al-ru'yat criterion has been in place long before Sayid Utsman's era, lasting about a hundred years after Sayid Utsman's fatwa.[37] Rakhmad Zailani, quoting Guru Marzuqi bin Mirshad Muara, stated that according to Tuan Hoof Penghulu (religious leader) of Betawi, Haji Muhammad Hasan, the 7-degree Imkan al-ru'yat criterion was based on complete observation that provided certainty. This was because the Hilal had never been seen by Betawi people at a height below 7 degrees with reliable observation.[38]

During Sayid Utsman's era, in Ramadan 1299 H, the testimony of the Hilal sighting at a height of 2.5 degrees was accepted by the head of the Sharia Court of Betawi, Muhammad Shalih bin Syarbini, who was a student of Sayid Abdurrahman al-Misry. This decision was heavily criticized by Sayid Utsman, who argued that the Hilal could not be seen at a height below 7 degrees. From then on, the impossibility of sighting the Hilal below 7 degrees became well-known in Betawi. This led people to lose enthusiasm for attempting to sight the Hilal below 7 degrees.[39]

However, two men from Tangkiran claimed to have sighted the Hilal at a height of 5 degrees on the night of Friday after sunset in Zulhijjah 1350 H. Their testimony contradicted the

[36] Ghoni, "Geneology of Astronomy Science In Java."Hikmatuna, 2020.
[37] Kiki, "Polemik Keras Rukyatul Hilal Di Kalangan Ulama Betawi Abad Ke-19-20 M (1)."
[38] Kiki, "Polemik Keras Rukyatul Hilal Di Kalangan Ulama Betawi Abad Ke-19-20 M (1)."
[39] Asshidiqi and Rausi, "Pemikiran Muhammad Mansur Tentang Imk?N Al-Ru'yah Dalam Kitab Miz?N Al-I'tid?L."

prevailing belief that the Hilal could not be seen below 7 degrees. This incident led to a group, led by Muhammad Mansur al-Batawi, who argued that the Hilal could indeed be seen below 7 degrees.

**Conclusion**

The findings indicate that according to Sayid Utsman, Imkan al-ru'yat occurs at a height of 7 degrees, and in certain conditions, 8 degrees. Sayid Utsman's views on Imkan al-ru'yat were influenced by his grandfather, Sheikh Abdurrahman bin Ahmad al-Misry. Sayid Utsman referenced Imam Ibn Qadhi and Imam Ibn Hajar when establishing the 7-degree criterion. The data shows that the 7-degree criterion was prevalent during Sayid Utsman's time and for about a century afterward. Sayid Utsman believed that Imkan al-ru'yat occurs at 7 degrees because it was taught by his teacher and was the agreed-upon criterion at that time.

**Recommendations**

Sayid Utsman's belief that the Imkan al-ru'yat criterion is 7 degrees was based on the teachings and consensus of that time, supported by complete observation. No Hilal sightings were ever reported below 7 degrees.

Many observations now indicate that the Hilal can be seen below 7 degrees, thus challenging Sayid Utsman's criterion. However, his views on Imkan al-ru'yat remain a valuable historical asset in the field of Islamic astronomy.

This study has limitations, as it does not provide examples of Hilal sightings during Sayid Utsman's era. Future research should explore this further.

## References


Amri, Rupi'i. "Pemikiran Mohammad Ilyas Tentang Penyatuan Kalender Islam Internasional." Profetika: Jurnal Studi Islam, 2016. https://doi.org/10.23917/profetika.v17i01.2096.

Anam, Ahmad Syifaul. "Implikasi Imkanurrukyat: Tertolaknya Hasil Rukyat," n.d.

Arkanuddin, Mutoha, and Muh. Mahrufin Sudibyo. "Kriteria Visibilitas Hilal Rukyatul Hilal Indonesia (RHI) (Konsep, Kriteria, Dan Implementasi)." Al-Marshad: Jurnal Astronomi Islam Dan Ilmu-Ilmu Berkaitan, 2015.

Asshidiqi, Iqnaul Umam, and Fathor Rausi. "Pemikiran Muhammad Mansur Tentang Imkān Al-Ru'yah Dalam Kitab Mīzān Al-I'tidāl." Al-Afaq: Jurnal Ilmu Falak Dan Astronomi, 2021, 17. https://doi.org/10.20414/afaq.v3i1.2633.

Azhari, Susiknan. Ensiklopedi Hisab Rukyat. Yogyakarta: Pustaka Pelajar, 2012.

Djamaludin, Thomas. "Visibilitas Hilal Di Indonesia," n.d.

Dkk, Mada Sanjaya. Astronomi Ilmu Falak Habib Usman Bin Yahya Mufti Betawi (1822-1914). Bandung: Bolabot, 2021.

Ghoni, Muammar, Muslich Shabir, and Muhammad Falih Abdul. "Genealogy of Astronomy Science In Java." Hikmatuna 6, no. Jurnal for Integrative Islamic Studies (2020).

Harahap, Radinal Mukhtar. "Narasi Pendidikan Dari Tanah Betawi: Pemikiran Sayid Utsman Tentang Etika Akademik." Journal of Contemporary Islam and Muslim Societies 2 (2018): 181.

"Https://Www.Youtube.Com/Watch?V=Adm-QQHBl4E," n.d.

Izzuddin, Ahmad. "Pemikiran Hisab Rukyah Klasik (Studi Atas Pemikiran Muhammad Mas Manshur Al-Batawi)." Jurnal Hukum Islam, 2015. https://doi.org/10.28918/jhi.v13i1.494.

Kiki, Rakhmad Zailani. "Polemik Keras Rukyatul Hilal Di Kalangan Ulama Betawi Abad Ke-19-20 M (1)," 2019. https://www.nu.or.id/fragmen/polemik-keras-rukyatul-hilal-di-kalangan-ulama-betawi-abad-ke-19-20-m-1-cwojm.

Magdanta, Irfan. "Konsep Tauhid Sifat Dua Puluh Dalam Pandangan Sayid Utsman Betawi Dan Tim Fakultas Ushuluddin Iain Antasari (Studi Perbandingan)." UIN Antasari, 2019.

Munawwir, Ahmad Warson. Kamus Al-Munawir Arab-Indonesia Terlengkap. Surabaya: Pustaka Progresif, 1997.

Munir, Badrul. "Analisis Hasil Pengamatan Hilal Badan Meteorologi Klimatologi Dan Geofisika (BMKG) Pusat Tahun 2010 M-2015 M," 2016.

Noupal, Muhammad. "Kontroversi Tentang Sayid Utsman Bin Yahya (1822-1914) Sebagai Penasehat Snouck Hurgronje," n.d.

Odeh, Muhammad Shawkat. "New Criterion for Lunar Crescent Visibility." New Criterion for Lunar Crescent Visibility, 2006, 43.

Rakhmadi, Arwin Juli. Warisan Ilmu Falak Sayid Utsman Deskripsi Dan Analisis 7 Karya (w. 1331H/ 1913 M). Medan: Umsu Press, 2021.

Taufik, Ayi Muhamad. "'Kriteria Imkan Al-Rukyah Menurut Pandangan KH. Muhammad Yahya Di Pelabuhan Ratu Sukabumi Jawa Barat'," 2019.

Yahya, Sayid Utsman bin. Iqazhun An-Niyam Fi Ma Yata'allaq Bi Al-Ahillah Wa Ash-Shiyam. Jakarta: Al-Mubarokah, 1321.