

Determining the Hijri Month using the *Hisab 'Urfi* Method in the *Rowot Sasak* Calendar

Muhammad Awaludin

Universitas Islam Negeri Mataram

Muhammad.awaludin@uinmataram.ac.id

Abstract:

The earliest method of determining Hijri month is a classic issue always interesting to discuss. Currently, in Indonesia, three primary methods are influential in defining the beginning of the Hijri month: *Rukyatul Hilal* (NU), *Wujudul Hilal* (Muhammadiyah), and *Imkanur Rukyat* (Indonesian Ministry of Religious Affairs). In fact, among local communities, there are calculations carried out by their *mursyid/kiyai*. One of them is Sasak people (Lombok) with their calculating calendar. It's known as *Kalender Rowot Sasak*, which also determines the great days of Islam, such as Ramadan, Shawwal, and Dzulhijjah. So, this study focuses on finding patterns and calculation methods in *Kalender Rowot sasak* for early determination of Hijri month. This research is a kind of field research with a descriptive qualitative approach, where researchers observe the public and *kiyai* as practitioners of *Kalender Rowot Sasak*. The results of this study indicate that *Kalender Rowot sasak* determines the beginning of the Hijriyah month by using the some patterns, its 1 Muharram, Mulud Lebaran, Muharam Ramadhan dan *Hisab Urfi Rowot Sasak*. In addition, the names of the months in the calendar are also adapted from local terms.

Keywords: *Hisab Urfi, Hijri Month, Rowot Sasak. Calendar.*

Introduction

The method of determining the beginning of the Hijri month is a classic issue that is always interesting to discuss. The debate about determining the start of the month will be even more vigorous ahead of certain months such as Ramadan, Shawwal, and Dzulhijjah. Currently, in Indonesia, there are three major methods that are quite influential in determining the beginning of the lunar month, namely *Rukyatul Hilal* / *Imkan Rukyat* (NU), *Wujudul Hilal* (Muhammadiyah), and *Imkanur Rukyat* MABIMS (Ministry of Religion).¹ These three methods are based on the *hisab* and *rukya*t systems.

Hisab and *rukya*t, in determining the beginning of the lunar month, are the two most powerful methods today. In fact, they can be categorized as the two most essential methods today because, without them, the

¹ Misbah Khusurur, "PERPADUAN HISAB DAN RUKYAT SEBAGAI METODE PENENTUAN AWAL BULAN HIJRIYAH," *Jurnal Al-Wasith: Jurnal Studi Hukum Islam*, 2020, <https://doi.org/10.52802/wst.v5i2.76>.

determination of the beginning of the lunar month becomes very complex.² *Hisab rukyat* has also recorded a long history of its development and struggle in the process of determining the start of the month in Indonesia. *Hisab rukyat* that we encounter now is very advanced, many thoughts and theories of *hisab rukyat* have developed rapidly. The progress of *hisab rukyat* is certainly not present just like that; it also grows from a very simple situation, then gradually changes for the better, so that at this time *hisab* and *rukya*t have reached a very good quality.

Hisab rukyat is also one of the studies in phalacology that has never been devoid of discussion, and always causes polemics every year, especially in Indonesia. The application of *hisab-rukya*t in determining the beginning of the lunar month always causes unique polemics, especially for the months of worship such as Ramadan, Shawwal, and Dhulhijjah. Indonesian Muslims have yet to find a common ground between the two *hisab-rukya*t methods.³ Various efforts have been made to ease the polemics of differences among the adherents of *hisab* (hyssab school), and *rukya*t (*rukya*t school). However, this classic and actual problem still has not found a meeting point for the creation of *hisab rukya*t unity. *Hisab* and *rukya*t in the case of the beginning of the lunar month, seem to have been divided into two large camps, namely the camp of *hisab* adherents (*hisab* school) and *rukya*t followers (*rukya*t school).⁴

The differences in views in determining the beginning of the Hijri month seem to be more about the variety of new methods and criteria in determining the beginning of the Hijri month which are considered more accurate and adequate. *Hisab* calculations, which were originally 'Urfi and Hakiki, are now starting to develop into more contemporary⁵ and more accurate *hisab* methods, such as the Ephemeris Method, Jean Meeus, NewComb, Almanac Nautica and others.⁶

² Muhammad Awaluddin, *HISAB RUKYAT INDONESIA : Diversitas Metode Penentuan Awal Bulan Kamariah*, (Mataram: cv. Alfa Press, 2022). 3.

³ Susiknan Azhari, *Hisab dan Rukyat: Wacana untuk Membangun Kebersamaan di Tengah Perbedaan*, (Yogyakarta: Pustaka Pelajar, 2007), 53-71.

⁴ M Basthoni, "Diferensiasi Metode Penentuan Awal Bulan Hijriyah: Kajian Perspektif Teori Evolusi Sosial Herbert Spencer," *Endogami: Jurnal Ilmiah Kajian Antropologi*, 2018, <https://doi.org/10.14710/endogami.1.2.166-176>.

⁵ Abu Sabda, seri 02 *Ilmu Falak Rumusan Syar'I dan Astronomi*, (Bandung: Persis Pers, 2019), 77-80.

⁶ Muhammad Awaluddin, *HISAB RUKYAT INDONESIA*. 5.

In Indonesia, this polemic is increasingly tapered with the emergence of the fatwas of scholars through decisions in their respective organizations. For example, Nahdlatu Ulama (NU) stipulates the *Rukyatul Hilal*⁷ method with the condition that the height of the hilal must be at least 3 degrees above the horizon, so that it is astronomically possible to see. On the other hand, the Muhammadiyah organization through the decision of its tarjih assembly stipulates that the criteria for the beginning of the month use *Wujudul Hilal*⁸ where this criterion requires that Ijtimak (Conjunction) has occurred before sunset, and the moon sets after sunset first regardless of the height of the hilal at that time. In addition, the Indonesian government itself, through the Ministry of Religious Affairs of the Republic of Indonesia, presents new criteria under the name *Imkanurrukyat* MABIMS.⁹ The requirements in MABIMS require the height of the Hilal that can be *Rukyat*, which is min. 3 degrees and Elongation 6.4 degrees, so this provides more precise requirements both in fiqh and astronomy.¹⁰

But uniquely in Indonesia, it is not only among religious organizations that are quite busy narrating the method of determining the beginning of the lunar month. Among local communities such as adherents of the congregation or adherents of certain traditional calendars, they also believe in calculations made by their own chairman/teacher/mursyid/kiyai. One of the traditional local communities with its calendar calculations is the Sasak (Lombok)¹¹ community which has its own calendar calculation system known as the

⁷ Husnul Haq, *Beda Pendapat Ulama soal Penetapan Awal Ramadhan*, NU Online accessed juni 20, 202, <https://islam.nu.or.id/ramadhan/beda-pendapat-ulama-soal-penetapan-awal-ramadhan-3zglA>.

⁸ Rahmadi Wibowo Suwarno, "Menelisik Metodologi Hisab -Falak Muhammadiyah; Studi Historis-Komparatif", *Makalah* dipresentasikan dalam acara Simposium Terbuka Majelis Tarjih (PCIM) Kairo, "Revitalisasi Ilmu Falak dalam Penentuan Awal Bulan Hijriyah", di Auditorium Griya Jawa Tengah, Ahad 09 September 2007 M/26 Sya'ban 1428 H.

⁹ Arino Bemi Sado, "Dakwah Inside: Solusi Penyatuan Madzhab Hisab Dan Madzhab Rukyat Dalam Penentuan Awal Bulan Kamariah," *Journal.Uinmataram.Ac.Id* 18, no. 1 (2020). 81.

¹⁰ Zahrotun Nadhifah, "PENENTUAN AWAL BULAN HIJRIAH (Studi Hadis Tentang Hilal Sebagai Tanda Awal Bulan Hijriah)," *Elfalaky* 4, no. 2 (2020). 155.

¹¹ The people who inhabit Lombok Island in the Nusa Tenggara (Lesser Sunda) series of islands. The main livelihood of the Sasak people is farming in the fields (Lendang) or in the rice fields (subak). In addition, there are also hunting, fishing and making woven goods. Lihat Zulyani Hidayah, *Ensiklopedi Suku Bangsa Di Indonesia*, (Jakarta: yayasan Pustaka Obor Indonesia, 2015), 218.

Rowot Sasak Calendar. Apart from being a traditional event calendar, this calendar also contains the determination of Islamic holidays such as Ramadan, Shawwal and Dhulhijjah.¹² Based on this information, the author is interested in further research related to the methods and calculation patterns of the *Rowot Sasak* Calendar in determining the beginning of the lunar month, especially in certain months such as Ramadan, Shawwal, and Dhulhijjah.

Hisab and Rukyat

The word *hisab* itself originally comes from Arabic (حسابا - يحسب - حسب) which means counting.¹³ Determining the beginning of the lunar month using *hisab* science is one of the alternatives to determine the start of Ramadan, Shawwal, and Dhulhijjah.¹⁴ The word *hisab* in the KBBI is defined as calculation or estimation, even in another meaning still in the KBBI the word *hisab* is defined as care.¹⁵ The explanation of the word *hisab* in the Al-Munawwir dictionary means counting. At the same time, *hisaby* is an arithmetician who shows subjects or people.¹⁶ The word *hisab* if juxtaposed into English will be commensurate with the word arithmetic (science of arithmetic),¹⁷ calculation (calculation), and computation (calculation).

Based on the meaning of the language, we can draw a simple conclusion from the word *al-hisab* according to the term, namely as a discipline that can be interpreted as "the science that discusses the ins and outs of a calculation". So the word *hisab* is synonymous with formulas, numbers and calculation results.¹⁸ There are two most commonly known *hisab* methods, namely:

¹² Abdul Kohar and Arief Taufikurrahman, "Tinjauan Astronomis Penetapan Awal Tahun Kalender *Rowot sasak* Berdasarkan Kemunculan Bintang Pleiades," *AL - AFAQ : Jurnal Ilmu Falak Dan Astronomi* 2, no. 2 (2021), <https://doi.org/10.20414/afaq.v2i2.2920>.

¹³ Loewis Ma'luf. *Al-Munjid Fi al-Lughah*. (Beirut - Lebanon : Dar El-Machreq Sarl Publisher, cet. Ke-28,. 1986). 132.

¹⁴ Syaugi Mubarak, "Hisab-Rukyat Sebagai Metode Penetapan Awal Bulan Qomariyah (Kajian Atas Metode Penetapan Awal Puasa Dan Hari Raya Di Indonesia)," *Jurnal Al-Banjari* 6, no. 2 (2007). 22.

¹⁵ <https://kbbi.kemdikbud.go.id/entri/hisab>

¹⁶ Achmad Warson Munawwir. *Kamus Al-Munawwir Arab-Indonesia Terlengkap*. Surabaya: Pustaka Progressif. cet 14,. 1997. 262.

¹⁷ John M. Echols dan Hassan Shadily. *Kamus Inggris-Indonesia*. (Jakarta: PT. Gramedia Pustaka Utama. 2003). 37

¹⁸ Muhammad Hadi Basori. *Bagimu Rukyatmu Bagiku Hisabku*. Jakarta: Pustaka Al-Kautsar. 2016. 3

1. *Hisab 'Urfi*

Hisab 'urfi is a system that calculates the determination of the lunar months based on the average time of the moon's circulation. This method of *hisab* system in practice does not pay attention to the position of the Moon, only using permanent calculations.¹⁹ *Hisab 'urfi* is mainly used for general calendar purposes. The calendar calculation system using the *hisab 'urfi* method is based on the average age of the moon's circulation around the Earth. Hence the average age of the Moon can be applied. This *hisab* system regularly has a fixed number of days per month, except in specific years where the number is one day longer. According to this system, the moon's age in the Hijri year will have the same number of days per month as Sha'ban and Ramadan. Sha'ban has 29 days and 30 days for Ramadan.²⁰

It recognizes a 30-year cycle consisting of 11 long years of 355 days and 19 short years of 354 days. *Hisab* is usually used in traditional calendars and perpetual Islamic calendars, this is because dating using this method is fixed and consistent. The stability and consistency of this method is reflected in the determination of the age of the day in each month, where odd months will always be 30 days old and even months will always be 29 days old except in the month of Dhulhijjah in the long year will be 30 days old.²¹

2. *Hisab Hakiki*

Hisab hakiki is a method of determining the beginning of the lunar month by calculating and paying attention to the position and position of celestial bodies (circulation of the sun, moon, earth) factually or real using astronomical data and calculations, one of which is the spherical formula.²² The calculation system in determining the beginning of the lunar month using the *hisab hakiki* method determines the position of the Moon at the time of sunset (*hilar*).

Hisab is usually used to determine the calendar that requires the position of the actual movement of the moon such as when the

¹⁹ Muhammad Awaluddin, *HISAB RUKYAT INDONESIA*. 45.

²⁰ Susiknan Azhari, *Ensiklopedi Hisab Rukyat*, (Yogyakarta: Pustaka Pelajar, 2012), cet. ke-3. 79.

²¹ Abdul Karim dan Rifa Jamaluddin Nasir, *Mengenal Ilmu Falak (Teori dan Implementasi)*, (Yogyakarta: Qudsi Media, 2012). 56-57

²² Siti Muslifah, "Upaya Menyikapi Perbedaan Penentuan Awal Bulan Qamariyah Di Indonesia," *Azimuthh: Journal of Islamic Astronomy* 1, no. 1 (2020). 86.

crescent moon (hilal) will be or appear above the horizon. One of them is the Hijri calendar, because in determining the beginning of the month, especially for the months of Muslim worship such as determining 1 Ramadan, 1 Shawwal and so on, it is defined by the presence or appearance of the hilal above the horizon.

Kalender Rowot Sasak

The *Rowot Sasak* Calendar was developed based on traditional Sasak astrology and astronomy. This calendar is used as a guide or reference in organizing *gawe* (celebration), *betaletan* (farming), *mangse* (season) transfer, good and bad days, wuku (the influence of the position of constellations on events on the earth's surface), and various other daily activities.²³ The *Rowot* calendar works by looking at natural phenomena and observing astronomical phenomena. The astronomical phenomenon in question is the observation of the circulation of the Pleiades star cluster or the Seven Sister star cluster, which the Sasak people then known as the *Rowot* star. The *Rowot* constellation is about 541 light years away from Earth.

This calendar has two determinations of the beginning of the month, where the first is the determination of the start of the month for the season known as *mangse* and the second is the determination of the beginning of the lunar month or known as the *bulan atas*.²⁴ The calendar is based on a traditional unit of time known as warige and guidance from traditional leaders known as kyai. In the warige there are various combinations of time systems consisting of the lunar system (lunar circulation pattern), solar (solar circulation pattern) and the pleiades star circulation pattern or known as the *rowot* star as its characteristic.

The *rowot sasak* calendar system is essentially a synchronization between the rowot calendar system, the Gregorian calendar system and the Hijriyah calendar system.²⁵ At first glance, it may seem confusing how a calendar can accommodate three systems simultaneously. However, if detailed the primary system of the *Rowot Sasak* calendar is the Hijri calendar. While the *rowot* calendar (Pleiades star reference) is a calendar used by the community to determine the entry of the season,

²³ Muhammad Awaludin, "Kalender Rowot sasak (Kalender Tradisi Masyarakat Sasak)," *AL-AFAQ Jurnal Ilmu Falak Dan Astronomi Fakultas Syariah Universitas Islam Negeri (UIN) Mataram* 1, no. 1 (2019). 90.

²⁴ Lalu Ari Irawan, dkk, *Mengenal Kalender Rowot sasak*, (Mataram: Genius, 2014). 17.

²⁵ Lalu Agus Faturrahman, Interview, January 19, 2023.

either the dry season (*kebalit*) or the rainy season (*ketaun*). On the other hand, the Gregorian system is used as a form of conversion into the general calendar known by the community.

Naming days in the *Rowot Sasak* calendar uses acculturation between Sasak culture and the Hijriyah system.²⁶ The numbers on the dates in the *Rowot Sasak* calendar use the Hijri and Gregorian calendar systems (Arabic and Roman) and the year series, a combination of the Hijriyah and Gregorian year series. The *Rowot Sasak* Calendar is mainly used in the daily life of indigenous people for annual traditional events. Besides being used to determine cultural yearly events, this calendar also contains the determination of Islamic holidays such as Ramadan fasting, Eid al-Fitr, and Eid al-Adha.

***Rowot Sasak* Calendar Components**

1. Years

The annual system in the *Rowot Sasak* Calendar still uses or borrows the year series in the Gregorian and Hijri calendars. This is because the annual system in the *Rowot Sasak* calendar has not determined the zero point or zero year of the calendar. However, the traditional astronomical knowledge of the Sasak people regarding this calendar is likely not older than the Hijriyah calendar in terms of year series. This is because the system adopted by the *Rowot Sasak* Calendar is the Hijri Calendar system. At the same time, the cycle used in the *Rowot Sasak* Calendar uses the *windon* system, which is an 8-year cycle system²⁷ like most archipelago calendars.

²⁶ Lalu Ari Irawan, Interview, December 11, 2022.

²⁷ Muhyiddin Khazin. *Ilmu Falak Dalam Teori dan Praktik*, Yogyakarta: Buana Pustaka. (Yogyakarta: Buana, Pustaka. 2006). 120.

Years	Name of the Year
1	Alif
2	<i>Ehe</i>
3	Jimawal
4	Se
5	<i>Dal</i>
6	Be
7	Wau
8	<i>Jumahir</i>

Table 1
Sasak Rowot Calendar windon cycle

In one windon cycle (8 years) there are 3 long years (Kabisat) of 355 days and 5 short years (Basitoh) of 354 days. The long years in this cycle consist of the *Ehe* year, *Dal* year and *Jumakhir* year, while the remaining 5 years are short.

2. Month

The *Rowot Sasak* calendar has no difference with other calendars in the calculation of months. This calendar has 12 months in one year as a general calendar. But the difference is that the names of the months in the *Rowot Sasak* calendar are named with the specialty of tradition. The names of the 12 months in the *Rowot Sasak* alendar have a deep philosophy of life for the community's life cycle.²⁸ At first glance, the names of the months in the *Rowot Sasak* Calendar appear to be a form of synchronization and acculturation of the months in the Hijri calendar. It's just that the naming is changed using the Sasak language adapted to the moon's events and conditions at that time.

²⁸ Kiyai Ratna, Interview, January 22, 2023.

No	Hijri Months	Sasak Month Names
1	Muharam	Bubur Puteq
2	Safar	Bubur Beaq
3	Rabi'ul Awal	Mulud
4	Rabi'ul Akhir	Suwung Penembeq
5	Jumadil Awal	Suwung Penengaq
6	Jumadil Akhir	Suwung Penutuq
7	Rajab	Mi'rat
8	Sa'ban	Rowah
9	Ramadhan	Puase
10	Syawal	Lebaran Nine/Kodeq
11	Dzulqaidah	Lalang
12	Dzulhijjah	Lebaran Mame/Beleq

Table 2
Names of the months in the *Rowot Sasak* Calendar

3. Days

The day system in the *Rowot Sasak Calendar* is no different from the calendar in general, which is the same 7 days a week and 29/30 per month. However, the naming of days in the *Rowot Sasak* Calendar is more likely to adopt the names in the Hijri calendar than the Gregorian calendar. The striking thing that can be seen is in naming the 7th day (Monday the 1st day), which uses the name *ahad* rather than *week*.²⁹

²⁹ Irawan, L. Ari. dkk. *Mengenal Kalender Rowot sasak*. . . 30.

No	Gregorian Calendar	Hijri Calendar	Rowot sasak Calendar
1	Monday	Senin	Senen
2	Tuesday	Selasa	Selase
3	Wednesday	Rabu	Rebo
4	Thursday	Kamis	Kemis
5	Friday	Jum'at	Jumat
6	Saturday	Sabtu	Sabtu
7	Sunday	Ahad	Ahad

Table 3
The Day Name of *Rowot sasak* Calendar

Patterns of the *Rowot Sasak* Calendar System

The pattern of the *Rowot Sasak* calendar system is quite complex to read as a calendar. This is because three calendar systems must be read in one physical form of a conventional calendar. The three systems are the season/*mangse* system, the Hijriyah calendar system and the Gregorian calendar system. In simple terms, it can be said that the *Sasak Rowot* calendar adheres to 3 systems, namely Rowot as a season marker, Hijriyah for the calculation of worship calendar time, and AD as its conversion into a general calendar. In more detail, it can be described as follows;

1. Rowot System

The rowot system is used as a marker of the beginning of the Sasak community year and at the same time a marker of the beginning of the season (moving from the rainy season to the dry season). The pattern of this seasonal dating system is traditionally carried out by *ngandang rowot*.³⁰ *Ngandang rowot* is a traditional procession which means "facing towards the *rowot* star", where in this tradition the traditional *kiyai* will make observations of the natural conditions around at dawn and observe the position of the *rowot* star on the eastern horizon. If, according to the calculation, the date has been entered, it is considered to have *ngandang* or has returned to its

³⁰ Lalu Ari Irawan, Interview, December 11, 2023.

original position. So that the *kiyai* believes traditionally that the *rowot* star is already in its proper direction and position. This *hisab* pattern is carried out based on the 5-15-25³¹ tradition pattern which is a pattern of determining the appearance of the Pleiades star inherited from the ancestors of the Sasak tribe based on the journey or circular line of the *rowot* star. If this pattern is synchronized with the Gregorian calendar, the *ngandang rowot* procession will consistently fall in May each year.

No	Year	<i>Ngandang Rowot</i>	
1	2016	5 Sya'ban	13 Mei
2	2017	15 Sya'ban	12 Mei
3	2018	25 Sya'ban	11 Mei
4	2019	5 Ramadhan	10 Mei
5	2020	15 Ramadhan	8 Mei
6	2021	25 Ramadhan	7 Mei
7	2022	5 Syawal	7 Mei
8	2023	15 Syawal	6 Mei

Table 4
Ngandang Rowot Tradition Pattern

On a one-year cycle, the *Rowot Sasak* calendar has only 12 mangse divided into mangse kebalit (dry season) and mangse ke-taun (rainy season). The *Rowot Sasak* calendar does not have a 13th month or 13th mangsé like some calendars that use the lunisolar system.

2. Hijri System

The Hijri system in the rowot calendar has a very vital role. The Hijriyah system is the main system in the calculation pattern of the rowot calendar, because it contains calculations for the commemoration of cultural events and rituals of worship (Commemoration of Islamic Holidays).³² This Hijri system is the same Hijri dating system as the Islamic Hijri calendar system. But what distinguishes it from the current Hijri calendar system is the *hisab* system. If the current Islamic Hijri calendar uses *hisab hakiki*, namely

³¹ Lalu Ari Irawan, "Warige Pertautan Sasak dan Nusantara", (Mataram: Makalah Sarasehan Revitalisasi Pengetahuan Tradisional dan Ekspresi Budaya, 2014). 13.

³² Kiyai Ratna, Interview, January 22, 2023.

by observing the hilal (*rukyatul hilal*). Meanwhile, the Hijri system in the *rowot sasak* calendar uses the *Mansyuriyah hisab ‘urfi* method. Even Lalu Agus Faturrahman stated that this *hijriyah* system was taken from the classic Malay book *Tajul Muluk* and *Syumusul Anwar*.³³ So literally, the pattern of the Hijri system on the *rowot sasak* calendar is that each month has a fixed age. The fixed age is where the odd month is 30 days old and the even month is 29 days old except for the 12th month which is 30 days old if it falls on a long (leap) year.³⁴

No	Month	Days	Total Days
1.	Muharram	30	30
2.	Shafar	29	59
3.	Rabi’ul Awal	30	89
4.	Rabi’ul Akhir	29	118
5.	Jumadil Ula	30	146
6.	Jumadil Akhirah	29	177
7.	Rajab	30	207
8.	Sya’ban	29	236
9.	Ramadhan	30	266
10.	Syawal	29	295
11.	Dzulqa’dah	30	325
12.	Dzulhijjah	29/30	354/355

Table 5
Number of days in each month of the *Rowot sasak* Calendar

³³ Lalu Agus Faturrahman, Interview, January 19, 2023.
³⁴ Ahmad Izzuddin, “Hisab Rukyat Islam Kejawan (Studi Atas Metode Hisab Rukyat Sistem Aboge),” *Al-Manahij: Jurnal Kajian Hukum Islam* 9, no. 1 (2015), <https://doi.org/10.24090/mnh.v9i1.516>.

3. Gregorian System (Masehi)

The Gregorian system is a prevalent calendar system that we recognize. This calendar system is widely used as a time marker for administrative or business matters. This Gregorian system is already global, not only local. so that many international meetings and appointments use the Gregorian calendar system. Likewise, the Gregorian system in the *Rowot Sasak* calendar is no different from the Gregorian calendar system in general.³⁵ The presence of the Gregorian system in the *Rowot Sasak* calendar is an effort to introduce the traditional calendar to make it easier to read both the shape and the angle. The calendar that is commonly used and known by the wider community, whether in Lombok, Indonesia, or even abroad, is the Gregorian calendar. So there is no difference between the Gregorian system in the *rowot sasak* calendar and the Gregorian system used by many people.

***Hisab* for the beginning of the Hijri month of the *Rowot Sasak* Calendar**

The *hisab* system of the beginning of the lunar month in the *rowot sasak* calendar does not have a pattern / formula like the beginning of the month in general. The beginning of the month is determined by the Kiyai Tradisi³⁶ as an annual board. This annual board contains information about the start of the day for twelve months in the *Rowot Sasak* calendar. For example, in the year 2022/2023, which coincides with the year 1444

³⁵ Ahmad Izzuddin, "Hisab Rukyat Islam Kejawen (Studi Atas Metode Hisab Rukyat Sistem Aboge."

³⁶ One of the main figures in the preservation of the Sasak rowot calendar for generations is Kiyai Ratna. Kiyai Ratna is a traditional Sasak community leader, especially in Kidang Village, East Praya, Central Lombok, NTB. His role is very central in the Kidang village community, because almost all community activities such as begawe (selamatan), beteletan (farming) and others require advice and advice from him. He is one of many traditional kiyai who have the ability to read nature (cosmos - astronomy) and calendars. He received this traditional astronomy knowledge from his father who was also a traditional kiaiKiyai in the Kidang community, Central Lombok. So he can easily understand the concept of time and astronomy simultaneously.. Look at, Muhammad Awaludin. *Astronomi Tradisi (Membaca Kalender Rowot sasak)*. (Mataram: UIN Mataram Press, 2020). 139.

H, the *Rowot Sasak* calendar is in the Ehe year cycle (the second year of the eight-year cycle). In this Ehe year cycle, Kiyai Ratna determines the beginning of the month as below:

No	Month	Days	Pasaran
1.	Bubur Putiq	Saptu	Pahing
2.	Bubur Beaq	Ahad	Pahing
3.	Mulud	Selase	Manis
4.	Suwung Penembeq	Rebo	Manis
5.	Suwung Penengaq	Jumat	Kaliwon
6.	Suwung Penutuq	Sabtu	Kaliwon
7.	Mi'rat	Senin	Wagi
8.	Rowah	Selase	Wagi
9.	Puase	Kemis	Pon
10.	Lebaran Nine/Kodeq	Jumat	Pon
11.	Lalang	Ahad	Pahing
12.	Lebaran Mame/Beleq	Selase	Pahing

Table 6
Determination of the Beginning of the Month in the *Rowot sasak* Calendar

If you look at the table above, it can be seen that what kiya ratna did was an *hisab 'urfi*, she calculated based on the knowledge that her father had passed on to her.³⁷ *Hisab* oral models like this will be difficult for the general public to understand as a science, but it turns out that there are several benchmarks/patterns in understanding the determination of the beginning of the hijriyah month on the *Rowot Sasak* calendar. Some of these patterns include: 1 Muharram, Mulud Eid, Muharam Ramadhan and *hisab urfi* of *rowot sasak*.

³⁷ Kiyai Ratna, Interview, January 22, 2023.

1. Muharram

1 Muharram is the first date in the Hijriyah calendar, so in the *Rowot Sasak* calendar the date 1 muharram is the same as the date 1 *bubur puteq*. The determination of the beginning of the month, especially 1 Muharram/Puteq porridge in the *Rowot Sasak* calendar is based on three traditional patterns namely; *Nur Cahye*, *Nur Sade* and *Nur Sane*.³⁸ Suppose these three patterns are used in the hilal observation criteria. In that case, *Nur Cahye* is the condition of the Hilal not visible but already above the horizon, *Nur Sade* is the Hilal already visible above the horizon, and *Nur Sane* is the Hilal is very high. And if juxtaposed with the *hisab* pattern of the beginning of the Hijri month of the Javanese Islamic calendar then *Nur Cahye* is *Anen Hing* (Alif Monday Pahing), *nur sade* is the same as *Asapon* (Alif Tuesday Pon) and *Nur Sane* is identical to *Aboge* (Alif Rabu Wage).

The *rowot sasak* calendar has used the *Nur Sade* pattern where 1 Muharram falls on the *Asapon* pattern (Alif Selasa Pon). With the *windon* system or 8-year cycle, 1444 AH is the second year (Year Ehe) in the *Rowot Sasak* calendar. So that the alif year is 1443 H, 1 Muharram falls on Tuesday with the *Pasaran Pon*.

Cycle <i>windon</i>	Hijri Years	1 Muharram Days	1 Muharram Pasaran
1.	1443	Selasa	Pon
2.	1444	Sabtu	Pahing
3.	1445	Kamis	Pahing
4.	1446	Senin	Manis
5.	1447	Jumat	Kaliwon
6.	1448	Rabu	Kaliwon
7.	1449	Ahad	Wagi
8.	1450	Kamis	Pon

Table 7
1 Muharram Staging on the *Rowot Sasak* Calendar

2. Mulud Lebaran

Mulud Lebaran is the second pattern used to determine the beginning of the lunar month in the *Rowot Sasak* Calendar. This

³⁸ Kiyai Ratna.

pattern is a traditional pattern that regularly determines the start of the month based on other months. *Mulud Lebaran*, are two names of months in the *rowot sasak* calendar namely *Mulud*, the third month (*Rabiul Awal*), and *Lebaran*, the tenth month (*Shawal*) in the same year. This *Mulud Lebaran* pattern is used to determine when the entry of 1 Syawal or Eid al-Fitr in the Hijri year. This pattern is quite simple by emphasizing the similarity of days between Maulid and Lebaran.³⁹ Maulid is the 12th of Rabiul Awal and Eid in question is the 1st of Shawwal. With this pattern, we can determine when the entry day of 1 Shawwal or Eid al-Fitr by first knowing what day the commemoration of the Maulid of the Prophet Muhamamd SAW falls on 12 Rabiul Awal. If *Mulud* falls on Tuesday, Eid will undoubtedly fall on Tuesday, too.

3. Muharam Ramadhan

Muharam Ramadhan is also a traditional pattern of determining the beginning of the lunar month in the *Rowot Sasak* calendar. This pattern has similarities to the previous *Mulud Lebaran* pattern, which both use two months to determine the beginning of the month with each other. Muharram Ramadhan, can be interpreted as the month of Muharram or Bubur Putiq the first month in the *Rowot Sasak* calendar and Ramadhan as the ninth month or better known as the puase month in the *Rowot Sasak* calendar. This tradition pattern has a fundamental difference with the *Ajeg Mulud Lebaran* pattern above. Suppose the above determination of the beginning of the month shows the similarity of the day. In that case, the pattern of Muharram Ramadhan does not drop the determination through the similarity of the day. The formula in the pattern of Muharram Ramadan is "Muharram + 5" to determine the beginning of Ramadan fasting.⁴⁰

Muharram + 5 means the date 1 Muharram in the lunar year is sought then the day is calculated forward by adding 5 days. Thus, the fifth day in the calculation is considered the day for the beginning of the month of Ramadan or pause. Example: 1 Muharram 1444 H falls on Saturday, then with the formula "Muharram +5" the Saturday is calculated forward as many as five days ahead, namely "Sunday, Monday, Tuesday, Wednesday and Thursday". After the addition of the day, then the fifth day in the sequence of days is the day for the

³⁹ Lalu Agus Faturrahman, Interview, January 19, 2023.

⁴⁰ Lalu Agus Faturrahman.

beginning of the month of Ramadan or pause in the year 1444 AH. So in 1444 H, the 1st of Ramadan falls on Thursday in the *rowot sasak* calendar.

4. *Hisab 'Urfi* of *Rowot Sasak*

The *Rowot Sasak* calendar, like the *hisab 'urfi* calendar in general, of course, has a straightforward mathematical calculation and has a pattern/formula in the initial calculation process. In addition, determining the beginning of the year or calendar also has a provision or benchmark for the beginning of the calculation. Like the Hijriyah calendar during the time of Caliph Umar bin Khatab, who determined the date of the 1st month of the 1st year of the Prophet's hijra to Medina. The Javanese Islamic calendar starts 1 Muharram with the Aboge (Alif Rabu Wage) and Asapon (Alif Selasa Pon) patterns.⁴¹ The *Rowot Sasak* calendar also begins the year with the Nur Sade pattern, similar to the *Asapon* pattern on the Javanese Islamic Calendar. This is because the *Rowot Sasak* calendar is compiled based on synchronizing the warige system (traditional time markers of the sasak tribe) with the lunar calendar system that uses the *Mansyuriyah hisab 'urfi* method.

Hisab 'urfi determination of the beginning of the lunar month in the *rowot sasak* calendar has similarities with the pattern of *hisab 'urfi* Islamic lunar calendar in general. In general, this *hisab 'urfi* system is determined by determining several things, including; the calendar cycle, the number of days in a month and a year, the annual short length pattern and specific benchmarks. If the general Islamic Hijri calendar has a pattern:

- a. 30-year cycle
- b. Number of days 29/30 each month with a total of 354/355 days per year
- c. It has 11 long years (leap) and 19 short years (*basitoh*)
- d. Odd months have 30 days and even months have 29 days except the month of Dhul-Hijjah in the long year.

So the *Rowot Sasak* calendar also has a similar pattern, which is:

⁴¹ Rasyidin Rasyidin and Ismail Ismail, "Telaah Kritis Metode Hisab Penentuan Awal Ramadhan Pengikut Habib Seunagan Nagan Raya-Aceh.," *Jurisprudensi: Jurnal Ilmu Syariah, Perundang-Undangan, Ekonomi Islam* 11, no. 2 (2019), <https://doi.org/10.32505/jurisprudensi.v11i2.1076>. 178.

- a. 8-year cycle
- b. Number of days 29/30 each month with total days 354/355 days per year
- c. It has 3 long years (leap) and 5 short years (*basitoh*)⁴²
- d. Odd months have 30 days, and even months have 29 days, except the month of Dhul-Hijjah in the long year.

The *hisab* urfi system of the Islamic Hijri calendar has its formula pattern in determining the beginning of the year and the start of the month. So the author uses the same formula pattern to calculate the beginning of the year and the beginning of the month of the *Rowot Sasak* calendar with an 8-year cycle.

Example: 1 Muharram 1444 H

- Determining the Year
$$1444 : 8 = 180,5 \quad \text{---} \quad 0,5 \times 8 = 4$$
The remaining years are calculated starting from the *Wau* year, so the remaining 4 equals the *Ehe* year (the second year cycle of the 8-year system).
 - Searching for tam / full year
$$\begin{array}{lcl} 1 \text{ Muharram } 1444 \text{ H} & = & 1443 \text{ H} + 0 \text{ Bulan} + 1 \text{ Hari} \\ 1443 \text{ H} + 0 \text{ Bulan} + 1 \text{ Hari} & = & 180 \text{ Siklus} + 3 \text{ Tahun} + 0 \text{ Bulan} + 1 \text{ Hari} \\ 180 \text{ Siklus} & = & 180 \times 2835 = 510300 \\ 4 \text{ Tahun} & = & (3 \times 354) + 1 = 1063 \\ 0 \text{ Bulan} & = & = 0 \\ 1 \text{ Hari} & = & = 1 + \quad \text{--} = 511364 \text{ (hari)} \end{array}$$
 - Counting the Days
$$\begin{array}{lcl} 511364 : 7 & = & 73052 \text{ (without comma) - left } 0 \\ 0 \times 7 & = & 0 - \text{Saptu / Saturday} \end{array}$$
Benchmark of the days start from Sunday (1) to Saturday (7/0)
 - Calculating the Pasaran
$$\begin{array}{lcl} 511364 : 5 & = & 102272,8 \text{ (with comma) - left } 0,8 \\ 0,8 \times 5 & = & 4 - \text{Pahing} \end{array}$$
Benchmark of the Pasaran starts from Wage (1) to Pon (5/0)
- By using the Islamic Hijri calendar urfi *hisab* applied in the calculation of the *Rowot Sasak* calendar, the determination of the

⁴² Susiknan Azhari and Ibnor Azli Ibrahim, "Kalender Jawa Islam: Memadukan Tradisi Dan Tuntutan Syar'i," *Jurna Asy-Syir'ah* 42, no. 1 (2008).

beginning of the Hijri of the *Rowot Sasak* calendar will be easier to know. In addition, the results are not different from the scientific pattern of Kiyai Ratna as the holder of his traditional knowledge. This also indicates that the *Rowot Sasak* and Islamic lunar calendars have a close relationship in all aspects and components. Likewise, the Javanese Islamic calendar is so thickly acculturated related to the Sasak community's time (good days). This can be seen in using the Javanese market in the *Sasak Rowot* calendar as a traditional calculation pattern for determining good days for holding events or other social life activities.⁴³ The closeness of the calculation system, mixed with local knowledge about time and dating, resulted in the reading of the "parents" of the Sasak community about the time system, which is now transformed into the *Sasak Rowot* calendar.

Conclusion

The *Rowot sasak* calendar is a traditional calendar that is used as a guide in organizing *gawe* (celebration), *betaletan* (farming), *mangse* (season) transitions, good and bad days, *wuku* (the influence of the position of constellations on events on the earth's surface), and various other daily activities. In addition, this calendar also includes the days of Muslim worship, so there are dates for Islamic holidays such as *Maulid Nabi* (Celebrating the Prophet's Birthday), Ramadan Fasting, Eid al-Fitr and Eid al-Adha. If so far the determination of the beginning of the Hijri month by *rukyat*, then the *rowot sasak* calendar uses several patterns in determining the start of the month, including: 1 Muharram, Mulud Eid, Muharam Ramadhan and *hisab 'urfi* of *rowot sasak*. So in general it can be said that the patterns of determining the beginning of the lunar month of the *rowot sasak* calendar are still done using *urfi hisab*.

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⁴³ Slamet Hambali, *Almanak Sepanjang Masa*, (Semarang: Program Pascasarjana IAIN Walisongo Semarang, 2011). 87-88.

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