



# the Unified Global Hijri Calendar

the Central Board of Muhammadiyah  
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# THE UNIFIED GLOBAL HIJRI CALENDAR



THE CENTRAL BOARD OF MUHAMMADIYAH

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## PREFACE

The Muhammadiyah Council for Religious Affairs and Tajdid convened its 32nd National Conference at Universitas Muhammadiyah Pekajangan Pekalongan on February 23–25, 2024 CE, corresponding to Sha'ban 13–15, 1445 AH. Among its pivotal resolutions was the formulation of the *Muhammadiyah Hisab Guidance on the Unified Global Hijri Calendar*. This guidance reflects Muhammadiyah's enduring commitment to the development of a scientifically grounded, precise, globally applicable, and unifying Hijri calendar system.

Following this decision, the Central Board of Muhammadiyah officially adopted the guidance and set the implementation of the Unified Global Hijri Calendar to begin on Muharram 1, 1447 AH, corresponding to June 26, 2025 CE. In conjunction with this enactment, the Muhammadiyah Council for Religious Affairs and Tajdid has been entrusted with the responsibility of promoting and disseminating the guidance both within the Muhammadiyah community and to the broader public.

This initiative represents Muhammadiyah's contribution to establishing a unified, scientific Hijri calendar that can be embraced by Muslims worldwide. Its primary aim is to address the recurring inconsistencies in determining the beginning of Hijri months—particularly Ramadan, Shawwal, and Dhu al-Hijjah—across various countries and even among different communities within the same region. By proposing a calendar system that is technically accurate, astronomically synchronized, scientifically verifiable, and rooted in Islamic principles, Muhammadiyah seeks to foster greater global unity among Muslims.

The Unified Global Hijri Calendar also embodies Muhammadiyah's broader effort to modernize the Hijri calendar as

a fundamental institution of Islamic civilization, particularly in the context of an increasingly interconnected global Muslim society. This initiative emerged from the need to resolve challenges related to time standardization, calendar accuracy, and global synchronization in religious observances.

Importantly, this initiative draws upon the rich intellectual heritage of Islamic astronomy. Muslim scholars have long contributed to the development of astronomical knowledge. Al-Battani (858–929 CE), for instance, refined Ptolemaic data and produced influential astronomical tables; Al-Biruni (973–1048 CE) employed experimental and observational methods to measure time, seasons, and celestial movements; and Nasir al-Din al-Tusi (1201–1274 CE) established the Maragha Observatory and proposed planetary motion models that later influenced Copernican theory.

Although precise *hisab* methods have existed since the classical period, their global application has been limited due to particularly the view in some schools of thought that *rukyat* (visual moon sighting) is the only valid method. The current initiative represents a continuation of the scientific spirit of classical Muslim scholars, adapting their legacy to the technological realities of the modern era.

Since its introduction, the unified global Hijri calendar has generated public interest as well as misunderstanding. One recurring concern is the perceived impossibility of global calendar standardization. While such skepticism is understandable, current astronomical tools now allow the positions of the moon and sun to be calculated with millisecond precision and synchronized with Coordinated Universal Time (UTC). Technologically, there is no barrier to implementing a unified Hijri calendar. However, realizing this vision requires sustained dialogue and collaboration among scholars, governments, and Islamic organizations across the world. The greatest challenge lies not in technical feasibility, but in fostering a collective awareness of symbolic unity in worship.

Muhammadiyah officially begins the implementation of the Unified Global Hijri Calendar on Muharram 1, 1447 AH. This book has been prepared as a reference for Muhammadiyah members and other interested readers. It aims to elucidate the conceptual underpinnings and objectives of this significant initiative.

*Nashrun min Allah wa Fathun Qarib*

Yogyakarta, April 23, 2025

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## DECISION OF THE XXXII TARJIH MUHAMMADIYAH NATIONAL CONFERENCE REGARDING THE UNIFIED GLOBAL HIJRI CALENDAR

### A. Introduction

The unification of the Islamic calendar should not remain as an eternal issue. To date, there has not been a uniform Islamic calendar that could unify the dating system and consistently determine Islamic holy days. Despite the Islamic civilization spanning over 14 centuries, there has yet to be a successful effort to create an Islamic calendar based on the factual movement of the moon that is universal. In practice, Muslims use various local calendars with differing systems, resulting in variations in determining lunar dates. Although there are global calendars such as the urfi calendar (tabular/arithmetic calendar), they do not fully comply with the provisions of sharia and are not based on the factual movement of the Moon in the sky.

The idea of a global Islamic calendar has long been advocated, at least since 1358 AH/1939 by Sheikh Ahmad Muhammad Shākir (d. 1377 AH/1958) in his book *Awā'il al-Syuhār al-'Arabiyyah*.<sup>1</sup> In 1398 AH/1978, Mohammad Ilyas created an Islamic calendar he claimed to be international, but the calendar was zonal, dividing the world into three zones, thereby allowing differences in dates across calendar zones. In 1413 AH/1993, Nidhal Guessoum proposed a calendar concept dividing the world into four calendar zones,

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<sup>1</sup> Ahmad Muhammad Syākir, *Awā'il al-Syuhār al-'Arabiyyah*, 2<sup>nd</sup> edition (Cairo: Maktabah Ibn Taimiyyah li Tiba'at wa Nasyr al-Kutub as-Salafiyyah, 1407 H), p. 20.



claiming this as a global calendar.<sup>2</sup> Nidhal Guessoum later refined his global calendar, reducing it to just two zones (bizonal). The same concept was adopted by Muhammad Odeh, who developed a universal bizonal (two-zone) calendar.

In 1425 AH/2004, Jamaluddin 'Abd ar-Raziq developed a global calendar with the principle of one day and one date worldwide (a unified calendar) based on the criterion of conjunction before 12:00 UTC (GMT).<sup>3</sup> In March 2008, the OIC (then: Organization of the Islamic Conference; now: Organization of Islamic Cooperation) held the 11<sup>th</sup> Islamic Summit in Dakar, Senegal, and produced the "Dakar Declaration" (*I'lān Dakār*), which among other things affirmed, "With the same spirit of Islamic renewal, we call upon member countries and their scholars to make efforts to unify the Islamic calendar, which will strengthen the image of Islam in the eyes of the world."<sup>4</sup>

The Dakar Declaration, resulting from the decisions of the Islamic Summit of OIC member states on the unification of the Islamic calendar, was followed up in October of the same year (2008) by ISESCO (Islamic Educational, Scientific, and Cultural Organization), an OIC body headquartered in Rabat, Morocco, through organizing the "Second Expert Meeting for the Study of Islamic Calendar Formulation" in collaboration with the Association Marocaine d'Astronomie (AMA) and the International Islamic Call Society (IICS). This Second Expert Meeting, conducted by ISESCO,

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<sup>2</sup> Guessoum, et al., *Isbāt asy-Syuhūr al-Hilālīyyah wa Musykilat at-Taḥqīt al-Islāmī: Dirāh Falakiyyah wa Fiqhiyyah* (Beirut: Dār at-Ṭalī'ah, 1997), p. 82.

<sup>3</sup> Jamāluddīn 'Abd ar-Rāziq, *At-Taḥwīn al-Qamarī al-Islāmī al-Muwahḥad* (Rabat: Marsam, 2004).

<sup>4</sup> "I'lān Dakār," in the 11<sup>th</sup> Islamic Summit Conference Decision organized in Dakar on 6-7 Rabiul Awwal 1429/13-14 March 2008. See OIC's official site at <<http://www.oic-oci.org/is11/arabic/DAKAR-DEC-11SUMMIY-A.pdf>>.

adopted Jamaluddin ‘Abd ar-Raziq’s unifying global calendar.<sup>5</sup> The global calendar concept continued to be tested and refined until the International Conference on the Unification of the Islamic Calendar in Istanbul, Turkey, in 1438 AH/2016, where the Unified Global Hijri Calendar (UGHC) was selected.<sup>6</sup>

To this day, Muslims often face the issue of differing dates for the Day of Arafah between Mecca and other regions in relation to observing the Sunnah fasting on the Day of Arafah. Some follow the observance of wukf in Arafah, while others follow the date determined in their respective areas. This occurs because each uses a local calendar. Resolving this issue is not possible without the acceptance of a Unified Global Hijri Calendar by all Muslims.

Muhammadiyah, as a progressive organization, has conducted extensive studies on the Unified Global Hijri Calendar since 1428 AH/2007 through the International Symposium *the Effort Towards Unifying the Islamic International Calendar* in Jakarta. Muhammadiyah has continued to carry out various studies in the form of halaqah (study circles) or seminars and has participated in numerous international meetings related to the Unified Global Hijri Calendar, such as the International Conference on Calendar Unification (1438 AH/2016), Muhammadiyah Astronomical Experts’ Response to the International Congress on Unified Hijri Calendar (1438 AH/2016), the National Seminar on Global Islamic Calendar “Post-Turkey Congress 2016” (1438 AH/2016), the Consolidation of Muhammadiyah’s Hisab Understanding on the Global Islamic Calendar (1441 AH/2019), the Integrated Global

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<sup>5</sup> “The Decisions and Recommendations of the Second Expert Meeting for the Study of the Formulation of the Islamic Calendar,” Rabat, Morocco, October 15-16, 2008, attached in Rida, et al., *Hisab Bulan Kamariah* (Yogyakarta: Suara Muhammadiyah, 2012).

<sup>6</sup> Syamsul Anwar, “Tindak Lanjut Kalender Hijriah Global Turki 2016: Tinjauan Usul Fikih,” *Jurnal Tarjih*, Vol 13: 2 (1338 H/ 2016 M), p. 100.

Hijri Calendar and Muslim Experience in Europe (1443 AH/2021), and the UGHC Seminar and Socialization across Indonesia (1444 AH/2023 - 1445 AH/2024).

The adoption of UGHC (Unified Global Hijri Calendar) represents a continuation of *tajdid* (renewal) through *ijtihad* (independent reasoning) in the use of the true astronomical calculation (*hisab hakiki*) within Muhammadiyah, which has been long-standing. The UGHC, astronomically, can meet all criteria for determining the beginning of the lunar month ever used by Muhammadiyah, and in terms of sharia, it serves as a fair calendar for the entire Islamic world. Culturally, it helps uplift Muslims from the backwardness of civilization in calendrical matters.

A prototype of the global Islamic calendar for 1442 AH/2021 has been created using the single global calendar parameters agreed upon in Turkey (1438 AH/2016). Initially, it was intended to be presented as a gift during the 48<sup>th</sup> Muhammadiyah Congress in Surakarta in 1442 AH/2020. However, the COVID-19 pandemic caused the congress to be postponed and eventually held on 23-25 Rabiul Akhir 1444 AH/18-20 November 2022. The developed UGHC was still a prototype and has not yet been adopted as the official Muhammadiyah calendar. At this moment, Muhammadiyah's Hijri calendar still used the local existence of crescent (*wujudul hilal*) criterion.

The 47<sup>th</sup> Muhammadiyah Congress in 1436 AH/2015 in Makassar decided to accommodate the UGHC with the following decree:

*According to the Qur'an, Muslims are ummah wahidah (one united community). However, historical experiences and the formation of nation-states have led Muslims to be divided into several countries. Beyond this division into different nations, even within a single country, Muslims are further divided into groups due to differences in religious*

views, organizations, and cultures. While this diversity of nations and groups is, on one hand, a blessing, it also presents a challenge in achieving unity among the Muslim community.

*These differences in nations and groups often result in variations in calendar determinations, particularly concerning the start of Ramadan, Eid al-Fitr, and Eid al-Adha. Based on this reality, Muhammadiyah views the need to unify the Hijri calendar on an international scale to ensure certainty and provide a basis for transactional calendars. Such unification necessitates the utilization of science and technology.<sup>7</sup>*

The UGHC (Unified Global Hijri Calendar) decision was further reinforced in the *Risalah Islam Berkemajuan* (Progressive Islam Treatise) resulting from the 48<sup>th</sup> Muhammadiyah Congress in 1443 AH/2022, under Section C, Progressive Islamic Services, Point 4: The Global Services:

*As a progressive organization, Muhammadiyah is increasingly required to play its role not only at the national level but also globally. Muhammadiyah bears a significant responsibility to build a global system of life ... .. and to improve the Islamic timekeeping system internationally through efforts to implement a unified global Islamic calendar, aimed at unifying the dates of Islamic rituals, especially those whose observance times are cross-regional.<sup>8</sup>*

In the early days, the Islamic calendar was global, namely the urfi calendar (customary calendar) as previously mentioned. However, the urfi calendar had fundamental weaknesses, both in

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<sup>7</sup> Central Executive Board of Muhammadiyah, *Tanfidz Keputusan Mukhtar Muhammadiyah Ke-47*, 1436 H/2015 M, p. 117.

<sup>8</sup> Central Executive Board of Muhammadiyah, *Tanfidz Keputusan Mukhtar Ke-48 Muhammadiyah*, 1444 H/2022 M, p. 81.

terms of Islamic law (*shar'ī*) and science. The *shar'ī* weakness of the urfi calendar is its permanent assignment of the length of months. For instance, in the commonly used *urfi Hijri calendar* (with a 30-year cycle), odd months, including Ramadan—the 9th month—are always assigned 30 days. Yet, in reality, and as seen in the fasting practices of the Prophet Muhammad (peace be upon him), the length of odd months, including Ramadan, is sometimes 29 days and sometimes 30 days. The scientific weaknesses of the urfi calendar are as follows: Firstly, the urfi calendar, with its 30-year cycle, does not account for the remaining 2.8 seconds per month (as the duration of one lunar month averages 29 days, 12 hours, 44 minutes, and 2.8 seconds). Over 2,571.5 years, this unaccounted time accumulates into one full day, necessitating calendar corrections. Secondly, the urfi calendar does not refer to the conjunctions (*ijtimak*). Thus, a new month might begin before a conjunction occurs for a specific location, or the start of a new month might be delayed even though the crescent (*hilal*) has already been sighted in a certain area. This means the urfi calendar does not consider the factual movement of the moon in the sky (it is not based on *hisab hakiki*, or true astronomical calculation). Thirdly, the urfi calendar lacks uniformity in scheduling leap years, with its leap year sequence being random. Fourthly, the urfi calendar determines the first day of a lunar month retrospectively by counting the number of days that have passed since 01-01-01 AH. The issue lies in the fact that there is no agreement on whether 01-01-01 AH corresponds to Thursday, July 15, 622, or Friday, July 16, 622. This discrepancy leads to differences in setting the start date of future months.

Due to these weaknesses, Muslims abandoned the use of the urfi calendar, although some figures still advocate for its use because it could unify the world. When Muslims transitioned to a calendar system based on astronomical calculation (*hisab hakiki*), they were still unable to create a global calendar with the principle



of one day, one date worldwide. Instead, they continued using local calendars up to the present day. It was only in the early 21<sup>st</sup> century that the concept of a unified global calendar based on *hisab hakiki* was discovered. This concept was later refined and adopted at the international seminar in Istanbul in 2016, known as the Unified Global Hijri Calendar - UGHC (Indonesian: *Kalender Hijriah Global Tunggal* or KHGT).

Islam has been a global religion since its early development, followed by Muslims across the world. Thus, it requires a global time management system. Additionally, the entire world is currently undergoing a process of globalization, making the earth, inhabited by seven billion people, seem like a small village where the boundaries between places are no longer significant. In such a context, it is inconsistent to continue using local calendrical systems while humanity is living in a globalized world.

The unification of the date of Arafah Day—a day when a specific act of worship is performed by Muslims not undertaking the hajj—cannot be achieved using local time systems. Only through a global calendar can such unification be consistently implemented.

Herein lies the urgency of a global Hijri calendar.

## **B. Shar'i and Scientific Arguments**

### **1. Shar'i Arguments**

The entirety of verses and hadiths related to the calendar contains guidance in the form of *dalālah 'isyārah* (implicit indication).

- a. Al-Qur'an, Surah al-Isra' (17): 12:

وَجَعَلْنَا اللَّيْلَ وَالنَّهَارَ آيَتَيْنِ ۖ فَمَحَوْنَا آيَةَ اللَّيْلِ وَجَعَلْنَا

آيَةُ النَّهَارِ مُبْصِرَةٌ لِّتَبْتَغُوا فَضْلًا مِّن رَّبِّكُمْ وَلِتَعْلَمُوا عَدَدَ  
السِّنِينَ وَالْحِسَابَ ۚ وَكُلُّ شَيْءٍ فَصَّلْنَاهُ تَفْصِيلًا.

*"And We have made the night and day two signs, and We erased the sign of the night and made the sign of the day visible, that you may seek bounty from your Lord and that you may know the number of years and the account [of time]. And everything We have explained in detail."*

- b. Al-Qur'an, Surah Yasin (36): 39-40:

وَالْقَمَرَ قَدَرْنَا مَنَازِلَ حَتَّىٰ عَادَ كَالْعُرْجُونِ الْقَدِيمِ ۚ لَا  
الشَّمْسُ يَنْبَغِي لَهَا أَنْ تُدْرِكَ الْقَمَرَ وَلَا اللَّيْلُ سَابِقُ النَّهَارِ  
وَكُلٌّ فِي فَلَكٍ يَسْبَحُونَ.

*"And the moon - We have determined for its phases, until it returns [appearing] like the old date stalk. It is not for the sun to overtake the moon, nor does the night outstrip the day. And each is swimming in an orbit."*

- c. Al-Qur'an, Surah al-Baqarah (2): 189:

يَسْأَلُونَكَ عَنِ الْأَهِلَّةِ ۚ قُلْ هِيَ مَوَاقِيتُ لِلنَّاسِ وَالْحَجِّ.

*"They ask you, [O Muhammad], about the moon phases. Say, 'They are measurements of time for the people and for the Hajj.'"*

The verse above contains several points: (1) that the Islamic calendar is a lunar calendar (based on the lunar cycle), and (2) there is an indication that the Islamic calendar is global. This can be understood from the statement *li al-nās* (for the people), which indicates generality and the universal applicability of the calendar for all humanity on earth. Thus, this verse can be interpreted as the basis for

the form of a global Islamic calendar that must be chosen.

Furthermore, the verse above contains an indication of the religious function of the Islamic calendar, represented and reflected by the word *al-hajj* (the pilgrimage). Furthermore, the hadith emphasizes that the peak of the Hajj pilgrimage is standing in Arafah, and on the other hand, the day of Arafah is recommended for fasting for Muslims who are not performing Hajj. For the day of Arafah to fall on the same day throughout the world, there is no other way except to implement the Unified Global Hijri Calendar (UGHC).<sup>9</sup>

- d. Al-Qur'an, Surah Yunus (10): 5:

هُوَ الَّذِي جَعَلَ الشَّمْسُ ضِيَاءً وَالْقَمَرَ نُورًا وَقَدَرَهُ مَنَازِلَ  
لِتَعْلَمُوا عَدَدَ السِّنِينَ وَالْحِسَابَ: مَا خَلَقَ اللَّهُ ذَلِكَ إِلَّا  
بِالْحَقِّ يُفَصِّلُ الْآيَاتِ لِقَوْمٍ يَعْلَمُونَ.

*"It is He who made the sun shining light and the moon a derived light and determined for its phases - that you may know the number of years and the account [of time]. Allah has not created this except in truth. He details the signs for people who know."*

- e. Al-Qur'an, Surah al-Taubah (9): 36-37:

إِنَّ عِدَّةَ الشُّهُورِ عِنْدَ اللَّهِ اثْنَا عَشَرَ شَهْرًا فِي كِتَابِ اللَّهِ  
يَوْمَ خَلَقَ السَّمُوتِ وَالْأَرْضَ مِنْهَا أَرْبَعَةٌ حُرُمٌ ذَلِكَ الدِّينُ  
الْقِيمُ فَلَا تَظْلِمُوا فِيهِنَّ أَنْفُسَكُمْ وَقَاتِلُوا الْمُشْرِكِينَ كَافَّةً

<sup>9</sup> Compiler Team for the Tarjih and Tajdid Council of the Central Governing Board of Muhammadiyah, *Tafsir at-Tanwir* (Yogyakarta: Suara Muhammadiyah, 2022), p. 148.



كَمَا يُقَاتِلُونَكُمْ كَافَّةً ۖ وَاعْلَمُوا أَنَّ اللَّهَ مَعَ الْمُتَّقِينَ .

*"Indeed, the number of months with Allah is twelve [lunar] months in the register of Allah [from] the day He created the heavens and the earth; of these, four are sacred. That is the correct religion, so do not wrong yourselves during [these four months]. And fight against the polytheists collectively as they fight against you collectively. And know that Allah is with the righteous."*

إِنَّمَا النَّسِيءُ زِيَادَةٌ فِي الْكُفْرِ يُضَلُّ بِهِ الَّذِينَ كَفَرُوا  
يُحِلُّونَهُ عَامًا وَيُحَرِّمُونَهُ عَامًا لِيُوَاطِّئُوا عِدَّةَ مَا حَرَّمَ اللَّهُ  
فَيُحِلُّوا مَا حَرَّمَ اللَّهُ زَيْنَ لَهُمْ سُوءُ أَعْمَالِهِمْ وَاللَّهُ لَا يَهْدِي  
الْقَوْمَ الْكَافِرِينَ .

*"Indeed, the postponing [of sacred months] is an increase in disbelief by which those who have disbelieved are led astray. They make it lawful one year and unlawful another year to correspond to the number of months Allah has made sacred so that they will make lawful what Allah has made unlawful. Made fair to them is the evil of their deeds; and Allah does not guide the disbelieving people."*

f. Al-Qur'an surah al-Rahman (55): 5:

الشَّمْسُ وَالْقَمَرُ بِحُسْبَانٍ .

*"The sun and the moon (move) according to a calculation."*

Verse 36 of Surah al-Taubah confirms that the calendar consists of 12 months, among which are 4 sacred months that constitute *al-din al-qayyim* (the upright religion). Then, verse 37 confirms that postponing the months adds to disbelief. These two verses teach the proper calendar for Muslims. The calendar consists of 12 months using

international convention; among them are 4 sacred months (a national or regional Arab convention). This calendar teaching is part of the upright religion, and Muslims in Surah al-Rum (30): 43 are commanded to follow the upright religion.

In following the religion, people are commanded to have an inherent capacity as *ḥanīf* (inclined towards truth) (HQ al-Rum (30): 30), with the meaning of *mutaḥarri al-istiḳāmah*, one who is meticulous in steadfastness. *Istiḳāmah* is *luzūm al-manhaj al-mustaḳīm*, remaining on the straight path.<sup>10</sup> The straight path in Surah al-Fatihah is the path taken to obtain *nī'mah*, *al-ḥalāh al-ḥasanah*, a good state in all aspects of life.

Muhammadiyah accommodates the UGHC in order to practice *al-dīn al-qayyīm* so that the community has a good state in calendaring. This good state provides certainty and can be used as a transaction calendar. This is certainly with adjustments. If in the past, in the upright religious calendar, there was acceptance of a year consisting of 12 months as an international convention, now the acceptance of a good calendar according to international standards is universal (1 day 1 date worldwide, certain and long-lasting), and there is acceptance of 4 sacred months which were a convention in the Arab region at the time the Qur'an was revealed.

The upright religion (*al-dīn al-qayyīm*) - according to Ibn Qutaibah - is *al-ḥisāb al-ṣaḥīḥ wa al-'adād al-mustaufī* (correct calculation and complete number), and - according to al-Kalbi - is *al-qadā' al-ḥaqq al-mustaḳīm* (a just and

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<sup>10</sup> Al-Allamah al-Raghib al-Ashfahani, *Mufradāt Alfāz al-Qur'ān* (Dār al-Qalam, 2009), p. 692.

straight decision).<sup>11</sup> GUHC fulfills the meaning of *al-dīn al-qayyim*, both as stated by Ibn Qutaibah and al-Kalbi.

Surah al-Taubah, verse 37, further emphasizes that postponing or delaying adds to disbelief. According to Ibn 'Abbas, the meaning of postponement in this verse is delaying the year by more than 11 days so that Muharram is in Safar. As for Mujahid, the meaning of postponement is the postponement of the Hajj pilgrimage every two years: Hajj in Dhulhijjah for 2 years, then Hajj in Muharram for 2 years, then Hajj in Safar for 2 years, and Hajj in Dhulqa'dah for 2 years. UGHC does not involve postponement in the two senses mentioned above or in any new sense that may exist, thus ensuring that there is no addition to disbelief in it. The explanation about the sacred months is mentioned in the hadith of Abu Bakrah:

عَنْ أَبِي بَكْرَةَ رَضِيَ اللَّهُ عَنْهُ عَنِ النَّبِيِّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ قَالَ الرَّمَانُ قَدْ اسْتَدَارَ كَهَيْئَتِهِ يَوْمَ خَلَقَ اللَّهُ السَّمَوَاتِ وَالْأَرْضَ السَّنَةُ اثْنَا عَشَرَ شَهْرًا مِنْهَا أَرْبَعَةٌ حُرُمٌ ثَلَاثَةٌ مُتَوَالِيَاتٌ ذُو الْقَعْدَةِ وَذُو الْحِجَّةِ وَالْمُحَرَّمُ وَرَجَبُ مُضَرَ الَّذِي بَيْنَ جُمَادَى وَشَعْبَانَ (رَوَاهُ الْبُخَارِيُّ).

*From Abu Bakrah r.a. (narrated), from the Prophet s.a.w. who said: "Verily, time has come full circle as it was on the day Allah created the heavens and the earth. A year has twelve months, of which four are sacred: three are consecutive, namely Dhulqa'dah, Dhulhijjah, and Muharram, and [the fourth is] Rajab of Mudar, which*

<sup>11</sup> Abu al-Hasan Ali Ibn Muhammad Ibn Habiba al-Mawardi, *al-Nukat Wa al-'Uyūn Tafsīr al-Mawardi* (Beirut: Dār al-Kutub al-Ilmiyah, 2012), p. 360.

is between Jumada and Sha'ban." (Narrated by al-Bukhari).<sup>12</sup>

g. Hadith of Prophet Muhammad (peace be upon him)

The accommodation of a global Hijri calendar based on the Sunnah and what constitutes al-aṣl (the fundamental basis) is the hadith narrated by Imam al-Bukhari from Ibn Umar:

عَنِ ابْنِ عُمَرَ رَضِيَ اللَّهُ عَنْهُمَا عَنِ النَّبِيِّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ، أَنَّهُ قَالَ: إِنَّا أُمَّةٌ أُمِّيَّةٌ، لَا نَكْتُبُ وَلَا نَحْسُبُ، الشَّهْرُ هَكَذَا وَهَكَذَا يَعْنِي مَرَّةً تِسْعَةً وَعِشْرِينَ، وَمَرَّةً ثَلَاثِينَ (رَوَاهُ الْبُخَارِيُّ).

*From Ibn 'Umar r.a. (narrated) from the Prophet s.a.w. who said: "We are an unlettered people; we neither write nor calculate. The month is thus and thus," meaning sometimes twenty-nine and sometimes thirty days. (Narrated by al-Bukhari).<sup>13</sup>*

أَنَّ ابْنَ عُمَرَ رَضِيَ اللَّهُ عَنْهُمَا قَالَ: سَمِعْتُ رَسُولَ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ يَقُولُ: إِذَا رَأَيْتُمُوهُ فَصُومُوا، وَإِذَا رَأَيْتُمُوهُ فَأَفْطِرُوا، فَإِنْ غَمَّ عَلَيْكُمْ فَاقْدُرُوا لَهُ (رَوَاهُ الْبُخَارِيُّ).

*Verily, Ibn 'Umar r.a. (narrated) said: I heard the Messenger of Allah s.a.w. say: "When you see it (the new*

<sup>12</sup> Abu Abdillah Muhammad Ibn Isma'il Al-Bukhari, *al-Jami' al-Shahih*, (Cairo: Al-Matba'ah al-Salafiyyah, 1980), Vol. 3, p. 420.

<sup>13</sup> *Ibid.*, p. 33.

moon), then fast; and when you see it, then break your fast. If it is obscured from you, then estimate it." (Narrated by al-Bukhari).<sup>14</sup>

Another fundamental hadith is the one narrated by Imam al-Tirmidhi from Abu Hurairah:

عَنْ أَبِي هُرَيْرَةَ أَنَّ النَّبِيَّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ قَالَ:  
الصَّوْمُ يَوْمَ تَصُومُونَ، وَالْفِطْرُ يَوْمَ تُفْطِرُونَ، وَالْأَضْحَى  
يَوْمَ تُضَحُّونَ (رَوَاهُ التِّرْمِذِيُّ).

From Abu Hurairah (narrated), that the Prophet s.a.w. said: "Fasting is the day you (all) fast, Eid al-Fitr is the day you (all) break your fast, and Eid al-Adha is the day you (all) slaughter [your sacrifices]." (Narrated by al-Tirmidhi).<sup>15</sup>

The method of *istidlal* (deriving legal reasoning) from this hadith is by observing the word "you" in the hadith, which is a plural pronoun meaning it encompasses all Muslims throughout the world. The command is to fast, celebrate Eid al-Fitr, and celebrate Eid al-Adha simultaneously on the same day worldwide, just like the Friday prayer, which is performed simultaneously on the same day worldwide, i.e., on Friday. Thus, the dating system must be global and unified.

From the perspective of *uṣūl fiqh* (principles of jurisprudence), the word "you" in the hadith statement is in the plural form (*jama'*), and *jama'* indicates generality (*'umūm*), so this hadith states that fasting is performed on the day all of you Muslims fast. Similarly, Eid al-Fitr

<sup>14</sup> *Ibid.*, p. 30.

<sup>15</sup> Muhammad Ibn 'Isa Ibn Saurah Al-Tirmizi, *Sunan al-Tirmizi*, Riyadh, Maktabah al-Ma'arif, p. 173.

and Eid al-Adha are performed on the day all Muslims perform them. This means that these three acts of worship are performed by Muslims simultaneously on the same day. Sheikh Ahmad Muhammad Syakir, a hadith expert and commentator on *Sunan al-Tirmidhi*, was the first to propose the UGHC, using this hadith as the basis for stating that the Islamic calendar must be unified, where the beginning of each month starts simultaneously worldwide without considering differences in *matlak* (lunar visibility).<sup>16</sup>

Muslims in the present era are no longer an unlettered people. They can already write and calculate (*hisāb*). Moreover, the Qur'an itself alludes to the use of *hisāb* in determining the lunar months, not *ruk'at* (moonsighting).<sup>17</sup>

The existence of an accurate Islamic calendar free from intercalation<sup>18</sup> is part of the *maqāṣid syarī'ah* (objectives of Islamic law). Three Surahs of the Qur'an,

<sup>16</sup> Ahmad Muhammad Syakir, *Awā'il al-Syuhūr al-Arabiyyah* [The Beginnings of the Arab Months], 1357 AH/1939 CE, pp. 19–20.

<sup>17</sup> Syamsul Anwar, "al-Jawānib al-Syar'iyah wa al-Fiqhiyah Li Waḍ'i al-Taqwīm al-Islāmi al-'Ālamī," [The Legal and Jurisprudential Aspects of Establishing a Global Islamic Calendar], in *Maṭālī' asy-Syuhūr al-Qamarīyyah* [Phases of the Lunar Months] (Rabat, Morocco: Islamic Educational, Scientific, and Cultural Organization [ISESCO], 1431 AH/2010), pp. 364–366.

<sup>18</sup> Intercalation is an effort to reconcile two calendar systems: the lunar calendar and the solar calendar. The intercalation practice carried out by the Arabs involved merging the difference between these two calendars, which amounted to 11 days. After three years, this accumulated into 33 days, which were then designated as an additional month beyond the existing 12 months. As a result, the number of months in a year at that time became 13 months instead of 12. One consequence of this intercalation was that the month of Muharram could take the position of Zulhijah, causing religious traditions to shift, with rituals being performed in Muharram instead. This logical consequence illustrates how intercalation was practiced in ancient times. For further details, one can check out the article "Kalender dan Tradisi Interkalasi Bangsa Arab Silam" by Arwin at <https://santricendekia.com/kalender-dan-tradisi-interkalasi-bangsa-arab-silam/>.



namely Surah Yusuf (12): 40, Surah al-Bayyinah (98): 5, and Surah al-Taubah (9): 36-37, mention:

مَا تَعْبُدُونَ مِنْ دُونِهِ إِلَّا أَسْمَاءَ سَمَّيْتُمُوهَا أَنْتُمْ وَأَبَاؤُكُمْ  
مَا أَنْزَلَ اللَّهُ بِهَا مِنْ سُلْطَانٍ إِنْ الْحُكْمُ إِلَّا لِلَّهِ يَأْمُرُ أَلاَّ  
تَعْبُدُوا إِلَّا إِيَّاهُ ذَلِكَ الدِّينُ الْقَيِّمُ وَلَكِنَّ أَكْثَرَ النَّاسِ لَا  
يَعْلَمُونَ.

*"What you worship except Him mere names you have named them, you and your fathers, for which Allah has sent down no authority. Legislation is not but for Allah. He has commanded that you worship not except Him. That is the correct religion, but most of the people do not know."* (HQ Yusuf (12): 40).

وَمَا أُمِرُوا إِلَّا لِيَعْبُدُوا اللَّهَ مُخْلِصِينَ لَهُ الدِّينَ ۚ حُنَفَاءَ  
وَيُقِيمُوا الصَّلَاةَ وَيُؤْتُوا الزَّكَاةَ وَذَلِكَ دِينُ الْقَيِّمَةِ.

*"And they were not commanded except to worship Allah, [being] sincere to Him in religion, inclining to truth, and to establish prayer and to give zakah; and that is the upright religion."* (HQ al-Bayyinah (98): 5).

إِنَّ عِدَّةَ الشُّهُورِ عِنْدَ اللَّهِ اثْنَا عَشَرَ شَهْرًا فِي كِتَابِ اللَّهِ  
يَوْمَ خَلَقَ السَّمَوَاتِ وَالْأَرْضَ مِنْهَا أَرْبَعَةٌ حُرْمٌ ذَلِكَ الدِّينُ  
الْقَيِّمُ فَلَا تَظْلِمُوا فِيهِنَّ أَنْفُسَكُمْ وَقَتِلُوا الْمُشْرِكِينَ كَافَّةً  
كَمَا يُقْتُلُونَكُمْ كَافَّةً وَاعْلَمُوا أَنَّ اللَّهَ مَعَ الْمُتَّقِينَ. إِنَّمَا  
النَّسِيءُ زِيَادَةٌ فِي الْكُفْرِ يُضِلُّ بِهِ الَّذِينَ كَفَرُوا يُجْلُونَ  
عَامًا وَيُخَرِّمُونَهُ عَامًا لِيُؤْاطُوا عِدَّةَ مَا حَرَّمَ اللَّهُ فَيُجْلُوا

مَا حَرَّمَ اللَّهُ زَيْنَ لَهُمْ سُوءَ أَعْمَلِهِمْ وَاللَّهُ لَا يَهْدِي الْقَوْمَ  
الْكَافِرِينَ.

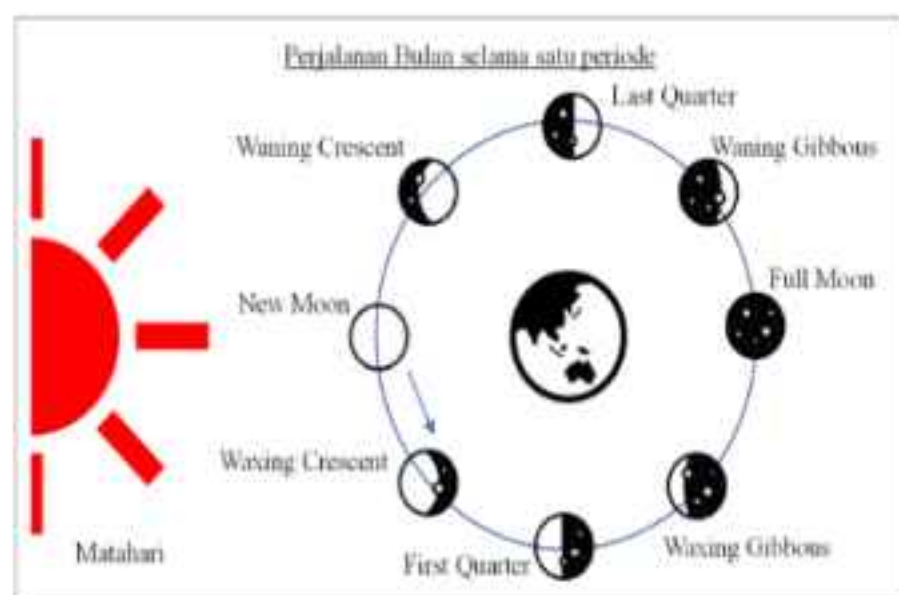
*"Indeed, the number of months with Allah is twelve months in Allah's decree since the day He created the heavens and the earth. Among them are four sacred months. That is the upright religion, so do not wrong yourselves during them. And fight against the polytheists collectively, just as they fight against you collectively. And know that Allah is with those who fear Him. Indeed, rescheduling the sacred months is an act of disbelief. By this, the disbelievers are led astray. They make it permissible one year and forbid another to adjust the number of months that Allah has made sacred, thus permitting what Allah has forbidden. Satan has made their deeds seem appealing to them. And Allah does not guide the disbelieving people." (HQ al-Taubah (9): 36-37).*

The three surahs above affirm the essence of the true religion (*al-dīn al-qayyim* or *dīn al-qayyimah*). According to these verses, the essence of true religion is: (a) having faith in the oneness of Allah, (b) performing prayer (*ṣalāh*), (c) paying zakat, (d) following an accurate calendar, where the number of months is 12 months without intercalation. Based on these verses, it is clear that the existence of an accurate Islamic calendar, free from intercalation, is an integral part of *maqāṣid syarī'ah* (the objectives of Islamic law) that must be realized.



## 2. Scientific Argument

The phases of the Moon<sup>19</sup> are formed independently of the Earth's rotation on its axis.<sup>20</sup> Even if the Earth were to stop rotating, as long as the Moon continues orbiting the Earth, the lunar phases would still occur. Thus, the lunar phases are, in essence, a global astronomical phenomenon. Meanwhile, the visibility of the crescent moon (hilal) is a local astronomical phenomenon, influenced by the Earth's rotation. It is important to note that the visibility of the crescent is only concerned with the moment when the Moon (including the crescent) is above the horizon. This principle of crescent visibility is even further restricted, as a large crescent seen on the eastern horizon in the morning is not recognized as a hilal simply because it is not visible at the required time.



<sup>19</sup> The illumination of the Moon gradually decreases, increases, and then decreases again, starting from conjunction, waxing crescent (hilal), first quarter moon, waxing gibbous, full moon, third quarter moon, waning gibbous, and 'urjūnīl qadīm (waning crescent).

<sup>20</sup> O Montenbruck and T Pflieger, *Astronomy on the Personal Computer* (Heidelberg: Springer Berlin, 1999).

Meanwhile, the Islamic foundation given in Surah Yasin (36:39) and scientific principles teach that the final phase of the Moon (the last *manzilah*) must end at *ijtima'* (conjunction). In science, *ijtima'* is considered a dimensionless zero point. The implication is that, theoretically, even one second after *ijtima'*, the *hilal* (new crescent moon) has technically been born (exists), though it may not yet be visible. Since lunar phases are a global phenomenon, even when the *hilal* is below the horizon, it continues to grow because the Moon is constantly orbiting the Earth. The rate of change in the Moon's phase strongly correlates with elongation changes<sup>21</sup> and can be calculated simply based on the difference in the apparent angular speeds of the Sun and Moon, which appear to orbit Earth due to Earth's rotation. The apparent angular speed of the Sun is around 15° per hour, while the Moon's is approximately 14.5° per hour.<sup>22</sup> Because of this angular speed difference, Surah Yasin (36:40) explains that the Sun cannot catch up to the Moon when the *'urjūn al-qadīm* (old crescent) forms.<sup>23</sup> In other words, the

<sup>21</sup> The angular distance between the Sun and Moon, as measured on the celestial sphere, is discussed in *Astronomy on the Personal Computer* by Montenbruck & Pfleger on pages 35-36. Additionally, see *The Facts on File Dictionary of Astronomy* by Valerie Illingworth, Third Edition, (New York: Facts on File, Inc) p. 137.

<sup>22</sup> The Earth rotates from west to east, completing a full 360° rotation in 24 hours, which results in an apparent motion of the Sun and Moon from east to west at a rate of 15° per hour. However, the Moon itself physically moves from west to east in its orbit around the Earth, completing a 360° revolution over approximately 29.5 days in a synodic cycle. Thus, the Moon's real motion is calculated as:  $360^\circ / (29.5 \times 24 \text{ hours}) \approx 0.5^\circ/\text{hour}$ . This means that while the apparent motion of the Sun remains at 15° per hour, the Moon's apparent motion is slightly slower due to its own orbit, reducing it to about:  $(15^\circ/\text{hour} - 0.5^\circ/\text{hour}) \approx 14.5^\circ/\text{hour}$ . This difference in angular velocity explains why the Moon lags slightly behind the Sun in apparent motion. It's a fascinating interplay of celestial mechanics!

<sup>23</sup> It truly is fascinating how Surah Yasin (36:40) describes this celestial order in such an elegant way: "The Sun does not catch up to the Moon, nor does

moment of *ijtima'*, which concludes the final *manzilah*, also marks the end of the Moon's synodic cycle. It is at this point that the Sun has caught up to the Moon, and the Moon's phase at this position is the smallest in one synodic cycle. The implication is that after *ijtima'*, the Moon's phase will start growing again as it enters the first *manzilah* in the next synodic cycle. This marks the first *manzilah*, when the *hilal* is formed. It is important to note that the Moon's phase continuously increases from second to second solely due to the Moon's orbit around the Earth—regardless of whether the *hilal* is above or below the horizon, and whether or not it is visible.

Figure-1 illustrates how the Moon's phase continues to grow in Jakarta, even when it is below the local horizon. Around 2:00 AM (represented by the brown figure), the *hilal* (crescent) in relation to Jakarta's horizon has become larger compared to sunset (*Maghrib*) approximately 8 hours earlier. This growth is due to an increase in elongation, calculated as:  $8 \text{ hours} \times 0.5^\circ/\text{hour} = 4^\circ$ . At this point, the *hilal*'s altitude is approximately  $-100^\circ$  (negative altitude) measured against Jakarta's western horizon. Meanwhile, at the same instant, in a location in Europe (represented by the green figure), it is *Maghrib* there. At sunset in Europe, the *hilal*'s altitude is around  $4^\circ$  higher than its altitude at *Maghrib* in Jakarta. This discrepancy arises because the elongation in Europe is greater due to *Maghrib* occurring about 8 hours later than in Jakarta. The issue is that while the *hilal* is recognized in Europe because it is visible (altitude  $> 4^\circ$ ), the

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*the night overtake the day. Each moves in its own orbit.*" This aligns remarkably well with scientific observations—specifically, the fact that the apparent angular velocity of the Sun (around  $15^\circ$  per hour) is slightly greater than that of the Moon (approximately  $14.5^\circ$  per hour). This difference ensures that the Sun never truly "chases" the Moon in its cycle. The harmony of the cosmos, where each celestial body follows its prescribed path, speaks to the precision of nature's mechanisms. The correlation between religious text and astronomical principles is quite profound!

exact same celestial body at the same moment is not considered a *hilal* in Jakarta simply because it is below the horizon and invisible. This contradiction challenges both common sense and academic reasoning. It highlights the complexity of celestial calculations in determining the lunar calendar and visibility criteria across different locations.

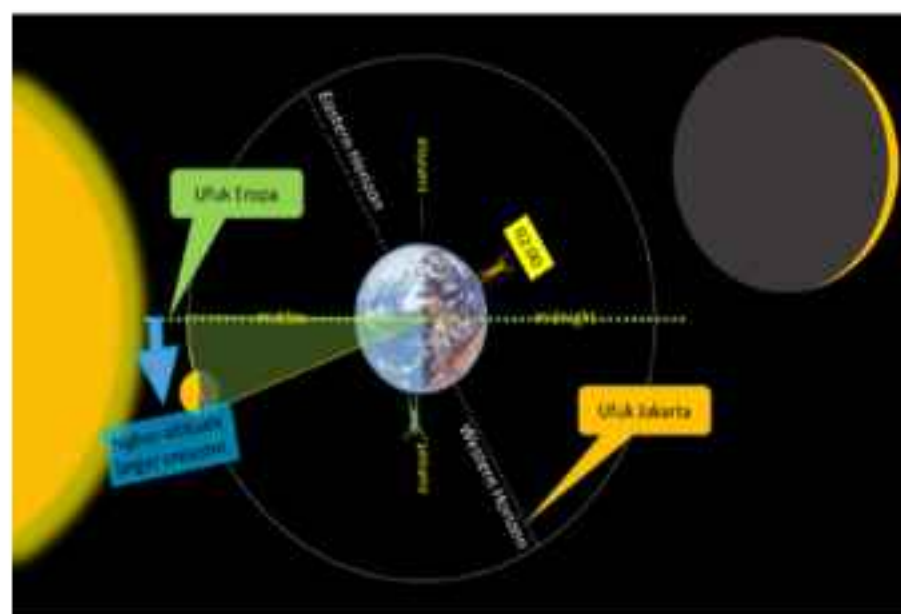


Figure-1: The *hilal* (new crescent moon) in relation to the local horizon in Jakarta and Europe

Figure-2 further emphasizes the inconsistency in lunar visibility determination. By 8:00 AM in Jakarta (illustrated by the brown figure), the *hilal* has grown significantly due to the increasing elongation:  $0.5^\circ/\text{hour} \times 14 \text{ hours} = 7^\circ$ . It must be a lot larger than at sunset in Jakarta. At the exact same moment, in a location in the Americas, the Sun is setting, meaning *Maghrib* has just begun there. Because elongation is larger at that time, the *hilal* in the Americas should be at least  $7^\circ$  above the local horizon. The problem arises because the *hilal* in the Americas is recognized—since it is visible above the horizon—while the very same celestial body at the same second



is not acknowledged in Jakarta, simply due to its invisibility. By 8:00 AM in Jakarta, the *hilal* is impossible to see because its brightness is overwhelmed by sunlight. This contradiction highlights a critical issue: lunar phases grow continuously regardless of location, and visibility alone should not determine recognition. The difference in local horizon perspectives challenges conventional methods of determining the *hilal*. It raises questions about how different locations interpret the lunar calendar and whether adjustments are needed for global consistency.

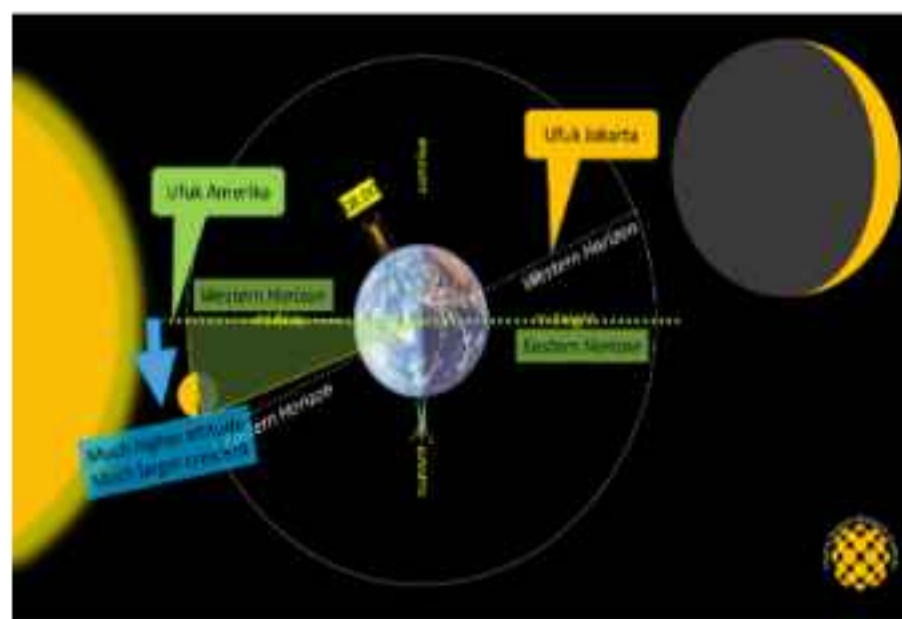


Figure-2: The *hilal* (new crescent moon) in relation to the local horizon in Jakarta and Americas

The above explanation highlights an important point: the altitude of the *hilal* (new crescent moon) is not a relevant measure to determine whether it is physically large. The *hilal* continues to grow regardless of whether it is above or below the horizon. Even if its altitude is negative at *Maghrib*, the new lunar month remains valid because the Moon's phase progresses naturally. This also clarifies why the *hilal* in the western regions of Earth always appears higher than in the east. The reason is

solely due to elongation increasing over time. As the hours pass after *Maghrib*, elongation continues to expand, making the *hila* more prominent in locations further west. This insight challenges traditional approaches that rely heavily on visibility alone and support the argument that lunar phase continuity should be considered globally rather than locally.

### C. Principles, Requirements and Parameters of UGHC

The UGHC principle of global synchronization ensures that the beginning of a new month follows a single, unified date worldwide similar to the Gregorian calendar system. To formulate it, specific principles, conditions, and parameters must be adhered to. These elements ensure the calendar maintains consistency and accuracy while aligning with astronomical and global considerations.

#### 1. Principles of UGHC

- a. The principle of global synchronization of day and date worldwide. The synchronization of day and date ensures that the start of a new lunar month follows a single, unified date across the world—mirroring the Gregorian calendar system, where one day corresponds to one date worldwide. To achieve this global consistency requires avoiding two key challenges: Firstly, by dividing the Earth into separate date zones, which would create discrepancies in determining lunar months across different regions as explained in c. Secondly, by creating new lunar date lines, such as the *Lunar Date Line* proposed by some Islamic calendar scholars. Adding additional date lines would complicate the calendar system rather than unify it. The only way to maintain this alignment is to adopt the International Date Line, which is globally recognized and accepted by the international community as explained in e.

- b. The use of astronomical calculation (*hisab*). In determining the beginning of an Islamic lunar month, astronomical calculations hold the same status as *rukyat* (moon sighting), as outlined in [Tarjih Decision XXVI, 1424 H/2003 M]. Thus, the use of astronomical calculation is considered valid and in accordance with the Sunnah of Prophet Muhammad (peace be upon him). Both moonsighting and astronomical calculation serve as tools to determine the start of the Hijri month. However, astronomical calculation is regarded as a more precise method, providing certainty in determining the start of the month. This is why astronomical calculation should be prioritized over moonsighting. From a technical calendar perspective, moonsighting poses significant challenges to achieving global unity. In fact, creating a calendar solely based on moonsighting is impossible. This is because moonsighting can only confirm the start of a new month one day in advance (D-1). On the other hand, a calendar must be able to accurately predict dates far into the future and provide at least a year's worth of scheduled dates. The Second Expert Meeting, held in Rabath, Morocco (1429 H/2008 M), concluded that resolving the challenges of the Islamic calendar is only possible by accepting *hisab* as the primary method for determining the start of the lunar month—just as *hisab* is already used in determining prayer times.<sup>24</sup>
- c. Unity of Matlak. The unity of matlak refers to the concept that the entire Earth's surface is considered as a single calendar zone. Consequently, the idea of matlak diversity or *ikhtilāf al-matāli'* becomes impossible to adopt. A zonal

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<sup>24</sup> al-Munazhhamah al-Islamiyyah li al-Tarbiyyah wa al-'Ulūm wa al-Tsaqāfah (ISESCO), *Mathāli' al-Syuhūr al-Qamariyyah wa al-Taqwīm al-Islāmī* Rabath, 2010.

calendar divides the Earth's surface into multiple date zones or distinct matlak regions. As a result, it is impossible to synchronize dates to fall on the same day worldwide. In the context of UGHC (Unified Global Hijri Calendar), there is only one calendar zone or matlak, encompassing the entire Earth's surface. Ibn 'Āsyūr (d. 1393/1973) affirms this principle:

*The proofs from the Sunnah and the opinions of the four major schools of Islamic jurisprudence align with the principle of not considering differences in matlak (moon sighting regions). Hanafi scholars state: "This is the opinion of most mashayikh (scholars)." Maliki scholars declare: "This is the well-known opinion." Shafi'i scholars mention: "On this issue [within the Shafi'i school], there are two recognized opinions." Hanbali scholars affirm: "There is no disagreement that the sighting of the moon in one region applies to all other regions."<sup>25</sup>*

- d. Global implementation of calendar parameters, established at a single location is sufficient. This concept entails applying the calendar parameters (Moon altitude of  $5^{\circ}$  + elongation of  $8^{\circ}$ , including corrections) globally across the entire world once they are met at any specific location on Earth. The  $5^{\circ} + 8^{\circ}$  parameter is analogous to the crescent visibility criterion (imkanu rukyat), as under such conditions, the crescent moon becomes theoretically visible. In fact, there are imkanu rukyat parameters lower than this, such as the  $3^{\circ} + 6.4^{\circ}$  criterion. However, it is

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<sup>25</sup> Ibn 'Āsyūr, *Jamharat Maqālāt wa Rasā'il al-Syaikh al-Imām Muḥammad Ibn al-Tāhir Ibn 'Āsyūr*, edited and compiled by Muḥammad al-Tāhir al-Misāwī, published in Jordan by Dār an-Nafā'is in 1436 AH / 2015 CE, specifically found in Volume II, page 826.



essential to note that crescent visibility (*imkanu rukyat*) in this context differs significantly from the common understanding, where *imkanu rukyat* is determined at a specific location at sunset. That traditional view reflects a local concept, while in the UGHC (Unified Global Hijri Calendar) system, the  $5^{\circ} + 8^{\circ}$  parameter—analogous to *imkanu rukyat*—is applied globally. This means that it must be met somewhere on Earth before 00:00 UTC. If the condition is met after 00:00 UTC, the new lunar month still begins, provided that the easternmost time zone has experienced *ijtima'* (conjunction) before dawn and the  $5^{\circ} + 8^{\circ}$  parameter has reached the continental America. Furthermore, the emphasis of this parameter is not simply on whether *imkanu rukyat* has been achieved but rather on ensuring two key principles: First, the easternmost time zone should not be forced into the new lunar month if *ijtima'* has not occurred before dawn in that region. Second, the westernmost time zone should not be required to delay the new month if the crescent is already clearly visible on their horizon.

The permissibility of globally applying calendar parameters is rooted in the general meaning of the hadith: *ṣūmū li ru'yatihi wa aṭīrū li ru'yatihi* (fast when you see [the crescent] and break your fast when you see [the crescent]).<sup>26</sup> According to this broad interpretation, all Muslims are obligated to fast once a crescent sighting (*rukyat*), including the possibility of sighting (*imkanu rukyat*), occurs—without restricting its validity to a specific location. Thus, wherever on Earth *rukyat* and calendar parameters are fulfilled, fasting becomes obligatory for

<sup>26</sup> Muslim, *Ṣaḥīḥ Muslim*, ed. by Muḥammad Fu'ād 'Abd Al-Bāqī, I (Beirut: Dār al-Fikr), 1424 H/2003 M, p. 482.

the entire Muslim community. This principle negates any difference in matlak, considering the entire world as a single matlak. Al-Haskafi (d. 1088/1677) states: "Differences in matlak... are not considered... This is the position held by most Hanafi jurists, and it is the ruling issued in fatwas. As a result, those in the East must fast based on the sighting of those in the West."<sup>27</sup> Ibn 'Abidin (d. 1252/1836) affirms: "This is the position upheld in the Hanafi, Maliki, and Hanbali schools, based on the generality of moon sighting in the hadith: 'Fast when you see [the crescent].'"<sup>28</sup> Al-Nawawi notes: "Some of our scholars state that a sighting in one location applies to all inhabitants of the Earth."<sup>29</sup>

- e. Acceptance of the International Date Line (IDL). The entire global community, including Muslims, has accepted the currently established International Date Line (IDL) as the boundary separating two consecutive days or dates. This line is positioned along the 180° meridian of longitude, marking the point where a new day begins. Muslims determine Friday—a day with obligatory Jumu'ah prayers—based on this boundary. As a result, there is no possibility of creating an alternative date line or relocating it elsewhere, as this would lead to the dualism of days, causing confusion in determining dates and religious obligations.

<sup>27</sup> Al-Haskafi, *al-Durr al-Mukhtār Syarḥ Tanwīr al-Abṣār Wa Jāmi' al-Bihar*, ed. by 'Abd al-Mun'im Khalil Ibrāhīm (Beirut: Dār al-Kutub al-'Ilmiyyah), p. 145.

<sup>28</sup> Ibn 'Ābidīn, *Radd al-Muhtār 'alā al-Durr al-Mukhtār Syarḥ Tanwīr al-Abṣār*, ed. by 'Ādil Aḥmad 'Abd al-Maujūd dan 'Alī Muḥammad Mu'awwad, III (Riyadh: Dār 'Ālam al-Kutub li at-Ṭibā'ah wa an-Nasyr wa al-Tauzī'), p. 364.

<sup>29</sup> An-Nawawī, *Syarḥ Ṣaḥīḥ Muslim* (Beirut: Dār Iḥyā' at-Turās al-'Arabī, 1392 H), VII: 197.

## 2. Requirements of UGHC

The UGHC (Unified Global Hijri Calendar) must meet the following requirements as an Islamic calendar:

- a) The Islamic calendar must be a system that accommodates both religious and worldly affairs.
- b) The Islamic calendar must be based on the kamariah (lunar) months, where the duration does not exceed 30 days and is not less than 29 days.
- c) The Islamic calendar must be a unifying calendar, ensuring that the same date applies worldwide on a single day.
- d) The Islamic calendar must not allow a group of Muslims in any region of the Earth to start a new month before it is certain that the calendar parameters have been met somewhere on Earth.
- e) The Islamic calendar must not delay the entry of a new month for a group of Muslims in any region while the crescent (*hila*) is already clearly visible on their horizon.<sup>30</sup>

## 3. UGHC Parameters:

- a The entire world is considered a unified *matlak*; the new lunar month begins simultaneously across all regions.
- b The new month starts if, before 24:00 GMT, any location on Earth meets the criteria: an elongation of 8° or more and a *hila* (crescent) altitude of at least 5° above the horizon at sunset.<sup>31</sup>

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<sup>30</sup> Decision and Recommendations of the "Second Experts' Meeting for the Study of the Establishment of the Islamic Calendar" (*Ijtimā' al-Khubarā' as-Sānī li Dirāsāt Waḍ' at-Taqwīm al-Islāmī*), held in Rabat, the capital of Morocco, on Wednesday and Thursday, 15-16 Shawwal 1429 AH (15-16 October 2008 CE).

<sup>31</sup> Geocentric Elongation and Crescent Altitude.

- c If the above criteria are met after midnight (24:00 GMT), the new month still begins under the following conditions:
  - 1) The criteria are fulfilled somewhere on Earth, and *ijtima'* (conjunction) has occurred in New Zealand before dawn.
  - 2) The criteria mentioned in point (1) are met within the continental landmass of the Americas.<sup>32</sup>

#### D. Muhammadiyah's Ijtihad

In the *Risalah Islam Berkemajuan* (RIB) or The Progressive Islam Treatise, the revival of *ijtihad* and *tajdid* is emphasized as one of the defining characteristics of *Islam Berkemajuan* (Progressive Islam), explained as follows:

*"Ijtihad (intellectual exertion) is a dedicated effort to understand or interpret the Qur'an and Sunnah. Ijtihad is revived through the continuous use of pure reason, knowledge, and technology to develop religious understanding aligned with the objectives of Islam and to solve the problems faced by humanity. Ijtihad does not stop at the level of intellectual discourse on how to understand religion but extends to the realization of religious teachings in all aspects of life—whether personal, societal, communal, national, or universal humanity."*

Ijtihad as an essential part of *tajdid*, meaning renewal, is carried out through both purification and dynamization in the understanding and practice of religion. Purification applies to *aqidah* (faith) and *ibadah* (worship), while dynamization—through enhancement,

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<sup>32</sup> Scientific Committee (Advisory) of the Conference, "al-Milaff al-Muhtawī Ma'ayr Masyrū' ai al-Taqwīm al-Uhādī wa al-Sunā'ī al-Manwī Taqdīmuhu ilā al-Mu'tamar Ma'a al-Namāzīj al-Taṭbīqiyyah," working paper prepared by the Scientific Committee (Advisory) and presented at the Istanbul Congress 2016, p. 9.

development, modernization, and similar processes—applies to ethics (*akhlaq*) and worldly transactions (*muamalah*). *Tajdid* is necessary because religious understanding continually faces challenges from changing times and evolving societal conditions. It is a means to realize progress in all aspects of life, including thought, politics, economics, social affairs, education, and culture.

UGHC (Unified Global Hijri Calendar) represents an extension of *tajdid* through *ijtihad* in the use of *hisab hakiki* (true astronomical calculation) within Muhammadiyah, a practice that has been ongoing for decades. The application of *hisab hakiki* initially used the criterion of *ijtima' qabla gurub* (conjunction before sunset) around 1950-1960 as a direct counterpoint to visual sighting (*rukyat*). This counterpoint aimed to emphasize the necessity of *hisab* (calculation). Over time, the criterion transitioned to *imkanu rukyat* (possible crescent visibility) in the 1970s-1980s, serving as a middle ground between *rukyat* and *hisab*. Later, in the 1990s-2000s, it evolved into the *wujudul hilal* criterion (crescent existence) to establish a definitive calendar based on both scientific precision and religious legitimacy.

The Dynamics of *Tajdid* (renewal) and *Ijtihad* (independent reasoning) in Muhammadiyah always aligns with the Sunnah and the Qur'an, which introduces societal changes gradually to ensure people are prepared to adopt them. One example is the gradual prohibition of *khamr* (intoxicating drink made from grapes and dates). Since drinking *khamr* was a deeply ingrained habit among Arabs, the Qur'an did not immediately prohibit it outright but addressed it in stages. During the Meccan period, Qur'anic references to *khamr* were descriptive. In *Surah Yusuf*, wine is mentioned in the context of royal service, indicating its long-standing presence in Middle Eastern culture. *Surah al-Nahl* (16:67) describes wine production from dates and grapes, which people regarded as a good provision.

During the Medinan period, the approach became prescriptive. Surah al-Baqarah (2:219) acknowledges both benefits and harms in *khamr*, affirming that its harm outweighs its benefit. Surah al-Nisa' (4:43) forbids Muslims from approaching prayer while intoxicated. Surah Muhammad (47:15) describes a river of *khamr* in paradise, appealing to its desirability. Finally, Surah al-Maidah (5:90-91) explicitly prohibits *khamr*, declaring it an impurity of Satan that harms individuals physically and leads to social discord.

Thus, *Tajdid* and *Ijtihad* in the use of the global hijri calendar in Muhammadiyah follow the Makkiyah and Madaniyah patterns, not *Nāsikh-Mansūkh*. In other words, the application of UGHC (Unified Global Hijri Calendar) is a continuation or refinement of *Wujudul Hilal*. In fact, UGHC and *Wujudul Hilal* share several similarities: Firstly, methodology, both adopt the *hisab hakiki* (true astronomical calculation) method. Secondly, the parameters both utilize crescent altitude as a determining factor. Thirdly, the principle of calculation transfer. In *Wujudul Hilal*, the results are transferred from regions where the crescent has appeared to areas where it has not (*wilayatul-hukmi* principle). In UGHC, the transfer follows the global system described in Section C above. The key difference is that UGHC operates on a global principle, while *Wujudul Hilal* follows a local principle, necessitating adjustments to align with globalization.

## E. Conclusion

Based on the discussion above, the implementation of UGHC is highly feasible. This is evidenced by several Muslim communities in America and Europe that have already adopted it in practice. These communities express a significant need and urgency for their application.

The ratification of UGHC at the 32<sup>nd</sup> Tarjih Muhammadiyah *Musyawarah Nasional* (National Consultation) in 1445 AH/2024 CE



marks a crucial milestone in the long journey of UGHC's acceptance. Once the decision from the *Munas* receives official approval (*tanfidz*) from the Central Executive Board of Muhammadiyah, it will serve as a guiding framework for Muhammadiyah in structuring its calendar. This ensures consistency in time calculations and provides a strong foundation for Muhammadiyah's overall activities.

In parallel, communication, dialogue, and outreach efforts must be undertaken with various parties, both domestically and internationally—especially within the Muslim world—so that UGHC, as established by the *Musyawarah Nasional Tarjih Muhammadiyah*, can be widely understood and serve as a gateway to broader consensus. Muhammadiyah aspires for UGHC to ultimately become a globally recognized agreement within the Islamic world.

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