

# Spiritual Contributions of TGH. Ibrahim Al-Khalidy's Prayer to SDGs Achievement on Lombok Island

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Received March 23, 2025; Revised May 17, 2025; Accepted June 14, 2025

#### **Abstract**

**Objective:** The purpose of this study is to analyze the algorithm for the preparation of the Prayer Schedule Throughout the Lifetime by TGH. Ibrahim al-Khalidy, evaluated its relevance, as well as tested its accuracy. Theoretical framework: The theoretical framework used includes normative-empirical studies based on astronomy and modern astronomical methods, which combine religious approaches with contemporary scientific approaches. Literature review: The literature review in this study refers to books and journals related to astronomy, prayer time hisab methods, and integration between traditional and modern knowledge. Methods: The method used is a normative-empirical qualitative approach, with primary data in the form of a prayer schedule prepared interviews with the drafting team, and secondary data from related literature. The analysis was carried out by comparing the method of calculating the TGH prayer time. Ibrahim al-Khalidy with modern astronomical methods, as well as accuracy testing through 300 times prayer time calculations in various areas of Lombok on certain dates from 2016 to 2020. Results: The results showed that the schedule had a time deviation of 69% delay and 31% acceleration, with the largest deviation in the time of Isha in East Lombok (5 minutes 39 seconds) and Maghrib in Mataram (3 minutes 46 seconds). **Implications**: The implication of this study is the importance of updating astronomical data and refining calculation algorithms to make the schedule more accurate and by the current astronomical conditions, while still maintaining the spiritual and cultural values contained in it. Novelty: The novelty of this research lies in the combination of traditional astronomy with modern astronomical methods in the evaluation of local prayer schedules, as well as its contribution to the achievement of the Sustainable Development Goals (SDGs) through the preservation of local knowledge, the strengthening of cultural identity, and the promotion of the spiritual well-being of the community.

**Keywords**: tgh ibrahim al-khalidy, perpetual prayer schedule, accuracy, sdgs, spiritual.

#### INTRODUCTION

TGH Ibrahim al-Khalidy and TGH Mustafa al-Khalidy are the Founders of AlIshlahuddiny Islamic Boarding School located in Kediri, West Lombok. Since its establishment, this pesantren has played an important role in the development of fiqh and falak, two disciplines that are very relevant in the religious practices of Muslims. TGH Ibrahim al-Khalidy, as an expert in fiqh and astronomy, has produced a monumental work in the form of the Timetable of Perpetual Prayer Times throughout Lombok Island, which has become a reference for the community in determining the time of prayer [1].

Prayer times are one of the fundamental aspects of Islamic worship, where punctuality is crucial to ensure that the act of worship is performed by the provisions of the Shariah. In this context, an accurate prayer schedule serves not only as a guide but also as a means to increase the awareness and discipline of Muslims in performing their acts of worship. Therefore, the development of an accurate and relevant prayer schedule is crucial [2]. However, along with advances in technology and science, the method of calculating prayer times used in the preparation of these schedules needs to be evaluated. The method used by TGH Ibrahim Al-Khalidy, although proven to be effective, may not fully reflect current astronomical conditions. With more sophisticated contemporary calculation methods, it is important to analyze and compare them in order to identify the strengths and weaknesses of the timetable [3],[4].

This study aims to analyze TGH. Ibrahim Al-Khalidy's timetable algorithm evaluates its relevance in the current astronomical context and tests the timetable's accuracy. The research method used is qualitative with an empirical normative approach, which involves collecting primary data from the timetable and interviews with the compiling team, as well as secondary data from related literature. Through this research, it is hoped that it can provide a deeper understanding of the accuracy of the prayer schedule that has been compiled, as well as provide recommendations for updating astronomical data and calculation algorithms. This is important so that the prayer schedule remains by actual conditions so that it can support better worship for Muslims on Lombok Island. Thus, this research not only contributes to the development of Falak science but also provides practical benefits for the community in performing prayers on time [3].

Besides the technical aspects, this study also highlights the spiritual contributions of the prayer schedule to the achievement of the Sustainable Development Goals (SDGs). By ensuring the accuracy of the schedule, it is expected to support better worship practices while strengthening spiritual values that contribute to social welfare, education, and community harmony on Lombok Island. The Sustainable Development Goals (SDGs), adopted by the United Nations in 2015, represent a comprehensive global agenda aiming to end poverty, protect the planet, and ensure prosperity for all. While much scholarly attention has been given to political, economic, and technological aspects of SDGs implementation, there is a notable gap in exploring the spiritual and religious dimensions that could significantly support these goals, particularly in regions with deeply rooted religious and cultural traditions such as Lombok Island, Indonesia [4].

Indonesia, as the world's largest Muslim-majority country, possesses a unique socio-religious landscape in which religious leaders (ulama) and traditional scholars play crucial roles in shaping community values and behaviors. However, the intersection between local religious practices—particularly those led by charismatic spiritual figures—and global development agendas remains an under-researched domain. This study addresses this void by examining the spiritual contributions of Tuan Guru Haji (TGH) Ibrahim Al-Khalidy, a respected religious leader from Lombok Island, and how his prayer practices and spiritual teachings have influenced the local community's alignment with the SDGs [5].

Existing literature on SDGs in Indonesia predominantly focuses on formal policy implementation, infrastructure development, education reform, and economic empowerment. Studies rarely consider the subtle but powerful role that spirituality and religious leadership can play in guiding communities toward sustainability. Furthermore, although a number of researchers have acknowledged the importance of Islamic principles in promoting social justice and environmental ethics—both of which are central to the SDGs—few have investigated how local expressions of Islamic spirituality, such as prayer (du'a) and moral instruction from traditional religious figures, contribute to the internalization and localization of these global goals. TGH. Ibrahim Al-Khalidy represents a compelling case study in this context. His spiritual leadership, rooted in Islamic tradition and local wisdom, has historically influenced community behavior, ethics, and social responsibility on Lombok Island. His prayers are not merely private acts of devotion but

serve as communal spiritual guidance, motivating people toward values such as peace, cleanliness, education, empathy, and collective well-being—all of which are embedded in the 17 SDGs. Despite his prominence, there is little to no academic research examining the tangible influence of his spiritual contributions on development practices in Lombok [5].

This study is important for several reasons. First, it expands the understanding of SDGs implementation by incorporating the spiritual dimension, thereby offering a more holistic view of sustainable development. Second, it highlights the potential of localized Islamic spirituality to support global development initiatives without compromising cultural identity. Third, it provides policymakers and development practitioners with a culturally relevant framework that integrates religious leadership into sustainability efforts. Finally, it contributes to the growing discourse on the decolonization of development narratives, emphasizing that non-Western spiritual traditions have meaningful roles to play in achieving global goals. In essence, this research seeks to bridge the gap between the spiritual domain and the developmental domain, demonstrating that spiritual leaders like TGH. Ibrahim Al-Khalidy are not only guardians of faith but also potential agents of sustainable development. By analyzing the form, content, and social impact of his prayers, this study aims to reveal how spirituality can be a powerful, yet often overlooked, driver of community-based change in pursuit of the SDGs on Lombok Island and beyond [6].

# LITERATURE REVIEW

The connection between spirituality and sustainable development has increasingly become a subject of academic discussion, especially as global efforts to achieve the Sustainable Development Goals (SDGs) recognize the importance of cultural and moral dimensions. In communities where religion plays a central role in daily life, spiritual leaders often hold a unique position of influence that extends beyond the religious sphere. Their guidance not only shapes personal values but also contributes to collective behavior, community development, and long-term societal progress [6].

In Islamic societies, religious leaders have historically guided communities through teachings, prayers, and moral exemplars. Islamic values such as justice, compassion, stewardship of the Earth, and the pursuit of knowledge inherently support the principles behind the SDGs. While there is growing interest in the role of Islamic institutions in supporting education, environmental awareness, and poverty alleviation, the specific influence of spiritual figures—especially through practices like communal prayer—remains underexplored [7].

Most existing studies focus on formal institutions or government policies in achieving sustainable development. Less attention has been given to localized spiritual practices that may indirectly support sustainability by strengthening community bonds, promoting ethical conduct, and inspiring social responsibility. In regions like Lombok Island, where traditional religious figures are highly respected, their role in influencing community orientation toward sustainable practices can be profound, even if subtle.

TGH. Ibrahim Al-Khalidy stands as an important figure in this context. Known for his deep spirituality and commitment to community welfare, his prayers are not merely personal rituals but acts of collective spiritual leadership. They have the potential to shape the moral consciousness of his followers and motivate actions aligned with sustainability. However, scholarly work documenting this contribution is limited. This study seeks to fill that gap by exploring the spiritual role of TGH. Ibrahim Al-Khalidy and how his prayers contribute to the realization of SDG values on Lombok Island through moral influence, community inspiration, and spiritual motivation [7].

# **METHODOLOGY**

This research uses qualitative research methods with a normative empirical approach, combining theoretical examination and factual scientific data analysis. The research utilizes

library research techniques, drawing on both primary and secondary data sources. Primary data are obtained directly from TGH. Ibrahim Al-Khalidy's Perpetual Prayer Schedule and through interviews with the team responsible for compiling the schedule [8].

Secondary data consist of related literature, including various prayer time schedules and calculation methods, sourced from documents, articles, transcriptions, and other scholarly materials. The core of the analysis involves a comparative evaluation between TGH. Ibrahim Al-Khalidy's prayer time calculation method and contemporary astronomical calculation methods. This comparison aims to identify the strengths and limitations of the perpetual prayer schedule's algorithm, thereby assessing its accuracy in the current astronomical context [9].

Furthermore, this study explores the spiritual significance of the prayer schedule and its contributions to the achievement of several Sustainable Development Goals (SDGs). By ensuring the schedule's accuracy, the research highlights how it supports timely worship practices, which in turn foster spiritual well-being, social harmony, and educational enrichment within the Lombok community. Through this integrated approach, the research not only assesses the technical precision of the prayer schedule but also underscores its broader impact on spiritual values and sustainable development.

Description Aspect Research Method Qualitative research with a normative-empirical approach. Approach Combination of theoretical examination and factual scientific data Data Collection Library research and field interviews. Techniques Primary Data Sources TGH. Ibrahim Al-Khalidy's Perpetual Prayer Schedule Interviews with the team who compiled the schedule. Secondary Data Related literature (books, articles, documents) Sources Various prayer time schedules and calculation methods. Core Analysis Focus Comparative evaluation between TGH. Ibrahim Al-Khalidy's method and modern astronomical calculation methods. Analytical Objectives Identify strengths and limitations of the perpetual prayer schedule algorithm. Assess accuracy in current astronomical context. Spiritual & Explore how accurate scheduling supports timely worship. **Developmental Impact** Link to spiritual well-being, social harmony, and educational enrichment. SDG Relevance Highlights contributions to SDGs through fostering values such as discipline, unity, and community development.

Demonstrates both technical precision and the broader spiritual impact of the prayer schedule on sustainable development in

Table 1. Research Methodology and Data Sources

# **RESULTS AND DISCUSSION**

**Integration Outcome** 

# Overview of the Perpetual Prayer Time Schedule in Indonesia

Lombok.

Perpetual Prayer Timetables are also known as Timetables for All Time or Prayer Timetables that can be used forever. It is designed to provide a guide to the beginning of prayer times that can be used indefinitely. This name reflects its permanent nature for determining prayer times [10]. The schedule contains prayer times that are valid for a whole year, from January to December. The Perpetual Prayer Time Schedule format usually interpolates dates between 3 to 5 days, so that the schedule can be presented in a compact format on a single datasheet. This aims to facilitate the presentation and understanding of the schedule [11].

In the community, this timetable is widely circulated and can be easily found in many mosques, both in the city center and in rural areas. These timetables have also been found on Ferries crossing between islands, such as between Merak and Bakauheni. Some examples of prayer timetables that are widely circulated in the community include [12]: Prayer Time Schedules for Tanjung Karang, Teluk Betung, Panjang, Metro, and Menggala Areas were calculated by Arius Syaikhi, who also calculated similar schedules for areas in Kalimantan and Sumatra, specifically West Sumatra. Perpetual Prayer Time Schedule published by the Indonesian Mosque Council (DMI) of Batang Regency for Pranten Village, Bawang Subdistrict, Batang Regency. KH Noor Ahmad SS Prayer Time Schedule for various cities such as Jogjakarta, Jepara, and Surabaya. All-time Prayer Time Schedule Pontianak West Kalimantan by H. Abdurrani Mahmud. Prayer schedule of the Holy Tower Calendar by KH Turaichan Adjhuri. Timetable of Prayer Times for Lombok Island by TGH. Ibrahim Al-Khalidy

Some of these prayer timetables include the name of the hasib who did the calculations and others only list the institution that reproduced and circulated them. Examples of timetables that do not include the hasib include the prayer timetables for the Jakarta area found on the Jemla Ferry and Menggala Ferry on the Merak-Bakauheni crossing, as well as the prayer timetables for the city of Bandung and its surroundings circulated by Dahlan's bookshop or book [13]. Furthermore, all-time prayer timetables circulating in Indonesia can be categorized into the following types [14]:

A schedule that applies to one specific city.

Schedules that use the conversion system (Regional Time Correction) from neighboring regions, between cities, and between countries.

Schedule with locations that have latitude differences between 1° and 5°.

Of these categories, especially the schedules that use the conversion system (Regional Time Correction) with the surrounding area, between cities, and countries, have a significant influence in determining prayer times. Prayer schedules that use conversion or time correction with the surrounding area produce two types of data, namely: First, fixed data and Second, variable data [15]. The conversion system between cities that have a latitude difference of no more than 1° produces fairly consistent data such as the correction of prayer times between Semarang and Pemalang. These two regions can use the conversion system because the data is consistent. However, data that is not constant or variable, such as the correction of prayer times between Bukit Tinggi and Padang Sidempuan, and between Pontianak and Kendawangan, cannot be used as a reference in converting prayer times [16].

Furthermore, schedules that use inter-city and cross-country conversions produce inaccurate time correction data throughout the year. Therefore, prayer timetables that utilize city-to-city and cross-country conversions cannot be used as an accurate reference in determining prayer times [17]. Latitude differences between locations of 1° (1 degree) or more using the conversion system in the preparation of timetables can significantly affect the determination of prayer times. If the latitude difference between two locations reaches 1 degree or more, then the Zuhr time will not be significantly affected, because the difference results in a time difference of 0 minutes. Thus, the Zuhr time can use a prayer timetable based on the conversion system. However, for the other four prayer times, Fajr, Asr, Maghrib, and Isha result in varying prayer times [18].

The maximum latitude difference for the Asr and Maghrib times is 1° 20', while for the Isha and Fajr times it is 1°. Therefore, prayer schedules that use the conversion system between regions, cities, and countries with latitude differences exceeding the maximum limit, can affect someone praying not on time and also affect the fasting of Muslims [19].

# Timetable for Perpetual Prayer on Lombok Island by TGH. Ibrahim Al-Khalidy

TGH. Ibrahim Al-Khalidy al-Anfanani was born in Muharram 1330 H/1912 M. His father was named TGH. Khalidi. TGH. Khalidy is a master teacher who was born from the noble lineage of the Selaparang kingdom of Lombok. TGH. Ibrahim Al-Khalidy's childhood was spent in Lombok learning the Koran with his father until the age of eight. The atmosphere of a religious family makes the figure of little Ibrahim grow up in a family that daily provides religious enlightenment for young people in Kediri Village, which is now known as the city of santri in West Lombok. At the age of 10, Ibrahim was sent and entrusted by his parents with TGH. Muhammad Arsyad Sumbawa followed his brothers, Abdussatar al-Khalidi and Mustafa alKhalidy who were studying in Makkah al-Mukarramah in 1918 AD at the end of World War 1.

In the Risalah Siraj al-Qulub fi 'Ad'iyah 'Allam Al-Ghuyub written by TGH. Ibrahim in 1974 in Makkah al-Mukarramah, the names of the masters from Lombok, the archipelago and the ulama'-ulama' of Haramayn who were his teachers while studying there are listed Some of them were Nusantara ulama'-ulama' who settled in Makkah and most of them were Hijaz ulama'-ulama' in the early 20th century. Ulama'-ulama' Haramayn originating from the archipelago who became his teacher include: KH Marzuki Palembang, KH Hasan Jambi, Sayed Sheikh Muhammad Nur Fathani, KH Salim Cianjur, KH Raden Ahyad Bogor, KH Abdul Qadir Mandahiling, KH Husain Palembang, KH Abdurrahman Klantan and KH Ahmad Payakumbuh.

His teachers from the scholars of the Hijaz include: Sheikh Abbas Abdul Jabbar, Sheikh Hasan Yamani, Sheikh Isa Ruaes, Sheikh Abdullah Al-Khadrami, Sayed Abbas Maliki, Sheikh Umar Hamdan, Sheikh Jamal Maliki, Sheikh Sayed Alwi Ibn Abbas al-Maliki, Sheikh al-Hadrami, Sheikh Ali Maliki, Sheikh Khalifah Ibn Nabhan (his teacher in Falak science), Sheikh Sayed Muhammad Amin Kutbi, Sheikh Ibrahim al-Tikrani, Sheikh Muhammad Nur Saiful Bahrain, and Sheikh Hasan Masyath. From the notes written in the book Siraj al-Qulub fi 'Ad'iyah 'Allam Al-Ghuyub by TGH. Ibrahim Al-Khalidy one of his teachers in Falak Science was Sheikh Khalifah Ibn Nabhan (1270-1366 H). Sheikh Khalifah Ibn Nabhan was known as a scholar who was very pious and used as a reference, an expert in jurisprudence, mathematics, and astrology. He died at the age of 96.

Sheikh Khalifah wrote many books, including a book on Falak entitled [20]:

Al-Wasilah al-Mar''iyyah li Ma''rifah al-Awqat asy-Syar''iyyah.

Tsamarat al-Wasilah li man Arada al-Fadhilah, this book is a summary of the book al-Wasilah al-Mar'iyyah. Published in 1328 AH at the expense of the alHashimiyyah government, it was published many times. This book is used as a curriculum for Tsanawiyah (Aliyah) in Darul Ulum Diniyyah Madrasah Shaulatiyah and a number of Madrasahs in Indonesia and Malaysia.

Kitab Jadwal ad-Da-iroh al-Maghni-thisiyyah li Ma"rifah al-Qiblah al- Islamiyyah, This book is summarized from Risalah al-Mu"allim asy-Syadzili.

Risalah Rasm al-Basa-ith, Summarized from Risalah Abdul Ghani Mahmud.

Risalah fi al-Awqat wa al-Qiblah bi al-Jadawil as-Sittiniyyah

At-Taqrirat an-Nafisah fi Bayan al-Basithah wa al-Kabisah, This book contains the initial table of constellations in the Arabic calendar up to '1600 H.

Manzhumah fi Manazil al-Qamar.

TGH Ibrahim Al-Khalidy stayed in Makkah for approximately 20 years to study, after returning from Makkah, he practiced his knowledge in Lombok. TGH Ibrahim Al-Khalidy together with his brother TGH Mustafa Khalidy established Al-Ishlahuddiny Kediri Islamic

Profetika: Jurnal Studi Islam Vol. 26, No. 1, 2025, pp. 93-114

Boarding School in West Lombok as the first step in developing Islam on Lombok Island. TGH Ibrahim al-Khalidy is also known as a diligent writer. His works and thoughts include:

Matn Tuhfah al-Shibyan fi 'Aqa'I al-Imam, written in Arabic then arranged in the form of Nazhom (sha'ir), consists of 42 stanzas, written in 1361 AH using bahr Rajaz. This book discusses the science of Tawheed and a glimpse of the lineage of the Prophet Muhammad in the form of a Nadzam.

Risalah Siraj al-Qulub fi 'Ad'iyati 'Allam al-Ghuyub, This treatise is a collection of wirid and dhikr received from the scholars of Haramayn.

Risalah Wushul Tsawab al-Qiraah wa Ghairiha ila al-Mayyit 'ala Madzahib al-Arba'ah, This treatise was issued as the 19th material for the recitation of the Abituren of the Al-Ishlahuddiny Islamic Boarding School. This treatise contains the opinions of four madhhab imams about the arrival of the reward of reciting the Quran, tahlil, Tasbih, and other practices for deceased Muslims.

Brochure of Abiuren Studies.

TGH Ibrahim al-Khalidy is not only known as a fiqh expert but also as a phalaxist. He learnt astrology from Kiyai Jawi who came from Bogor and taught at the Grand Mosque. The book he studied was Taqribul Maqshad fi amali bi Rubbi al-Mujayyab written by Sheikh Muhammad Mukhtar bin 'Atharid al-Bughuri [21]. He studied Falak Science not through formal education, but by using the halaqah method. Although he only used the halaqah method, his knowledge in the field of falac science cannot be doubted. After completing his study of falak science at the Grand Mosque, he then opened a falak recitation every Ramadan at the Mecca Al-Ishlahuddiny Mosque. In the recitation, he taught the book Taqribul Maqshad fi amali bi Rubbi al-Mujayyab for one month during the day until he finished the book [22].

One of his works in the field of astrology is the Timetable of Prayer Times for the whole island of Lombok. This prayer schedule was compiled in 1993 at the initiative of TGH. Ibrahim al-Khalidy's students. In the preparation process, TGH. Ibrahim al-Khalidy acted as a proofreader. Some of the students involved in formulating this prayer schedule include TGH. Agussalim Idris, the late Ustadz. Rahmatullah, TGH. Busyairi, and other students. The schedule of prayer times of times is prepared based on the calculations contained in the book Taqribul Maqshad fi amali bi Rubbi al-Mujayyab. The calculation tool used is Rubu' Mujayyab [23]. This prayer schedule is the result of collaboration between TGH. Ibrahim al-Khalidy and his students in making calculations.

TGH. Ibrahim Al-Khalidy's Perpetual Prayer Times Calculation Markaz takes the West Lombok Region and the calculation format used in the Schedule covers the entire island of Lombok without distinguishing between East Lombok, Central Lombok, West Lombok, or North Lombok. Therefore, no regional time correction is applied in this prayer schedule for other locations on Lombok Island. According to TGH Ibrahim al-Khalidy, the omission of this regional time correction is because the distance between Ampenan and North Lombok is still within one marhalah. One marhalah is estimated to be around 82 kilometers, and this distance is the minimum limit for someone to be allowed to make up their prayers. Therefore, there is no difference between the prayer times for East Lombok, West Lombok, Central Lombok, or North Lombok. So, this schedule can be used for the island of Lombok. As for areas outside the island of Lombok, regional time corrections are made. The regional time correction for other than the Lombok region which is included in the NTB region is in the table below:

Table 2. Regional Time Correction for NTB Region Outside Lombok Island

City	Regional Time Correction
Raba Bima	13 minutes
Sumbawa Besar	7 minutes
Alas	5 minutes
Taliwang Sumbawa	4 minutes

The Timetable of Prayer for All Time is then disseminated through the IKABA recitation organized by TGH. Ibrahim al-Khalidy. This IKABA recitation involves all congregations, majlis ta'lim, sympathizers, and extended families of alumni who have studied or studied formally or informally in institutions and under the auspices of Ponpes Al-Ishlahuddiny, wherever they are. Until now, the schedule is still being disseminated through monthly recitations at the Mecca Mosque.

# Method of Calculation and Compilation of Perpetual Prayer Time Schedule of TGH. Ibrahim Al-Khalidy

TGH. Ibrahim al-Khalidy in the preparation of the schedule of prayer times throughout the special period of Lombok Island NTB uses a reference source from the book Taqribul Maqshad li amalil birrubu' mujayyab by Sheikh Muhammad Mukhtar bin 'Atharid alBughuri. The book consists of an introduction (muqaddimah), there are 14 chapters, and a conclusion. The calculation tool used in compiling the prayer schedule during the period of TGH. Ibrahim al-Khalidy is Rubu Mujayyab. The method of using Rubu' Mujayyab as a prayer time calculation tool is based on the book *Taqribul Maqshad li amalil birrubu' mujayyab* [24].

Rubu' or Quadrant in English has been used as a tool for calculating and observing celestial objects since around the 2nd century AD by Ptolomeus and other Greek astronomers. Ptolomeus' quadrant was made of wooden or stone planks, in the shape of a quarter circle divided into 90 degrees. Furthermore, the center of the quadrant provided a drawing that gave the distance of the Sun calculated from the zenith on the meridian line [25]. Later, the rubu instrument during the golden age of Islam underwent development in the curve at its center. The rubu' was developed by Muhammad Ibn Musa Al-Khwarizmi, a 9th-century Islamic scientist in Baghdad. Rubu' was used for astronomical observations and calculations, such as calculating trigonometric values [26].

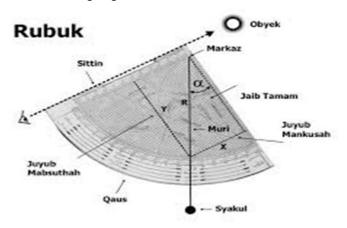


Figure 1. Rubu Mujayyab

In addition to the calculation tool using Rubu' Mujayyab, the coordinate data was used in the calculation of the prayer schedule throughout TGH. Ibrahim al Khalidy is sourced from the translation of the book Taqribul Mashad, namely [27]:

Table 3. Coordinates of Lombok Island

Lombok Island Coordinates						
Latitude (Ardul Balad) Longitude (Thulul Balad)						
8° 32' N	116° 07' E					

The prayer time calculation algorithm is used in the preparation of the prayer schedule during the lifetime of TGH. Ibrahim al-Khalidy is as follows:

# Determine the data required

Counting the Buruj of the Sun or darajatusy-syams

To determine the value of the Sun's Buruj, add the lunar day to the Tapawut in the table. If the result is greater than 30 then subtract 30, the result is the next Solar Buruj. If the result is equal to 30 or smaller than 30, then the Sun's buruj is according to the sum of the lunar day with tapawut [28].

No	Bulan	Hari	Tapaut/Aus	Buruj	Jihat Buruj
1	Januari	1 s/d 31	9	الجدي	Selatan
2	Februari	1 s/d 28(B)/29(K)	10	المنلو	Selatan
3	Maret	1 s/d 31	9	الحوت	Selatan
4	April	1 s/d 30	10	الحمل	Utara
5	Mei	1 s/d 31	9	الثور	Utara
6	Juni	1 s/d 30	9	الجوزاء	Utara
7	Juli	1 s/d 31	7	المسرطان	Utara
8	Agustus	1 s/d 31	7	الأسد	Utara
9	September	1 s/d 30	7	السنبلة	Utara
10	Oktober	1 s/d 31	6	الميزان	Selatan
11	Nopember	1 s/d 30	7	المعقرب	Selatan
12	Desember	1 s/d 31	7	القوس	Selatan

Figure 2. Buruj and Tapaut

Determining the Mail Value (Declination of the Sun)

The value of Mail can be seen in the table of the book or search using Rubu' Mujayyab. If you use the table then just look based on the date and month you are looking for [29].

### **Specifying Ghayatul Irtifa**

When determining the value of ghoyatul irtifa', it can be seen from several cases, namely:

If Mail and ardul balad are not in the same direction. The addition between Mail and ardul balad is called Tamamul Goyah. To find the goyatul'nya by  $90^{\circ}$  - Tamamul Goyah.

If Mail and Ardul Balad are in the same direction. Subtract the larger number between the mail and ardul balad with the smaller number, the rest of the subtraction is called Tamamul Goyah. To find the goyatul'nya by 90° - Tamamul Goyah.

If one of the mail and ardul balad is missing. Then the one that is present is called Tamamul Wobble. To find the goyatul'nya by  $90^{\circ}$  - Tamamul.

If mail and ardul balad are not present, then the goyatul' is 90°.

If the mail and ardul balad is equal in jihat or value, then the goyatul'is equal to 90°.

### **Determining Bu'dul Outur**

Bu'dul Qutur is the Diameter or center line of the Sun's circling place from the land of the ufuq circle. Bu'dul Qutur will be above ufuq if Ardul Balad and Mail are in the same direction (ittifaq). And will be below ufuq if ardul balad and early mail are not in the same direction (ikhtilaf).

# **Determining the Mutlaq origin**

Asal Mutlaq is the straight line / jaib of ghoyatul irtifa where the line does not include Bu'dul Qutur when ittifaq (Ardul Balad and Initial Mail are aligned) and includes Bu'dul Qutur when Ikhtilaf (Ardul Balad and Initial Mail are not aligned). The step of determining the value of Asal Mutlaq, which is the value between Muri marked in tajyib Tsani (2) in the step of determining Bu'dul Qutur and lies between as-Sittiny of Jaib Mangkusah, is called Asal Mutlaq [30].

# Specifying Nisful Fudlah

In the Dictionary of Falak Science by Muhyiddin Khazin, Nisful Fudhlah is the distance or arc along the daily circle of a celestial body calculated from the center line of the celestial body's trajectory to the horizon, or it can also be expressed by the difference in the value of 90 ° with qaus nahar (noon arc). Determining the value of Nisful Fudhlah is by directing the thread worth Jaib Tamam, then moving the Muri worth Asal Mutlaq. Then move the thread to the value of Bu'dul Qutur, and then the value that lies between the thread and the beginning of Qaus is called nisfu fudhlah [31].

# Calculating Prayer Time

To find out the time of Dhuhr prayer, first know Nishfu Qausinnahar by 90 - Nishfu Fudhlah. The value of Nishfu Qausinnahar is then converted into hours by dividing by 15. The quotient is then added to 12 hours, so that is the time of the noon prayer calculated based on the ghurubiyah clock.

## Calculating the Asr Prayer Time

In calculating the time of prayer, it is formulated in the book for irtifa' Asar Awwal which is  $40^{\circ}$  45', and irtifa' Asar Tsani which is  $24^{\circ}$  45'. To find out the time of the early asr prayer and tsani is determined based on the following method:

The initial Irtifa' or Irtifa' Tsani is added with Nisful Fudhlah if irtifa' eastern Ikhtilafi or Western Ittifaqy otherwise it is subtracted with nisful fudhlah, the result is then the thread is directed to it, and count from the beginning to the top 12 if irtifa' Syarqi Syarqi then count from the end part that is 6 [32].

# Calculating Maghrib Time

In the book, it is determined that maghrib time is midnight. This calculation is based on the hour of ghurubiyaah. However, in the practice of preparing the prayer schedule of TGh. Ibrahim Al-Khalidy is calculated by adding the value of Nisf al-Fudlah to the number 6 if the southern declination and subtracting Nisf al-Fudlah at number 6 if the northern declination. After that add the result with 3.5 minutes of the clock. The result of the sum is maghrib time [33].

#### Isha prayer time

In this book, it is mentioned that there are first and second times of 'Isha. To find out the time of the 'Isha' prayer, one adds Jaib 17 to Bu'dul Qutur at the time of ittifak (in the direction of Mail and Ardul Balad) and subtracts from it at the time of Ikhtilaf (not in the direction of Mail and Ardul Balad). And the value between the thread and the beginning of the qaus is then added to Nisful Fadlah at the time of the second Isha' and subtracted from it at the time of the first Isha', then the result is added to the 12 hours that is the time of the first Isha'. And if you do the same steps as above with jaib 19 then the result is the time of

the second Isha' [34]. The difference between the first and second isha' time lies in the Sun altitude criteria used. The first isha' time uses the Sun's altitude of -17° below the horizon and the second isha' time uses the altitude criterion of -19° below the horizon.

# Fajr Prayer time

To determine the time of fajr by adding jaib 19 with Bu'dul Qutur at the time of Ittifaq (in the direction of Mail and Ardul Balad) and subtracting with Bu'dul Qutur at the time of Ikhtilaf (not in the direction of Mail and Ardul Balad) and the value that lies between the thread and the beginning of the qaus add with nisful fadlah (at Ittifaq) and subtract with Nisful Fadlah (at Ikhtilaf), then that is the time of Fajr, then point the thread at the result of the addition/subtraction, count from the end of the qaus to the thread add 6 hours to the two conditions (Ittifaq time and Ikhtilaf time), then that is the time of Fajr. The altitude of the Sun used is -19° below the horizon [35].

# Timetable for Perpetual Prayer on Lombok Island by TGH. Ibrahim Al-Khalidy from the Perspective of Modern Falak Science

Analysis of the Calculation of the Timetable of Prayer Throughout the Time of Lombok Island by TGH. Ibrahim

Hisab methods for the beginning of prayer time are divided into two categories: classical methods and contemporary methods. Classical Method Uses calculations that do not update data on the movement of the sun for Position J2000, with an accuracy of up to minutes. Example: Kitab Durus al-Falakiyah by Sheikh Ma'shum bin Ali and Kitab Syawariq al-Anwar by Kyai Noor Ahmad SS. Whereas the Contemporary Method uses algorithms with more detailed data and accuracy up to units of seconds, updated in real-time based on the movement of celestial bodies. Examples of algorithms: Ephemeris Hisab Rukyat system by the Ministry of Religious Affairs and Jean Meeus algorithm. There are also software such as WinHisab and Accurate Times by Muhammad Odeh [36].

The calculation model used by TGH. Ibrahim Al-Khalidy refers to the following:

- 1. Using data and calculation algorithms from Taqribul Maqshad fi amali bi Rubbi al-Mujayyab by Sheikh Muhammad Mukhtar bin 'Atharid al-Bughuri.
- 2. Using the Rubu Tool
- 3. Generalization of Prayer Time Schedule for Lombok Island without Local Time Correction.

The data and calculation algorithm contained in the book Taqribul Maqshad fi amali bi Rubbi al-Mujayyab can be categorized as hisab taqribi (approach) [37]. This is due to the use of relatively old data and an algorithm that calculates the position of the Sun based on the average movement of the zodiac. The algorithm also assumes the Sun's declination value is fixed, which has implications for the accuracy of the prayer schedule calculation. Thus, the level of accuracy in the calculation of this prayer schedule tends to be less accurate. In addition, the calculation tool used is Rubu Mujayyab. The accuracy of the Rubu Mujayyab is highly dependent on its physical size. The larger the size of this tool, the higher the level of accuracy. Conversely, when the size of the Rubu Mujayyab gets smaller, the level of precision will also decrease. This shows that the size of the tool plays an important role in the accuracy of the resulting prayer time calculation results [38].

The calculation model applied by TGH Ibrahim Al-Khalidy in preparing the prayer schedule uses an approach that calculates prayer times based on one geographical coordinate which is then generalized for the entire island of Lombok. This method is used by TGH Ibrahim Al-Khalidy because according to TGH Ibrahim Al-Khalidy for one island of Lombok, no regional time correction is needed. After all, it is still within 1 marhalah (82)

Km) calculated from Ampenan to East Lombok. So that it equalizes all times for all places in the Lombok area.

The consequences of this calculation model are several important aspects as follows:

Coordinate Generalisation: TGH. Ibrahim Al-Khalidy uses one coordinate as a reference for the entire island of Lombok. This approach aims to simplify the calculation of prayer times but also results in ignoring the different latitude values in each region.

Influence on the Sun's Declination: By ignoring latitude differences, the determination of the Sun's declination becomes less accurate. The Sun's declination is the angle between the Sun's rays and the plane of the equator, which varies depending on geographical position. This neglect can affect the prescribed prayer times.

Implications of the Sun's Position: As a result of this approach, the position of the Sun is considered the same throughout Lombok, although there are differences in latitude values that can affect prayer times. This causes inaccuracies in the compiled prayer schedule.

Time Correction: This does not consider refraction, altitude, and semi-diameter of the Sun, which can affect the accuracy of prayer times.

The calculation of prayer times with refraction correction, altitude, and semi-diameter of the Sun is required for the calculation of prayer times Maghrib, Isha', and Fajr. Especially for the determination of maghrib prayer time, the altitude of this place is very influential. The altitude of this place affects the horizon line seen. Places that have a high altitude will be slower to see the Sun set while places that are lowlands will see the Sun set faster than highlands. Of course, this phenomenon will affect the beginning of Maghrib time. Lowlands will enter the beginning of maghrib time earlier than the highlands.

The location of the island of Lombok in the middle is Mount Rinjani, resulting in many villages that are on a fairly high plateau. So it requires correction of the altitude of the place to find out the ufuk mari. There is a significant difference between the prayer times calculated using 0 meters altitude and 700 meters above sea level data, especially for maghrib time. Moedji Raharto said that the time difference between the two reference differences is about 4 minutes. The schedule that calculates concerning 0 meters will be 4 minutes faster than the comparison. This difference cannot be underestimated because it is classified as a large difference, especially if it occurs during the month of Ramadan [39].

Regional Time Correction: This generalization also ignores regional time corrections, which are essential for determining the Sunrise and Sunset times. Without this correction, the set prayer times do not match the actual times in each region. The largest difference between Mataram and East Lombok is about 1 minute 44 seconds. This difference is small but will impact the prayer time for East Lombok by 1 minute 44 seconds faster than the prayer time in Mataram.

Lack of Time Conversion: The prayer times schedule was created by TGH. Ibrahim Al-Khalidy does not include time conversions for specific regions, such as Central Lombok, East Lombok, or North Lombok. This means that time differences that may exist between these areas are not taken into account, which may result in incompatibilities in the performance of prayers in various locations.

Accuracy of TGH. Ibrahim Al-Khalidy's Perpetual Prayer Time Schedule and Spiritual Contributions to the Achievement of the SDGs

In testing the accuracy of the prayer schedule during the time of TGH. Ibrahim al-Khalidy, the author applies the calculations formulated by Slamet Hambali in his book entitled Falak Science 1, published by the Postgraduate Programme of IAIN Walisongo Semarang as a reference. Furthermore, to compare the results of the calculation, the author uses the coordinates used by the Ministry of Religious Affairs of NTB in preparing the Imsakiayah schedule for Ramadan 1441 AH.

Table 4. Latitude and Longitude Coordinates on The Island of Lombok

Latitude and Longitude Coordinate Data of Cities and Regencies on Lombok Island									
City/District	Latitude	Longitude							
Mataram	08° 34' 59.67'' S	116° 06' 29.24'' E							
Lombok Barat									
Lombok Timur	08° 39' 4.75'' S	116° 31' 47.12'' E							
Lombok Tengah	08° 42' 23'' S	116° 16' 11.45'' E							
Lombok Utara	08° 21' 23.88'' S	116° 09' 33.31'' E							

The author tested the accuracy by calculating the prayer times in Mataram, West Lombok, Central Lombok, and East Lombok on 1 June, 22 June, and 22 December from 2016 to 2020. Thus, each region will have its prayer times calculated for five years on the specified dates. The purpose of this test is to determine the difference in prayer times each year as well as the difference in prayer times between different regions within the five years. The selection of 1 June, 22 June, and 22 December is based on the reason that 22 June is when the Sun is at its northernmost position from the equator, known as maximum positive declination. Meanwhile, 22 December is the turning point of 22 June, where the Sun is at its southernmost position from the equator or maximum negative declination. Meanwhile, the date 1 June was chosen randomly.

**Table 5. Comparison of the Calculation Results** 

1 June 2020								
Prayer Times	Zuhur	Asar	Maghrib	Isya	Fajr			
Contemporary Hisab	12:16:28	15:35:51	18:06:52	19:17:15	05:05:03	Mataram and		
Hisab TGH. Ibrahim	12:17	15:37	18:08	19:21	05:05	West Lombok		
Difference	0:00:32	0:01:09	0:01:08	0:03:45	-00:00:03	Region		
Description	slow 32 seconds	slow 01:09 Minute	slow 01:08 Minute	slow 03:45 Minute	Fast 03 Seconds			
Contemporary Hisab	12:14:47	15:34:06	18:05:04	19:15:27	05:03:28	East Lombok Region		
Hisab TGH. Ibrahim	12:17	15:37	18:08	19:21	05:05			
Difference 0:02:13		0:02:54	0:02:56	0:05:33	0:01:32			
Description	slow 02:13 Minute	slow 02:54 Minute	slow 02:56 Minute	slow 05:33 Minute	slow 01:32 Minute			
Contemporary Hisab 12:15:49		15:35:06	18:06:01	19:16:25	05:04:36	Central Lombok		
Hisab TGH. Ibrahim	12:17	15:37	18:08	19:21	05:05	Region		
Difference	0:01:11	0:01:54	0:01:59	0:04:35	0:00:24			
Description Slow 01:11 Minute		slow 01:54 Minute	slow 01:59 Minute	slow 04:35 Minute	slow 24 seconds			
Contemporary Hisab	12:16:16	15:35:49	18:07:02	19:17:23	05:04:30	North Lombok		
Hisab TGH. Ibrahim	12:17	15:37	18:08	19:21	05:05	Region		
Difference	0:00:44	0:01:11	0:00:58	0:03:37	0:00:30			

Description	slow 44 seconds	slow 01:11 Minute	slow 58 seconds	slow 03:37 Minute	slow 30 Seconds	
***			22 June 2020			
Year	Zuhur	Asar	Maghrib	Isya	Subuh	
Contemporary Hisab	12:20:39	15:39:35	18:10:10	19:21:13	05:09:23	Mataram and
Hisab TGH. Ibrahim	12:20	15:40	18:10	19:24	05:09	West Lombok
Difference	-00:00:39	0:00:25	-00:00:10	0:02:47	-00:00:23	Region
Description	Fast 39 Seconds	slow 25 seconds	Fast 10 Seconds	slow 02:47 Minute	Fast 23 Seconds	
Contemporary Hisab	12:18:58	15:37:50	18:08:22	19:19:25	05:07:48	East Lombok Region
Hisab TGH. Ibrahim	12:20	15:40	18:10	19:24	05:09	
Difference	0:01:02	0:02:10	0:01:38	0:04:35	0:01:12	
Description	slow 01:02 Minute	slow 02:10 Minutes	slow 01:38 Minute	slow 04:35 Minute	slow 01:12 Minute	
Contemporary Hisab	12:20:01	15:38:50	18:09:18	19:20:22	05:08:56	Central Lombok
Hisab TGH. Ibrahim	12:20	15:40	18:10	19:24	05:09	Region
Difference	-00:00:01	0:01:10	0:00:42	0:03:38	0:00:04	
Description	Fast 01 Seconds	slow 01:10 Minute	42 seconds slow	slow 03:38 Minutes	slow 04 second	
Contemporary Hisab	12:20:27	15:39:35	18:10:22	19:21:23	05:08:48	North Lombok
Hisab TGH. Ibrahim	12:20	15:40	18:10	19:24	05:09	Region
Difference	-00:00:27	0:00:25	-00:00:22	0:02:37	0:00:12	
Description	Fast 27 Seconds	slow 25 seconds	Fast 22 Seconds	slow 02:37 Minute	slow 12 Seconds	
Year		shola ti	ime 22nd Decem	ber 2020		
1 cai	Zuhur	Asar	Maghrib	Isya	Fajr	
			2020			
Contemporary Hisab	12:17:15	15:43:33	18:36:46	19:49:37	04:33:41	
Hisab TGH. Ibrahim	12:16	15:42	18:33	19:48	04:35	Mataram and West Lombok
Difference	-0:01:15	-00:01:33	00:03:46	-00:01:37	0:01:19	Region
Description	Fast 01:15 Minutes	Fast 01:33 Minutes	Fast 03:46 Minutes	Fast 01:37 Minutes	slow 01:19 Minute	
Contemporary Hisab	12:15:34	15:41:51	18:35:13	19:48:05	04:31:51	Wilayah Lombok
Hisab TGH. Ibrahim	12:16	15:42	18:33	19:48	04:35	Timur East Lombok
Difference	0:00:26	0:00:09	00:02:13	-00:00:05	0:03:09	Region
Description	slow 26 seconds	slow 09 seconds	Fast 02:13 Minutes	Fast 05 Seconds	slow 03:09 Minutes	
Contemporary Hisab	12:16:36	15:42:53	18:36:21	19:49:14	04:32:46	Wilayah Lombok
Hisab TGH. Ibrahim	12:16	15:42	18:33	19:48	04:35	Tengah
Difference	-0:00:36	-00:00:53	00:03:21	00:01:14	0:02:14	

Description	Fast 36 Seconds	Fast 53 Seconds	Fast 03:21 Minutes	Fast 01:14 Minutes	slow 02:14 Minute	Central Lombok Region
Contemporary Hisab	12:17:03	15:43:21	18:36:10	19:48:56	04:33:59	Wilayah Lombok
Hisab TGH. Ibrahim	12:16	15:42	18:33	19:48	04:35	Utara
Difference	-0:01:03	00:01:21	00:03:10	-00:00:56	0:01:01	
Description	Fast 01:03 Minutes	Fast 01:21 Minutes	Fast 03:10 Minutes	Fast 56 Seconds	slow 01:01 Minute	

Table 3. Comparison of the Calculation Results of 1 June, 22 June, and 22 December 2020 Contemporary Calculation System with TGH. Ibrahim Al-Khalidy Perpetual Prayer Time Schedule on Lombok Island. For complete results from 2016, 2017, 2018, 2019, and 2020 can be seen in the attachment of this link. Based on the calculation accuracy test carried out 300 times starting from 2016 to 2020 with the coordinates of Mataram, West Lombok, East Lombok, Central Lombok, and West Lombok, there are some differences in the results of the calculation of the beginning of prayer time as shown in the table below:

Table 6. Recapitulation and Percentage of Difference between TGH

Criteria		Color	Zuhur	Asar	Maghrib	Isya	Fajr	Total	Percentage Difference
	Same Calculation Result		0	0	0	0	1	1	0%
Slower	Difference < 1 Minute		19	15	9	3	22	68	23%
	1 Minute < Difference < 2 Minutes		10	20	14	0	20	64	21%
	Difference > 2 Minutes		5	10	8	40	10	73	24%
	Difference < 1 Minute		20	6	9	9	7	51	17%
Faster	1 Minute < Difference < 2 Minute		6	9	2	8	0	25	8%
	Difference > 2 Minutes		0	0	18	0	0	18	6%
		Total	60	60	60	60	60	300	100%

Table 4. Recapitulation and Percentage of Difference between TGH. Ibrahim Al-Khalidy's Perpetual Prayer Time Schedule on Lombok Island and the Contemporary Hisab Calculation System on 1 June, 22 June, and 22 December within 5 years (starting in 2016, 2017, 2018, 2019, and 2020) Juni, 22 Juni dan 22 December within 5 Years (start Year 2016,2017,2018,2019, dan 2020). After recapitulating the difference between TGH Ibrahim al-Khalidy's perpetual prayer schedule and the Contemporary Calculation System, it was found that TGH Ibrahim al-Khalidy's perpetual prayer schedule was less than 1 minute late by 23%, less than 2 minutes late and greater than 1 minute by 21% and more than 2 minutes late by 24%. While faster is less than 1 minute by 17%, faster is less than 2 minutes greater than 1 minute by 8%, and faster than 2 minutes by 6%. The largest difference for the "later" category at Isha prayer time for East Lombok is 5 minutes 39, while the "faster" category at Maghrib prayer time for Mataram and West Lombok is 3 minutes 46 seconds [40]. An overall comparison for each prayer time between TGH. Ibrahim Al-Khalidys timetable of perpetual prayer times being earlier or later can be seen in the table below:

Table 7. Recapitulation and Percentage of Comparison between the Slower or Faster Time of TGH. Ibrahim Al-Khalidy's Perpetual Prayer Schedule and Contemporary Hisab Calculation Results

Description	ription Zuhur		Maghrib	Isya	Subuh	Total
Slower	34	45	31	43	53	206
Percentage	11%	15%	10%	14%	18%	69%
Faster	26	15	29	17	7	94
Percentage	9%	5%	10%	6%	2%	31%

From the table, it can be seen that the percentage between the eternal prayer schedule of TGH. Ibrahim Al-Khalidy is 69% more and 31% faster. This percentage shows that the perpetual prayer schedule of TGH Ibrahim al-Khalidy is greater than the percentage of delay with the prayer schedule of the contemporary system calculation with the location of Mataram, West Lombok, East Lombok, Central Lombok, and North Lombok. The largest percentage of delay occurs for East Lombok and then Central Lombok. The delay is because of TGH. Ibrahim Al-Khalidy's timetable does not use the Regional Time Conversion for East Lombok and Central Lombok. This delay is an astronomical consequence of taking coordinates from the western part of the island of Lombok. Thus, the eastern part which should be traveled by the sun first follows the western part which is slower to be travelled by the sun.

TGH. Ibrahim Al-Khalidy's "late" position on the timetable has resulted in other areas where it can be said that "prayers are by the entry of the Zuhr, Asar, Maghrib, Isha, and Fajr prayer times". However, it becomes a significant problem when praying before the prayer time or earlier than the actual prayer time. Especially during the holy month of Ramadan in waiting for the time to break the fast or maghrib time. Breaking the fast before its time. Thus, the prayer schedule is better late than early.

The "faster" time difference between TGH. Ibrahim Al-Khalidy's perpetual prayer schedule and the contemporary calculation system are greatest at maghrib and dawn prayer times. This time difference is because the perpetual prayer schedule of TGH Ibrahim Al-Khalidy has not used time correction in the form of Refraction, Altitude of Place, and Semi Diameter. This time correction is very influential on the determination of Maghrib, Fajr, and Isha times. So, to perfect this prayer schedule, it needs to be added with time correction to match the condition of the Sun's position as a marker of the entry of prayer time. The perpetual prayer schedule model compiled by TGH. Ibrahim Al-Khalidy by combining the island of Lombok into one region can be justified astronomically, because the difference in latitude between districts and cities on Lombok Island is not greater than  $1^{\circ}$ .

The northernmost boundary of the island of Lombok is at the coordinates  $08^{\circ}13'48.43''$  LS |  $116^{\circ}13'48.43''BT$  while the southernmost boundary of the island of Lombok is at the coordinates 47  $08^{\circ}51'31''$  LS |  $116^{\circ}16'29.07''BT$ . The difference in latitude between the northernmost and southern boundaries is about a 36-minute arc. So, with this small difference in latitude value, the island of Lombok can be categorized as one region.



Figure 3. The Northernmost And Southernmost Boundaries Of Lombok Island On Google Earth

The categorization of the island of Lombok as one region makes the prayer timetable more practical for use by the community. This is the advantage of the timetable compiled by TGH Ibrahim Al-Khalidy. However, in terms of accuracy, the data and calculation algorithms need to be adjusted to the latest developments in algorithms and astronomical data. Thus, the prayer timetable is more in line with the condition of the Sun marking the entry of prayer time and is practically used by the people on the island of Lombok [41].

# Contribution TGH. Ibrahim Al-Khalidy's Perpetual Prayer Schedule to the achievement of the SDGs

The Perpetual Prayer Schedule compiled by TGH. Ibrahim Al-Khalidy not only serves as a technically accurate guide for worship but also has significant spiritual and social contributions in supporting various Sustainable Development Goals (SDGs). Below is a detailed description of the contributions of TGH. Ibrahim Al-Khalidy's Perpetual Prayer Schedule to the achievement of the SDGs:

### SDG 3 – Good Health and Well-being

The accuracy of the prayer schedule compiled by TGH. Ibrahim Al-Khalidy plays an important role in establishing a disciplined and consistent worship routine for Muslims on Lombok Island. This routine not only fulfills religious obligations but also functions as a mechanism for stress management and mental health improvement. Various psychological studies show that regular spiritual practices, such as timely prayer, can reduce levels of anxiety and depression, as well as enhance inner peace and emotional balance. Furthermore, disciplined prayer times encourage a regular lifestyle, including better sleep and rest patterns, which overall support physical health. In the context of the Lombok community, the accurate schedule facilitates congregational worship in mosques or prayer rooms, strengthening social bonds and emotional support among community members, which is also an important factor in social well-being.

# SDG 4 – Quality Education

This prayer schedule not only functions as a worship guide but also as a medium for preserving and developing traditional knowledge of astronomy (Falak) and Islamic jurisprudence (fiqh) that has been passed down through generations. By integrating traditional calculation methods with modern astronomy, this schedule exemplifies how science and culture can synergize. This opens opportunities for richer and more contextual religious education, where the younger generation not only learns worship rituals but also understands the scientific and philosophical foundations behind them. Educational and training programs adopting this schedule can improve learning quality, strengthen cultural

identity, and foster pride in local intellectual heritage. Additionally, dissemination through digital media and schedule-based applications can expand access to quality and inclusive religious education.

# SDG 11 – Sustainable Cities and Communities

The accuracy and uniformity of prayer times facilitated by this schedule strengthen social cohesion and cultural identity among the people of Lombok. Organized and uniform worship practices create a strong sense of unity and solidarity, which are fundamental foundations for sustainable and harmonious communities. Moreover, this schedule supports the management of public spaces and worship facilities, such as mosques and prayer rooms, which serve as centers for social and cultural activities. With an accurate schedule, religious activities can be better planned, increasing community participation and strengthening social networks. This contributes to building inclusive, safe, and resilient communities, in line with the principles of SDG 11.

### SDG 16 – Peace, Justice, and Strong Institutions

The spiritual values contained in the prayer schedule reinforce ethical and moral norms that underpin peace and social justice. The punctuality of prayer reflects individual discipline and responsibility, contributing to social order and strengthening religious institutions. Additionally, this schedule supports the creation of harmony among citizens by promoting values of tolerance and mutual respect in worship practices. The collaborative process in compiling and updating the schedule, involving various parties, also reflects principles of transparency and participation, which are important elements in building strong and accountable institutions.

# SDG 17 – Partnerships for the Goals

The compilation and updating of this Perpetual Prayer Schedule are the results of close partnerships among traditional astronomy experts, modern astronomers, religious leaders, and local communities. This synergy demonstrates how cross-disciplinary and cross-sector collaboration can produce innovative and sustainable solutions. These partnerships not only strengthen the technical validity of the schedule but also ensure that cultural and spiritual values are preserved. This collaborative model can serve as an example for the development of other sustainable development programs, where tradition and innovation go hand in hand to achieve common goals.

From these contributions, it is evident that TGH. Ibrahim Al-Khalidy's Perpetual Prayer Schedule plays a multifaceted role that goes beyond its technical function as a timekeeper for worship. The schedule is an important instrument in strengthening mental and social health, improving the quality of religious education, building sustainable communities, reinforcing peace and social justice, and facilitating strategic partnerships for sustainable development. Therefore, maintaining and developing this schedule with a scientific and collaborative approach is crucial to holistically support the achievement of the SDGs on Lombok Island, while also preserving its rich cultural and spiritual heritage.

#### **CONCLUSION**

TGH Ibrahim al-Khalidy is not only known as a fiqh expert but also as a phalaxist. He learnt astrology from Kiyai Jawi who came from Bogor and taught at the Grand Mosque. The book he studied was Taqribul Maqshad fi amali bi Rubbi al-Mujayyab written by Sheikh Muhammad Mukhtar bin 'Atharid al-Bughuri. The Timetable of Prayer Times for the whole island of Lombok is compiled based on the calculations contained in the book Taqribul Maqshad fi amali bi Rubbi al-Mujayyab. The calculation tool used is Rubu' Mujayyab. This prayer schedule is the result of collaboration between TGH. Ibrahim al-Khalidy and his students in making calculations. This prayer schedule was compiled in 1993 at the initiative of TGH. Ibrahim al-Khalidy's students. In the preparation process, TGH. Ibrahim al-Khalidy acted as a pentashih. Some of the students involved in

formulating this prayer schedule include TGH. Agussalim Idris, the late Ustadz. Rahmatullah, TGH. Busyairi, and other students. TGH. Ibrahim Al-Khalidy's Perpetual Prayer Times Calculation Markaz takes the West Lombok Region and the calculation format used in the Schedule covers the entire island of Lombok without distinguishing between East Lombok, Central Lombok, West Lombok, or North Lombok. Therefore, no regional time correction is applied in this prayer schedule for other locations on Lombok Island. According to TGH Ibrahim al-Khalidy, the omission of this regional time correction is because the distance between Ampenan and North Lombok is still within one marhalah. One marhalah is estimated to be about 82 kilometers, and this distance is the minimum limit for a person to be allowed to gasar his prayer. Therefore, there is no difference between the prayer times for East Lombok, West Lombok, Central Lombok, or North Lombok. So, this schedule can be used for the whole island of Lombok. The Accuracy Test of TGH Ibrahim Al-Khalidy's Perpetual Prayer Time Schedule Calculation with the Contemporary Calculation System was conducted 300 times for the Zuhr, Asar, Maghrib, Isha, and Fajr Prayer Times. The accuracy test was conducted by calculating the prayer times in Mataram, West Lombok, Central Lombok, and East Lombok on 1 June, 22 June, and 22 December from 2016 to 2020. Thus, each region will have its prayer times calculated for five years on the specified dates. The purpose of this test is to determine the difference in prayer times each year as well as the difference in prayer times between different regions within the five years. The Accuracy Test was conducted with the difference system "faster or slower" between the Perpetual Prayer Time Schedule of TGH. Ibrahim Al-Khalidy and the Contemporary Calculation System. After conducting the Accuracy Test between TGH Ibrahim al-Khalidy's Perpetual Prayer Time Schedule and the Contemporary Calculation System, it was found that the largest difference for the "slower" category at Isha prayer time for the East Lombok area was 5 minutes 39, while the "Faster" category at Maghrib prayer time for the Mataram and West Lombok regions was 3 minutes 46 seconds. The percentage difference is calculated as follows: slower by less than 1 minute by 23%, slower by less than 2 minutes greater than 1 minute by 21%, and late by more than 2 minutes by 24%. While faster less than 1 minute is 17%, faster less than 2 minutes and greater than 1 minute is 8% and faster than 2 minutes is 6%. Overall, the percentage of TGH. Ibrahim Al-Khalidy's perpetual prayer schedule is 69% more and 31% less. Astronomical data and calculation algorithms used in the preparation of the Perpetual Prayer schedule of TGH. Ibrahim Al-Khalidy needs to be updated to be more in line with the condition of the position of the Sun as a marker of the entry of Prayer Time. The advantage of the TGH Ibrahim Al-Khalidy Perpetual Prayer schedule preparation model is the practicality of the model for preparing the Prayer Time Schedule for the island of Lombok. The preparation of a prayer schedule for the island of Lombok can be applied because the difference in latitude between districts and cities on the island of Lombok is not greater than 1°. The northernmost boundary of the island of Lombok is at the coordinates 48 08°13'48.43" N-S 116°13'48.43"E while the southernmost boundary of the island of Lombok is at the coordinates 49 08°51'31" N-S | 116°16'29.07"East. The latitude difference between the northernmost and southern boundaries is about 36 minutes of arc. So, with this small difference in latitude values, the island of Lombok can be categorized as one region and can use the regional time conversion system. In addition, the shortcomings of this timetable calculation algorithm are as follows: Firstly, Astronomical Data Calculations need to be adjusted with Ephemeris Data. Second, time correction in the form of Refraction, Altitude of Place, and Semi Diameter of the Sun when calculating Maghrib, Isha, and Fajr prayer times. Third, the omission of regional time correction for other regions on Lombok Island. Beyond its technical aspects, The schedule is an important instrument in strengthening mental and social health, improving the quality of religious education, building sustainable communities, reinforcing peace and social justice, and facilitating strategic partnerships for sustainable development. Therefore, maintaining and developing this schedule with a scientific and collaborative approach is crucial to holistically support the achievement of the SDGs on Lombok Island, while also preserving its rich cultural and spiritual heritage. This schedule holds significant spiritual and cultural value, contributing to the achievement of several Sustainable Development Goals (SDGs: SDG 3, SDG 4, SDG 11, SDG 16, SDG 17).

# Acknowledgments

The author expresses sincere gratitude to the team of TGH. Ibrahim Al-Khalidy for their invaluable assistance and access to primary data. Appreciation is also extended to the local community of Lombok for their warm support and insights. Special thanks to colleagues and mentors who provided encouragement, critical feedback, and guidance throughout the research process.

#### **Author Contribution**

The author solely conceptualized the study, conducted field interviews, performed data analysis, and prepared the manuscript. All aspects of the research, including the design, methodology, and interpretation of results, were carried out independently to ensure integrity and coherence in the presentation of findings.

#### **Conflicts of Interest**

The author declares no conflicts of interest related to the subject matter or materials discussed in this study. All data were collected and analyzed with academic neutrality and objectivity. No financial or personal relationships influenced the outcomes or interpretations presented in the research.

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