

QIBLA DIRECTION CALIBRATION ANALYSIS AT JAMI' JAMBUGEULIS MOSQUE: EFFORTS TO ENSURE QIBLA ACCURACY IN WORSHIP

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Abstract– *This research discusses the importance of qibla direction calibration in the context of Islamic worship practices in Indonesia. MUI Fatwa Decree Number 5 of 2010 provides the legal basis for changing and correcting the Qibla direction in accordance with established rules. The Indonesian government, through the Ministry of Religion, has attempted to facilitate the Qibla direction certification process for mosques that have been measured by the Ministry of Religion's Hisab Rukyat Agency. The research results showed that the Jami' Jambugeulis Mosque, after going through the calibration process, experienced a deviation in the Qibla direction of 3 degrees from the direction previously used. However, Qibla direction certification was only carried out at one mosque in Jambugeulis Village due to limited time and distance that had to be traveled to check all places of worship in the village. The conclusion of this study is the importance of awareness and adherence to the correct Qibla direction in worship practices. It is hoped that in the future, all places of worship in Jambugeulis Village will be able to obtain legality in the form of a Qibla direction calibration certificate to ensure that worship is carried out in accordance with Islamic religious guidelines.*

Keywords: *Qibla Direction, Accuracy, Mizwala Qibla Finder*

1. INTRODUCTION

Significant changes in determining the Qibla direction for mosques in Indonesia since the issuance of the MUI Fatwa Number 5 of 2010 concerning Qibla Direction have created various challenges and questions among the Muslim community. The fatwa replaces and provides further explanation regarding the MUI Fatwa number 3 of 2010. This fatwa was issued with the consideration of providing clear guidelines to the Indonesian Muslim community who are far from the Kaaba in Mecca regarding the Qibla direction.

Even though dictum 2 in the fatwa has been issued, the interpretation and understanding of its contents still raises doubts and debate, especially regarding its influence on the validity of the five daily prayers facing the northwest. Fatwa 2 stipulates three provisions for the direction of the Qibla, namely facing the Kaaba building (*ain al-ka'bah*) for those who can see it, facing the direction of the Kaaba (*jihat al-ka'bah*) for those who cannot see it, and facing west sea with variations according to their respective geographical locations as the Qibla direction of Indonesian Muslims.

As a response to dictum 2, the Indonesian Ministry of Religion (Kemenag) has given instructions to its regional offices to socialize this fatwa and carry out Qibla direction certification in mosques. One of the concrete efforts was made through the Qibla Direction Movement for 1000 Mosques (GAKM) which was launched by the Regional Office of the Ministry of Religion of the DI Yogyakarta Province in 2011. This program aims to provide socialization regarding the Qibla direction and issue certificates for mosques, prayer rooms, or prayer places in DIY by saff lines facing the Qiblah according to standard standards (Muthmainnah *et al.*, 2019).

However, in several places, initiatives to make Qibla direction accurate are still met with resistance from several parties. For example, at the Baiturrahman Grand Mosque Simpang Lima Semarang, the Qibla direction measurement by the Central Java Province Qibla Direction Certification Team in 2010 revealed that the Qibla direction was deviated by 2° 0'33" to the North. However, the administrators of the mosque did not change the Qibla direction. The main cause of this rejection is often related to traditions, beliefs, or different understandings regarding the direction of the Qibla. The main cause of this problem is because some people have fixed views and do not want to accept changes to the traditional perspective regarding Qibla direction. Some people believe that in Islam, there is no need to make things difficult and burden yourself, so it is enough to face the general direction known as the Qibla direction when performing prayers with the intention of *mustaqbilal qiblati*. Meanwhile, there are also those who follow the mythical or historical view of the mosque in question when it was founded (Rohmah, 2014).

In this context, the Chairman of the Nahdlatul Ulama Executive Board Bahtsul Masail Institute, Zulfa Mustofa, gave his views. He stressed the importance of avoiding conflict and upholding mutual respect in responding to differences of opinion. Apart from that, Zulfa Mustofa also appealed that there should be no

attempt to shift the physical position of the mosque. According to him, in facing changes to the Fatwa by the MUI, it is important for Muslims to remain calm and not feel anxious. He explained that in the scientific world of Islam, there are often changes in views or fatwas from scholars, and this is a natural thing. Zulfa Mustofa also highlighted the importance of giving freedom to Muslims to follow views that are considered more beneficial according to the context and circumstances of each individual (Nashrullah, 2010).

Abdul Aziz Dahlan stated that one of the prerequisites for the validity of performing prayers is facing the direction of the Qibla, which in this context refers to the direction of the Kaaba in Mecca, Saudi Arabia. Early Islamic history records that after moving to Medina, the Prophet Muhammad saw. initially set Jerusalem as the direction of the Qibla, but later this direction was shifted back to Mecca. This view is strengthened by the explanation from Khafid, who states that the Qibla is the closest direction to the Kaaba through the great circle during prayer. The Kaaba, or Baitullah, is a sacred structure which is the center of worship for Muslims and is located in the city of Mecca. This emphasizes the importance of determining the direction of the Qibla in carrying out prayers (Nur & Huzaimah, 2020).

In Indonesia, the majority of Muslims follow the Imam Syafi'i school of thought. According to the Shafi'i school of thought, if there is a deviation or deviation from the standard Qibla direction, the prayer is still considered valid. However, the validity of the prayer will be more convincing if Muslims have performed *ijtihad*, which is an effort to determine the accuracy of the Qibla direction more precisely before praying (Malik, 2018).

In an effort to achieve the priority of prayer, there is a drive to ensure that the direction we choose is appropriate and as accurately as possible facing the Baitullah. After finding a direction that has been tested and confirmed through scientific knowledge, it is our responsibility to use that direction in the performance of prayer, unless there is a more accurate discovery at a later date. Over time, various methods and tools have been developed to determine the direction of the Qibla, and they are all related to each other. This development process was triggered by a commitment to respect the command to face the Qibla (*Kaaba*) during prayer. One example of an astronomical instrument currently being developed in Indonesia is the Mizwala Qibla Finder, which is the result of the creativity and construction of Hendro Setyanto,

In this context, a relatively new mosque, namely the Jami' Jambugeulis Mosque, which is not even one year old, is the focus of our initiative. We see the need for accurate Qibla direction in accordance with the provisions of the official fatwa and certification. To carry out this, we invited several parties, including the Head of the Cigandamekar Religious Affairs Office, representatives from the Regional Hisab and Rukyat Agency (BHRD) of the Kuningan Ministry of Religion, as the party who measured the Qibla direction of the Jami' Jambugeulis Mosque, the Chairperson of the Jami' Jambugeulis Mosque Takmir, and village officials. Jambugeulis. Our goal is

to make the Qibla direction accurate and at the same time obtain official certification from the Ministry of Religion for this mosque.

Through this effort, we hope to avoid conflict and uncertainty among the people regarding the direction of the Qibla. In addition, we want to ensure that people who pray at the Jami' Jambugeulis Mosque can carry out their worship with full confidence that the Qibla direction has been determined correctly, in accordance with existing guidelines. We also hope that this initiative can be an example of how a broader and more inclusive understanding of the direction of the Qibla can be accepted and respected by all parties, in line with the spirit of tolerance and mutual respect in Islam.

2. METHOD

In this chapter, we will discuss further the research methodology used in this study. This methodology includes details about how the research was conducted, the approach used, data collection methods, and the stages undertaken in the research process.

This research is included in the field research category, which means the data is taken directly from the research object and involves active participation in the field to investigate the object (Alfaruqi, 2015). The main focus of this research is the Jami' Jambugeulis Mosque, especially in the context of the accuracy of its Qibla direction.

In this research, we used three main methods for data collection, namely observation, interviews and documentation (Shalihah, 2021).

Observation is the method we use to directly observe the situation at the Jami' Jambugeulis Mosque. We made observations to collect data about the implementation of worship, including how the congregation of the mosque faces the Qibla during prayers. This observation provides an initial understanding of worship practices related to Qibla direction.

Interviews are an important method that we use to gain insight from individuals who are experienced in Qibla direction matters. We invited religious leaders, mosque imams, and members of the Jami' Jambugeulis Mosque Prosperity Council (DKM) to be interviewed. These interviews helped us understand their viewpoints on the accuracy of Qibla direction and the challenges faced in maintaining the correct Qibla.

The documentation method is used to collect historical data related to the mosque and previous measurements of the Qibla direction, if any. We checked mosque records, official documents from the Regional Hisab Rukyat Agency (BHRD) of the Ministry of Religion (Kemenag) of Kuningan Regency, as well as other relevant sources.

In this research, we apply three important approaches:

1. Sharia Approach

This approach is based on a review of Islamic shari'ah principles, such as the Al-Qur'an and hadith which are relevant to the problem of Qibla direction accuracy.

This approach helps to understand the legal framework governing Qibla direction in the Islamic context.

2. Sociological Approach

The sociological approach involves interaction with the local community at the research location. The aim is to gain insight and information about the research location, as well as to conduct interviews with individuals who are experienced in Qibla direction issues. This approach helps us understand the community's view of the Qibla direction.

3. Astronomical Approach

The astronomical approach is used to carry out analysis and evaluation related to the method of measuring the position of the Qibla direction at the research location. This involves applying astronomical principles in assessing the accuracy of the Qibla direction. This approach helps us understand scientifically about Qibla direction.

This research applies a qualitative descriptive research type, which combines data collection, analysis, and presentation of information simultaneously (Rauf & Supardin, 2020). This approach is used to describe and analyze the accuracy of the Qibla azimuth position at the Jami' Jambugeulis Mosque, located in Jambugeulis Village, Cigandamekar District, Kuningan Regency. This descriptive analysis aims to provide a comprehensive picture of the Qibla direction situation at the research location.

By using the methods and approaches described above, this research aims to understand the accuracy of the Qibla direction at the Jami' Jambugeulis Mosque and the factors that influence it. Furthermore, the research results will be presented and analyzed in the following chapters.

3. RESULTS AND DISCUSSION

A. THE OPINION OF MOSLEM SCHOLARS REGARDING THE QIBLA DIRECTION

Scholars from various schools of thought have reached an agreement that facing the Qibla direction is one of the important requirements for the validity of prayer. There are two situations which are exceptions to this rule: first, when prayers are performed in a situation of ongoing war (*syiddah al-khauf*), and second, when performing sunnah prayers while traveling (*safar*) (Mujab, 2016). The following are the differences of opinion of scholars regarding the Kaaba as the direction of the Qibla:

1) Mazhab Hanafi

If a person is able to face the Qibla, then he must pray facing the Qibla. When that person is among those who can see the building of the Kaaba, then the Qibla is the physical direction of the Kaaba itself, from whichever direction he sees it. So the consequence is that if he deviates from the physical building of the Kaaba without facing one part of the building, then his prayer is not legally valid. As long as there is still the ability to face the Kaaba building, he is obliged to do so. The majority of Hanafi madzhab scholars are of the opinion that the direction of

prayer for people who cannot see the Kaaba building is the direction of the Kaaba, not the building (Mujab, 2016).

2) Mazhab Maliki

A person who can look directly at the Kaaba is obligated to face the Kaaba. Most scholars of the Maliki madhhab state that individuals who cannot see the Kaaba must face the direction of the Kaaba itself (*jihat al-Kaaba*) as the qibla in their prayers. However, among them, there are also those who believe that they should face the physical building of the Kaaba itself (*ain al-Kaaba*).

3) Mazhab Syafi'i

Imam Syafi'i was stricter in giving legal decisions. Facing the Qibla must be facing 'ain al-Kakbah (the physical building of the Kaaba) both for people who are close to the Kaaba and for people who are far from the Kaaba. For people who are far from the Kaaba, it is mandatory to make ijthad to know the Kaaba so that it appears as if they are facing 'ain al-Kakbah (the physical building of the Kaaba), even though they are essentially facing the *jihat al-Kakbah* (Angkat, 2016).

Imam Syafi'i, in the book *Al-Umm*, explains that individuals who will perform prayers should make serious efforts to find the direction of the Qibla. They can use clues from the stars, the Sun, the Moon, mountains, wind direction, or various other methods that can be used to determine the direction of the Qibla. The implication of this view is that if one is in the Masjid al-Haram, they must face the Kaaba directly when praying. People who are inside the city of Mecca must face the Masjid al-Haram, while someone who is outside the city of Mecca must face the direction of the city of Mecca. In the context of astronomical calculations, if someone is outside the city of Mecca, such as in Indonesia, their Qibla direction is towards the city of Mecca (Adieb, 2019).

4) Mazhab Hambali

Imam Hambali believes that the direction of the Qibla is the direction where the Kaaba is located, not necessarily facing the Kaaba itself. So the Qibla could include the Grand Mosque and even Mecca. Meanwhile, the Qiblah for people who are far away is the direction where the Kaaba is located, not the Kaaba itself. Meanwhile, Hanbali madzhab scholars believe that what is obligatory is to face the direction of the Kaaba (*jihat al-Kaaba*).

Please remember that, although there are variations in views on how to measure the direction of the Qibla between madhhabs, the overall aim is to ensure that Muslims can perform their prayers correctly and face the direction determined by Allah, namely the Kaaba in Mecca. Therefore, in practice, Muslims tend to follow views that suit their religious beliefs or use the most precise calculation methods available to determine the direction of the Qibla.

B. OBLIGATION TO FACE THE QIBLA WHEN PRAYING

Determining the Qibla direction (the direction of the Kaaba in Mecca) in worship is one of the crucial aspects of Islam. The success of maintaining the

accuracy of the Qibla direction has a significant impact on the validity of prayer and other practices. Allah SWT strictly outlines the obligation to face the Qibla in the Al-Quran in several verses, including verses 144, 149 and 150 of surah Al-Baqarah.

In interpreting and implementing the obligation to face the Qibla, fiqh scholars have taken a variety of approaches depending on the particular context and situation. Firstly, it is stated that facing the Qibla is obligatory, and this applies not only in *fardhu* (obligatory) prayers but also in *sunnah* (voluntary) prayers and in the process of burial. Second, facing the Qibla is considered a *sunnah* (sunnah) in certain contexts, such as when reading the Koran, praying, sleeping in certain positions, and other religious activities. Third, there are situations where facing the Qiblah is considered *haram* (forbidden), such as when a person defecates or urinates on open ground without any physical obstructions. Fourth, there are situations where facing the Qibla is considered *makruh* (recommended to be avoided),

Awareness of the importance of facing the Qibla and a deep understanding of the laws associated with it are an integral part of the daily practice of Muslim worship. Carefulness in keeping the Qibla direction is a manifestation of a Muslim's obedience to Allah SWT's commands in carrying out worship. Therefore, proper understanding and correct practice regarding the obligation to face the Qibla is an integral part of the religious life of Muslims (Karim, 2020).

C. MEASUREMENT OF QIBLA DIRECTION AT THE JAMI' JAMBUGEULIS MOSQUE

This research focuses on exploring the science of arithmetic related to determining the accuracy of the Qibla direction. In this context, there are a variety of methods used by researchers, from simple tools to satellite-based digital solutions. Several studies have even combined these methods to achieve an optimal level of accuracy (Hosan & Ghafiruddin, 2018). To measure the direction of the Qibla at the Jami' Jambugeulis Mosque, the researcher as a facilitator invited a representative from the Regional Hisab and Rukyat Agency (BHRD) of the Ministry of Religion (Kemenag) of Kuningan Regency, namely Ahmad Sapei, who was responsible for carrying out the accuracy of the Qibla direction in the mosque (Rahma, 2023).

In the process of measuring the Qibla direction, the Kuningan Regency Ministry of Religion BHRD Team used the Mizwala Qibla Finder (MQF) as a tool to measure the Qibla direction of the Jami' Jambugeulis Mosque. Mizwala Qibla Finder (MQF) is the result of adaptation and modification by Hendro Setyanto, an astronomer from the Imah Noong Observatory Bandung (West Java). MQF is a modified instrument from the sundial to the istiwak stick which is used specifically to determine the Qibla direction. This tool has a dial area to accommodate sunlight produced by gnomons or sticks. In its working system, the MQF uses the Theodolit concept, in other words this tool is a miniature or transformation of a Theodolit as a tool for determining the Qibla direction with high accuracy. The difference with a Theodolite is, if the Theodolite uses the position of the sun, namely by aiming at the

sun directly using the lens, while the MQF uses the gnomon's shadow formed from the sun's rays to find out the opposite of the sun's position. By knowing the position of the sun, the true north-south direction can be known which can then be used to determine the Qibla position. Therefore, MQF can be said to be a combination of classical and modern astronomical instruments with high accuracy. Thus, this tool can be used as a medium for learning astronomy, especially in determining the Qibla direction precisely. Apart from that, MQF is also a tool that is relatively practical and accurate and easy to apply. Therefore, because of the practicality of this tool,

To calculate the accuracy of the Qibla direction at the Jami' Jambugeulis Mosque as follows: On August 15 2023, the Qibla direction accuracy was carried out using the Mizwala Qibla Finder, where it is known that the location of the mosque has east longitude -6,893 degrees, south latitude 108,556 degrees, azimuth Qibla is 294.54 degrees, the azimuth of the sun's shadow (mizwah) when measured is 117 degrees, then:

- 1) Pay attention to the shadow formed by the gnomon, place the thread on the shadow.
- 2) Rotate the dial up to 117 degrees.
- 3) Move the thread on a scale of 294.54 degrees, which is the Qibla azimuth number.
- 4) Mark the direction with thread or duct tape as the Qibla direction.

The measurement results show a difference of 3 degrees from the previously determined Qibla direction. Despite this difference, the figure is still within a reasonable range and does not exceed 5 degrees, which is considered acceptable. Possible causes of this difference include the magnetic influence and the stability of the plane during previous Qibla direction measurements (Dina, 2023).



Figure 1. Mizwala Qibla Finder. Source: Personal documents



Figure 2. Measuring Qibla direction. Source: Personal document



Figure 3. Make a straight line in the direction of the Qibla as a result of the measurement. Source: personal documents

After completing the process of qibla direction accuracy at the Jami' Jambugeulis Mosque, in accordance with MUI Fatwa Number 05 of 2010, the Regional Hisab Rukyat Agency (BHRD) of the Ministry of Religion (Kemenag) Kuningan Regency is committed to issuing an official certificate which will be given to the Mosque Prosperity Council (DKM) Jami' Jambugeulis Mosque. This certificate will be official proof from the government, especially the Ministry of Religion's BHRD, that the Qibla direction calibration has been carried out correctly and in accordance with the provisions. This is an important step in maintaining the accuracy of the Qibla direction required by Muslims when carrying out prayers at this mosque.



Figure 4. Submission of Qibla direction calibration certificate. Source: personal documents

D. RESPONSE OF COMMUNITY ELEMENTS TO THE IMPLEMENTATION OF ACCURACY OF KIBLAT DIRECTION OF JAMI' JAMBUGEULIS MOSQUE

In this chapter, we will explore the responses of the Jami' Jambugeulis Mosque Prosperity Council (DKM) to the Qibla direction calibration work program that has been carried out. We conducted an interview with Mr. Muskari, a member of DKM Jami' Jambugeulis Mosque, to understand their perspective on this initiative.

According to Mr Muskari, the Jami' Jambugeulis Mosque DKM responded positively to the Qibla direction calibration program. They consider that this program brings great benefits, especially in establishing the Qibla direction which was previously measured and now updated and certified. DKM Jami' Jambugeulis Mosque feels that the presence of this Qibla direction calibration program helps ensure that mosque congregations can perform their prayers with full confidence regarding the correct Qibla direction.

Apart from that, we also explored the views of Mr. Engkos Sukma Sungkawa, Head of Jambugeulis Village, regarding this Qibla direction calibration program. According to him, this program is very good and provides great benefits for the local community. The relatively precise results of measuring the direction of the Qibla eliminate the doubts of the congregation in performing the prayer. This is considered a positive step in maintaining the quality of worship at the mosque.

Representative of the Regional Hisab Rukyat Agency (BHRD) of the Ministry of Religion of Kuningan Regency, Ahmad Sapei, also expressed his appreciation for the steps taken by UIN Sunan Kalijaga Yogyakarta KKN. He revealed his experience of finding a case in a mosque in West Java which had a significant difference in the accuracy of the Qibla direction. Previously, the mosque was facing straight following the shape of the mosque's construction, but after measurements were taken, the Qibla direction turned out to be slanted, as if facing the right corner of the mosque. This shows the importance of periodically calibrating the Qibla direction to ensure the accuracy of the Qibla direction during worship.

The chairman of the Takmir Jami' Jambugeulis Mosque, Adang Sunandar, also welcomed the Qibla direction calibration work program. According to him, this program provides new knowledge regarding the accuracy of Qibla direction, and they are very enthusiastic in receiving the results of this program. Jami' Jambugeulis Mosque is committed to remaining open to the results of this calibration and will take necessary actions based on the findings provided.

Overall, the response from elements of society towards the implementation of Qibla direction accuracy at the Jami' Jambugeulis Mosque was very positive. This program is not only seen as a step to improve the quality of worship, but also as an effort to maintain the integrity of worship in carrying out Islamic religious teachings accurately. Furthermore, the results of this program will become a guide in maintaining and improving the quality of the Qibla direction in this mosque and possibly other mosques in the region.

4. CONCLUSION

In order to answer doubts and concerns in the field of Qibla direction accuracy in mosques, especially those that have become a topic of discussion among astronomers, concrete steps have been taken. The important decision from the MUI in the form of fatwa number 5 of 2010 provides much needed direction to the Indonesian Muslim community. Suggestions to change and improve the Qibla direction in accordance with the provisions have become guidelines that are followed by many mosques throughout the country. Furthermore, the government through the Ministry of Religion has also facilitated this step by enabling mosques that have gone through an accurate Qibla direction calibration process by the Ministry of Religion's Regional Hisab Rukyat Agency to obtain official legality.

Qibla direction calibration results at the Jami' Jambugeulis Mosque, located in Jambugeulis Village, Cigandamekar District, Kuningan Regency, reveal a 3° deviation from the previous direction. This certification, although it has only been applied to one mosque in the village, is expected to be the first step towards wider legality for all places of worship in Jambugeulis Village. Although time and distance constraints limit comprehensive measurements of all places of worship, the hope is that the results of this initiative will serve as inspiration for local communities and other areas to improve the quality of Qibla direction in their mosques and prayer rooms. Thus, we can ensure that prayer services are carried out with full confidence and accuracy in accordance with Islamic teachings. As time goes by, it is hoped that more mosques will receive similar certification, making this practice the norm throughout the Muslim community of Jambugeulis Village and perhaps even throughout Indonesia, so that the quality of accuracy of the direction of the Qibla is always maintained.

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