



The Pintu Seribu Mosque Seen from Historical and Scientific Elements of the Concept of Lighting and Temperature

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Abstract: This research aims to evaluate the aspects of lighting and room temperature in the Thousand Gate Mosque, Banten, with a focus on its historical and scientific value. Using a descriptive method, room temperature and natural lighting, which affect the comfort of mosque users, were measured and monitored. The results revealed that the lighting and room temperature in the mosque do not meet the comfort standards set in Indonesia. As a solution, additional lighting such as lamps, air conditioning, or fans are needed to optimize the room temperature. Furthermore, through interviews and observations, it was found that the Thousand Gate Mosque holds historical significance, still recognized by the local community as a place of worship and a historical symbol due to its architecture. In conclusion, improving the evaluation of lighting and room temperature is necessary to enhance the comfort for mosque users. Additionally, promoting the mosque as a historical and educational destination is crucial to appreciate and utilize its historical value to the fullest. Thus, these efforts can preserve the authenticity of the mosque and provide greater benefits to the community and visitors.

Keywords: Lighting; Pintu Seribu Mosque; Temperature.

Introduction

Indonesia is a country where the majority of the population adheres to Islam. Muslims in Indonesia were born out of nowhere but went through a long historical process (Setyaningsih et al., 2016). Before Islam entered Indonesia, there were already Hindu-Buddhist religions that entered the country through micro and macro trade relations. This resulted in the formation of large Hindu-Buddhist kingdoms that dominated the Archipelago even further. Later, Islam entered Indonesia from several countries. The entry of Islam into Indonesia was closely related to trade relations because Indonesia was an important and strategic trading area at that time (Marwoto, 2016). According to Azyumardi Azra, the entry of Islam into Indonesia is complex, meaning it comes from various places and groups and does not occur simultaneously (Nasution, 2020). As a result, several theories emerged that explained the arrival of Islam in Indonesia, such as the Gujarat theory put forward by Snouck Hurgronje, which stated that Islam

entered Indonesia in the 13th century, reinforced by evidence of the existence of the tomb of Sultan Malik As-Saleh. in 1297. Furthermore, the Persian theory put forward by Hoesein Djadjaningrat stated that Islam entered Indonesia around the 13th century, as evidenced by the cultural similarities between Indonesia and Persia, such as the Tabuik ceremony in Sumatra.

Finally, the Mecca theory put forward by Buya HAMKA stated that Islam entered Indonesia in the 7th century, supported by the presence of Arab settlements in Barus, Islam initially entered Indonesia in a peaceful and non-provocative way so that it received a good reception from the public. The spread of Islam in Indonesia generally does not have a specific goal or mission, unlike Protestant and Catholic missionaries. The method used to spread Islam was through trade relations with the Indonesian people at that time and was disseminated by special trustees from India and Arabia to invite people to convert to Islam. In the beginning, Islam developed and was well received today because it was not confrontational with the culture of the society that had long been formed. According to

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Husda, the presence of Islam in Indonesia is not only a religious belief but also a way to strengthen society to fight things that are inconsistent with life. For example, when Indonesia was colonized by Western powers, the Muslim community was willing to sacrifice themselves for the country (Husda, 2017). The largest Islamic mass organizations in Indonesia, such as Muhammadiyah and Nahdlatul Ulama, which were formed before independence, helped and fought for independence from colonialism.

The development of Islam in Indonesia is marked by the presence of various mosques that are in line with local culture. One of the most famous mosques in Indonesian history is the Great Mosque of Demak which has strong historical value because of its important role in the development of Islam in Java. The function of the mosque is not only as a place of worship for Muslims but also as a community center that can be used for the benefit of society, such as trade, consultation, and others (Elkhateeb & Eldakdoky, 2021). Even since the migration of the Prophet Muhammad from Mecca to Medina, the first thing he tried was to build a mosque. According to Muhib, the mosque is a pillar and foundation for the transformation of society as part of the agents of change. The Prophet Muhammad SAW, while in Medina, founded the Nabawi Mosque and always taught high social attitudes such as egalitarianism, discipline, and togetherness despite differences (Alwi, 2015). Thus, the existence of a mosque strengthens the mentality of the community to build friendship and brotherhood with an outlook on the world and the hereafter.

The Pintu Seribu Mosque, located in Kampung Bayur, Tangerang City, has a unique architecture compared to other mosques. This mosque has so many doors that it cannot be determined how many doors are in the mosque. The popularity of the Pintu Seribu Mosque is indeed not as well known as the Great Mosque of Demak and other mosques, which have a long history of spreading Islam in their respective regions. This mosque is still young, founded in 1978. This mosque is always crowded with tourists from around the mosque area and from outside the island, some even from abroad, because they are curious about the Pintu Seribu Mosque.

Based on the explanation of the Thousand door mosque, it is very important to examine the historical value and scientific value contained in the building from the point of view of the lighting and room temperature of the mosque (Abdullah et al., 2016). Aspects of room temperature and mosque lighting will affect the comfort of the congregation and will affect the specificity of worship. From a scientific point of view, humans are said to be comfortable from the point of view of temperature and lighting when they cannot say whether

they want a change in temperature that is hotter or cooler and does not say that it is brighter or darker in a room according to the specified standard (Almasri et al., 2023; Yüksel et al., 2022). From some of the explanations above, it is hoped that planning and design must pay attention to every aspect because each of these aspects is a unified whole so that it can provide space and human comfort. Therefore this study aims to identify the building of the Thousand door mosque from historical and scientific aspects in the concept of lighting and room temperature.

Method

The research, scheduled for 2022, involves a descriptive exploratory approach, primarily focusing on assessing the historical significance of the mosque structure while also measuring the lighting conditions and room temperatures within multiple mosque chambers. The historical analysis aims to safeguard the cultural and historical essence within the mosque, promote the Thousand Gate Mosque as an educational attraction, and preserve its historical legacy throughout its premises. Furthermore, the examination of lighting and room temperatures intends to evaluate and monitor their impact on the comfort of mosque attendees. This examination takes place during two sessions, both in the morning and afternoon.

This research holds particular significance due to Indonesia's predominantly Muslim population and its intricate historical development. Islam's introduction into Indonesia was significantly shaped by trade relations, playing a pivotal role in molding the nation's historical and cultural identity. The peaceful introduction of Islam through these trade interactions represents a distinctive historical facet, setting it apart from confrontational missionary endeavors found elsewhere in the world. This process not only established Islam as a religious faith but also as a unifying element during Indonesia's struggle for independence, particularly against colonialism.

The research primarily centers on the Pintu Seribu Mosque, situated in Tangerang City, distinguished by its unique architecture that draws the interest of tourists. The essential evaluation of the mosque's historical and scientific aspects, specifically concerning lighting and room temperatures, is crucial. These factors directly influence the comfort and the specificity of the worship experience for mosque attendees. From a scientific standpoint, achieving optimal lighting and temperature conditions enhances the overall comfort and concentration during religious activities.

Conducted in 2022, this research utilizes a comprehensive descriptive exploratory approach to

analyze the historical significance of the mosque and to measure lighting and room temperatures across various sections. The main objectives are to conserve the mosque's historical and cultural significance, promote it as an educational tourist destination, and safeguard its historical legacy (Sukmawati, 2017; Sukmawati et al., 2021; Sukmawati & Wahjusaputri, 2018). Data collection occurs during both morning and afternoon sessions, utilizing tools such as observation forms, interview surveys, Lux Meters, Room Thermometers, and stationary materials (Nurliana & Sukmawati, 2023). This comprehensive examination is pivotal for an enhanced comprehension of the Thousand Gate Mosque and for optimizing its role within both religious and cultural contexts (Aisyah et al., 2023; Fauziah & Sukmawati, 2023; Novianti et al., 2023; Sukmawati, 2023). The instruments used in this study include observation forms, interview surveys for mosque administrators, and tools for measuring room lighting and temperature, such as Lux Meters and Room Thermometers, as illustrated in Figure 1.



Figure 1. Lux meter and room thermometer

This research activity was started by conducting interviews with mosque caretakers to dig up information about the history of the thousand door mosque. Next, a thermometer was installed in each room and the light intensity was measured in several rooms. The data that has been collected is then analyzed quantitatively using descriptive statistical analysis.



Figure 2. Side view and inside of the Pintu Seribu Mosque

Result and Discussion

Historical Review of the Pintu Seribu Mosque

Although relatively new, built in 1978, the Pintu Seribu Mosque has historical significance. It is located in Kampung Bayur, Priuk Jaya Village, Tangerang, Banten Province, and is easy to access and visit because it is close to Jakarta. The original name of this mosque is Nurul Yaqin Mosque, but it is better known as the Pintu Seribu Mosque. Founded by an Arab descendant named Sheikh Al Faqir Mahdi. The Pintu Seribu Mosque has an area of 6,375 square meters, with a budget of billions of rupiah. But until now the construction of the mosque has not been completed because the owner died. The design of this mosque is unique and has its own character compared to other mosques in Indonesia. This mosque has many small rooms to carry out prayers, unlike most mosques which have a large main hall.

The Pintu Seribu mosque has a unique design with a walkway that leads to the main prayer room and other prayer areas. This is what distinguishes it from other mosques. The Pintu Seribu Mosque has three floors; the first floor is used for dhikr (remembrance of Allah), while the second and third floors are used for religious activities, such as prayer and recitation. One of the activities in the mosque is walking through dark and narrow alleys to reach the dhikr room, where there are large prayer beads (tasbeeh). In this room visitors perform tawassul (request to God through intermediaries) led by the caretaker of the mosque. At the time of tawassul, the lights in the room are turned off to remind visitors of the inevitable death, which can come at any time, which only Allah SWT knows.

Furthermore, when viewed from a distance, the shape of the Pintu Seribu Mosque does not resemble a mosque in general. Instead, it looks like a massive fortress, a remnant of colonialism. The walls are no longer maintained and have faded with time. The walls are made of bricks bearing the number 999 which represents the 99 names of Allah and calligraphy paintings. In terms of architecture, the Pintu Seribu mosque is characterized by Baroque architecture, as well as some parts which are characterized by Mayan and Aztec architecture. So with its uniqueness, the mosque is not only used for worship but also functions as a religious tourism object.

The mosque is a place of worship for Muslims to fulfill their obligations, such as praying five times a day. Apart from being a place of worship for Muslims, the mosque has an important role and function as a center for community activities. This means that the mosque can be used as a place for deliberations, economic activities, and events that invite many people. The mosque was built so that Muslims always remember,

give thanks, and worship Allah. Currently the mosque is used as a means of expression, aesthetics, and culture of a nation (Beekers & Tamimi Arabic, 2016; Ismail, 2018). Therefore, the design of mosques in each region can be different when viewed from the architecture and characteristics. The existence of mosques in Indonesia is very important for the majority of the Muslim community. According to data from the Ministry of Religion of the Republic of Indonesia in 2014, the number of mosques in Indonesia was 291,439, with West Java province having the highest number of mosques, namely around 90,000 mosques. This data continues to increase every year.

The mosque as the central place of society was formed since the migration of the Prophet Muhammad SAW from Mecca to Medina. In Islamic history, the first mosque built by the Prophet Muhammad was the Quba Mosque, followed by the construction of the Nabawi Mosque which is frequently visited by Muslims from all over the world during the Hajj and Umrah seasons. The condition of the mosque then and now has undergone significant changes. Mosques built in the past, such as the Quba Mosque and the Nabawi Mosque, were very simple with earthen floors, walls and roofs with date palm fronds. Mosques have played a strategic role since the time of the Prophet Muhammad. As well as being a place of worship, the mosque was used during the time of the Prophet Muhammad to settle disputes, making it a place for settling social problems. Since the beginning,



Figure 3. The Pintu Seribu Mosque Gate.

The location of the Pintu Seribu Mosque is in a densely populated residential area, and access to the mosque is through a small alley. Access to the Pintu Seribu Mosque is very clear, marked with signs and location markers on Google Maps. The original name of the mosque is Nurul Yaqin Mosque which is located in Kampung Bayur, Tangerang City. This mosque is still relatively young because it was built in 1978. After

observing, this mosque does not have a special design because its architecture does not resemble mosques in general. The Pintu Seribu Mosque serves as a central place for the community, where there are regular religious gatherings, employment opportunities, and tourist attractions. Based on interviews with traders near the Pintu Seribu Mosque, who are also members of the Nurul Yaqin Ta'lim Council, the mosque holds weekly religious meetings on Friday and Monday evenings. The congregation consists of people from the surrounding area and from the Banten area. The Nurul Yaqin Ta'lim Assembly which is located at the Pintu Seribu Mosque has a network with several ta'lim assemblies from various regions, such as Banten, Tasikmalaya, Garut and Central Java. Therefore, if there are religious events or important days, the majlis ta'lim will attend the event. For example, the Pintu Seribu Mosque held Syekh Abdul Qodir Jailani's haul, and the mosque committee distributed invitations to several ta'lim assemblies. such as Banten, Tasikmalaya, Garut, and Central Java. Therefore, if there are religious events or important days, the majlis ta'lim will attend the event. For example, the Pintu Seribu Mosque held Syekh Abdul Qodir Jailani's haul, and the mosque committee distributed invitations to several ta'lim assemblies. such as Banten, Tasikmalaya, Garut, and Central Java. Therefore, if there are religious events or important days, the majlis ta'lim will attend the event. For example, the Pintu Seribu Mosque held Syekh Abdul Qodir Jailani's haul, and the mosque committee distributed invitations to several ta'lim assemblies.



Figure 4. Community Activities Around the Mosque.

Even though it was built in 1978, tourists are very enthusiastic about visiting the Pintu Seribu mosque. According to Ashadi, a historical building can make the surrounding environment develop. This is what makes the Pintu Seribu Mosque frequented every day, and

Saturday and Sunday are the busiest days. Tourists who come to the Pintu Seribu Mosque usually come to pay their respects because in it there is the tomb of the founder of the mosque, Sheikh Ami Al-Faqir. Then, after saluting, tourists usually enter a dark and narrow alley to reach a room where there is a large tasbeeh. The room is used for tawasul led by the mosque caretaker. Tourists and worshipers at the Pintu Seribu Mosque create extensive community relations and cultural exchanges brought from each region.

Scientific Review of Lighting and Temperature Aspects

In the measurements of sessions 1 and 2, information was obtained that the temperature inside and outside the room showed the same temperature, namely 31°C, with different lighting values for sessions 1 and 2 both inside and outside the mosque (Sukmawati et al., 2022). In session 1 the lighting inside the mosque shows the lighting value is 165 and outside the mosque is 45, while for session 2 the lighting inside the mosque shows the number 163 and outside the mosque is 48. As shown in Table 1.

Table 1. Results of Lighting and Temperature Measurements at the Pintu Seribu Mosque

Session	Place	Lighting		Temperature
		Standard (Lux)	Measurement (Lux)	
(08:00-10:00)	Outside the mosque	60	45	31°C
	In the mosque	200	165	31°C
(10:00am-12:00pm)	Outside the mosque	60	48	31°C
	In the mosque	200	163	31°C

Based on the Indonesian National Standard (SNI) 03-6575-2001 it states that the illumination standard for a building is 200 lux (Attar & Hildayanti, 2022; Syamsiyah & Nur Izzati, 2021) and for the brightness of a space. Based on the table data, it can be seen that the lighting in the mosque's room is still below standard, this shows that the mosque requires additional lighting in the form of lamps. The lack of lighting will affect the comfort of visitors such as visitors having difficulty seeing clearly, especially when performing worship, reading the Koran, or attending lectures. A room that is too dark or dim can give worshipers a sense of insecurity, especially when gathering at night. In addition, lack of lighting can also increase the risk of an accident or fall due to difficulty seeing clearly (Alghamdi et al., 2023; Baharudin & Ismail, 2014).

In addition to lighting, temperature also affects comfort in the mosque. It is known that the temperature inside and outside the mosque from measurements 1 and 2 shows a temperature of 31.0°C, far from the standard of comfort, where according to SNI 6390: 2011 that 20.5-22.8°C is cool, comfortable, 22.8-25.8°C is comfortable, and 25.8-27.1°C warm comfortable (Ansarullah, 2016; Hafez et al., 2023). This condition is due to the large number of visitors, so a fan or air conditioner is needed to reduce the temperature so that visitors are comfortable while worshipping.

Conclusion

Based on observations, interviews, and measurements, it's evident that the Pintu Seribu Mosque holds significant historical value, recognized by the local community as a place of worship and a historical symbol

due to its unique architecture. Therefore, it should be promoted as a historical and educational tourist destination. Additionally, the measurements reveal that the mosque's lighting and temperature fall short of Indonesia's comfort standards, influenced by various factors during measurements. To enhance comfort in buildings, especially places of worship like mosques, interventions such as artificial ventilation through air conditioners and fans are required, but their effectiveness in the mosque is currently limited.

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Conflicts of Interest

The author declared no conflict of interest.

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