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Evaluative Research on the Application of Nusantara Architectural Expression in Al-Huda Nusantara Bandung Mosque and At-Taufik Mosque South Jakarta Indonesia

Tara Laurensia Tania[1*], Bachtiar Fauzy[2]
[1,2]*Master Program in Architecture, Parahyangan Catholic University, Bandung, Indonesia*

***Abstract*: The Indonesian Vernacular Architecture design concept encompasses two key aspects: site responsiveness, reflected in the building form. However, contemporary building designs in Indonesia often overlook these elements, for instance, favoring dome-shaped mosques over the tropical rectangle form. This research explores Nusantara architecture expression two mosque case studies in Indonesia said to implement the Vernacular Architecture design concept but with different forms of interpretation. This research uses a comparative descriptive method to examine the case study of the Al-Huda Mosque and the At-Taufik Jagakarsa Mosque. Field observations and interviews were then compared with the theory of Vernacular Architecture pioneered by the late Prof. Josef Prijotomo. The study reveals misconceptions in the application of Indonesian Vernacular Architecture to the Al-Taufik Mosque, where several forms of South Sumatran architecture are combined into one mosque mass. Meanwhile, the Al-Huda Nusantara Mosque successfully embodies the Vernacular Architecture in a tropical form. The research aims to provide guidelines and broaden architects' perspectives on applying Vernacular Architecture to mosque buildings in Indonesia.**

***Keywords*: Nusantara architecture expression, Al-Huda Nusantara Mosque, At-Taufik Mosque, vernacular architecture.**

1. Introduction

Nusantara buildings must be able to respond to the surrounding climatic conditions and visually represent the forms and characteristics of Indonesian architecture. The development of mosque architecture in Indonesia approximately have begun adopting the dome-shaped roof in the 1800s during the reign of King Abdul Rahman in Riau, and start growing on the island of Java, it started to appear in the late 19th century. Since the increasing prevalence of domed mosques in Indonesia, the form of mosque buildings has no longer visually or spatially represents Indonesian architecture. The transformation of mosque architecture from domes to non-domes is estimated to have begun in the early 2000s, during which time Indonesian mosque designs has become simpler and more contemporary. The development of mosque buildings over time follows the culture of the community to ensure that mosques remain relevant to the worship needs of the congregation (Barliana, 2008).

Salman Mosque ITB is located in the city of Bandung, West Java, was considered as one of the Nusantara mosques that emphasizes a rational-religious concept. This concept is where the life of Muslims is based on Islamic teachings, and visually, the form of Salman Mosque ITB follows the needs of its users, which in line with the term "form follows function" (Nasution, 2009). The Salman Mosque ITB, designed in 1964 by Ahmad Noe'man during the era of modernism, showcases an expression of Nusantara Mosque architecture that differs from the Walisongo mosques. The architecture of Walisongo mosques refers to the design of temples and pagodas, characterized by layered roofs and square layouts. But the nusantara architectural expression in Salman Mosque ITB was focus on showing how the building responds to the surrounding climate, specifically the cool and windy climate of Bandung. Unlike the layered roofs and square plans of the Walisongo mosques, Salman Mosque ITB interprets the expression of Nusantara Mosque architecture in terms of site and structure with visual aspects that highlight modern architecture.

The architectural style of Walisongo mosques does not reflect the "Islamic" image found in many other mosques but instead draws on non-Islamic forms, inspired by temples or pagodas (Khan, 1994). Examples include the Ampel Mosque in Surabaya, built in 1450 AD, and the Jami' Mosque in Malang, built in 1853 by the Walisongo. While domed mosques typically have horizontally extended layouts and grand, high interiors, *Walisongo* mosques feature square layouts, walls that respond to the climate in Indonesia with designing openings, tiered roofs, and a blend of *Indische* architecture style with Nusantara architecture.

The significant difference in the expression of Nusantara architecture in the two case studies highlights an important phenomenon regarding how Indonesian architects view, understand, and apply Nusantara architecture concept in their designs. Both Al-Huda Mosque and At-Taufik Mosque are located on the island of Java, but they employ different

*Corresponding author: 8112101003@student.unpar.ac.id

concepts. In this study, Al-Huda Nusantara Mosque is considered successful in applying the Nusantara architectural concept to its design in both form and aspects. Al-Huda Nusantara Mosque which is located in *Jatinangor*, West Java Indonesia brings the form of the *Walisongo* Mosque architecture expression into the modern era. The design of Al-Huda Nusantara Mosque takes the form of the Great Mosque of Demak as a reference for its visual design concept and adapts to the surrounding climatic conditions of *Jatinangor* in addressing site aspects. The specific choice of reference allows Al-Huda Mosque to innovate by translating the form of Nusantara mosques into a more modern version.

At-Taufik Mosque is considered less successful in terms of bringing Nusantara architecture into their design because its design concept is inconsistent, oscillating between a compilation of traditional South Sumatran houses and forms from traditional houses outside South Sumatra, neither of which is well-reflected in the mosque's design. Located in South Jakarta, the mosque was built in memory of Taufiq Kiemas, the late husband of Megawati Soekarnoputri. The idea to incorporate South Sumatran architectural elements stems from Taufiq's birthplace in South Sumatra. Visually, South Sumatran architecture is best known for the Ulu house with its saddle-shaped roof and other houses with shield roofs, such as Cara Gudang House and Limas House. Due to these varied representations of South Sumatran architecture, the expression of Nusantara architecture in At-Taufik Mosque, which incorporates South Sumatran elements, becomes confusing, lacking specificity and consistency.

The evaluation of architectural expression in this study uses an expression model system in architecture, divided into three categories: explaining the message, which includes the concept and background of the design; the medium, which refers to the physical form of the building based on the concept; and the response received after respondents view the building (Muchamad, Ikaputra, 2010). Nusantara architecture is analyzed from two main aspects: the visual aspect, which examines how a building with a Nusantara architectural concept can represent Indonesian architecture in terms of form, and the site aspect, which discusses how a building with a Nusantara architectural concept can respond to its surrounding environment.

Based on the research problems, the scope of the study encompasses three points derived from the expression model in architecture: First, the concept of Nusantara architectural expression in Al-Huda Nusantara Mosque and At-Taufik Mosque. Second, the physical manifestation originating from the concept of Nusantara architectural expression in Al-Huda Nusantara Mosque and At-Taufik Mosque. Third, a comparative evaluation study of the responses from Nusantara architecture experts and the researchers' analysis in evaluating the application of Nusantara expression in Al-Huda Nusantara Mosque and At-Taufik Mosque. From the formulated research problems, the study addresses the issue of differing understandings among Indonesian architects in responding to and applying the concept of Nusantara architectural expression, particularly in the expression of Nusantara Mosque buildings.

This article focusing on elaborating differences and evaluate the expression of Nusantara architecture between Al-Huda Nusantara Mosque and At-Taufik Mosque, using the three stages of the expression model in architecture: message elaboration, medium, and response. The research employs a descriptive-comparative method where the case studies will be compared with their design concept references and further evaluated against the physical manifestation of the building designs, along with the responses of Nusantara architecture experts to both mosques as case studies. This study is expected to serve as a guide for architecture students specializing in the study of Nusantara architectural expression in modern mosque buildings and for Indonesian architects adopting Nusantara Mosque architecture concepts in modern mosque designs.

2. Research Methods

The main purpose of the research is doing a critical evaluation by comparing the respective architectural concepts referenced in the case studies with each of the actual buildings. Using a descriptive-comparative method, Al-Huda Nusantara Mosque is compared with the Great Mosque of Demak, while At-Taufik Mosque is compared with the architecture of South Sumatra, specifically the Ulu house, Limas house, and Cara Gudang house. The comparison is conducted using the Architecture Expression Model, which elaborates on the message content, medium, and response in Al-Huda Nusantara Mosque and At-Taufik Mosque. This approach allows for a detailed analysis of how these mosques interpret and embody

Table 1
Data collective technique

The data from both case studies that describe the studies from the aspects of site, building, and material sustainability	Data Compilation Method	Result	Types of Data
	Perusal similar research	Journals and research related to the architecture of Nusantara mosques and the research on the Walisongo mosques.	Primary data
	Conduct interviews with the respective architects/designers of each case study.	Explanation of design concepts, background, issues and phenomena addressed, design objectives, and case study data.	
	Conduct interviews with mosque staff and administrators.	Description of the atmosphere and development from before the construction period to the present.	
	Conduct direct field observations with photo and video documentation.	Description of events in the field, comparison of case study descriptions from websites, concept from designers with field conditions.	
	Gather case study data from the architects/designers and websites.	Design concept sheets and working drawings, photos during the construction process of the case study.	Secondary Data

Table 2
Data analysis technique

Primary and secondary data on the design and concepts of Al-Huda Nusantara Mosque and At-Taufik Mosque that was obtained through descriptive-qualitative methods.	Analysis Instrument	Result	Analysis Result
	Expression in Architecture Model		
	Message	Analyze references of Nusantara architecture used as conceptual references in the design of the case studies.	Data on the design and concepts of Masjid Al-Huda Nusantara and Masjid At-Taufik.
	Medium	Analyze the application of Nusantara architectural expressions in the physical form of the case studies.	Comparison between reference data on the concept of Nusantara architectural expression and physical data from both case studies.
	Respond	Obtain opinions from experts, specifically architects specializing in architectural design with Nusantara architectural expressions.	Interviewing architects by asking questions about evaluating the application of Nusantara architectural expression in both case studies.

Nusantara architectural concepts within their designs.

This research employs a qualitative-descriptive and comparative (mixed method) approach by comparing case study buildings with the mosque concept references that was intended by the architect. The study examines three aspects: site aspect, building aspect, and material aspect. The research is conducted in two stages. The first stage involves elaborating the comparison between the concept references and the case studies. This stage purpose is to understand how these concepts are reflected in the architectural design and implemented in the case study buildings. The second stage is the evaluation of applying Nusantara architectural expression in both case studies. This third and final stage is the critical evaluation that focuses on assessing how well the buildings embody the principles of Nusantara architecture.

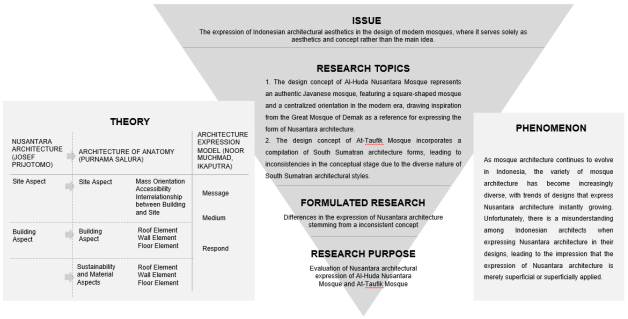

Fig. 1. Research framework

A. Data Collection Stage Using Descriptive-Qualitative Technique

Data collection is conducted through interviews with the designers, mosque staff, and direct field observations. The researcher also gathers several similar studies and researches that discuss the study of Nusantara Mosque architecture, such as research on Salman Mosque ITB, the architecture of Great Mosque of Demak, and other *Walisongo* mosques. Primary data consists of information obtained directly by the researcher, including data from literature searches, interviews with key informants, and photo and video documentation during field observations. Secondary data includes information provided to the researcher by others, such as concept sheets and case study work sheets. Below is a table outlining the techniques for collecting primary and secondary data.

B. Data Analysis Stage Using Descriptive-Comparative Techniques

The Data Analysis Stage focuses on the Architecture Expression Model, encompassing message, medium, and response. Response analysis involves comparing the perspectives of architects with those of researchers through interviews with Nusantara architecture experts to obtain a second opinion on the both case studies. The selected Nusantara architecture experts for second opinions are Mohammad Cahyo Novianto from JAAI (Jaringan Arsip Arsitektur Indonesia) and Rahmat Kurniawan from RAK Studio Batam. The comparison between the second opinions from the experts and the researcher's analysis results serves as the basis for concluding how well the two case studies align with the reference buildings in terms of concept, and to what extent they incorporate Nusantara architectural expression into the design of modern mosques. Below is a table outlining the techniques for analyzing both primary and secondary data.

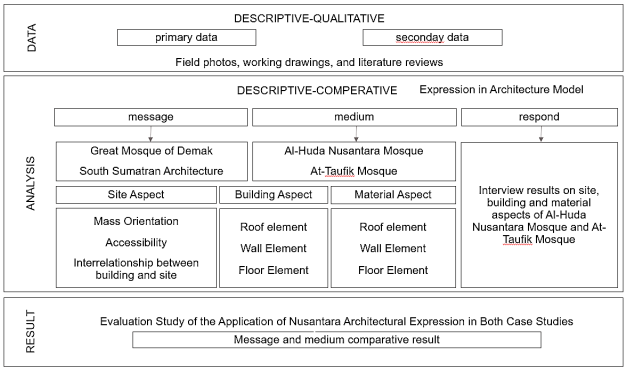

Fig. 2. Analytical framework using descriptive-comparative method

C. Data Analysis Stage Using Descriptive-Comparative Techniques

The Conclusion is a narrative that explains the alignment of the researcher's analysis results with the message (concept of both case studies) and the medium (buildings of both case studies), based on the views of Nusantara architecture experts regarding the interpretation of message and medium. The conclusion reveals significant differences between the results of the two case studies and how each architect's perspective responds to Nusantara architecture, focusing on either visual aspects or environmental aspects, or both aspects effectively

integrated into one building.

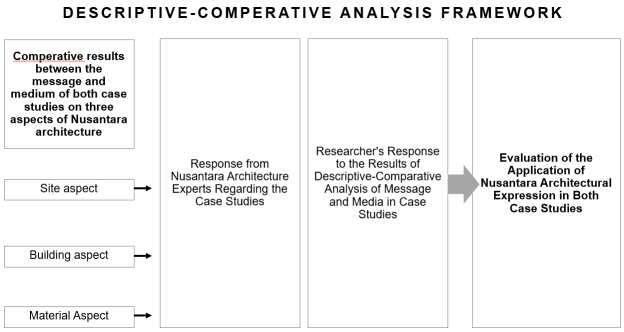

Fig. 3. Descriptive-comparative analysis framework

3. Research Results and Discussion

A. Evaluation of Nusantara Architecture Expression: Site Aspect of Masjid Al-Huda Nusantara and Masjid At-Taufik

1) Comparison of Nusantara Architecture Expression Analysis in the Mass Orientation of Masjid Al-Huda Nusantara and Masjid At-Taufik

The massing orientation of Al-Huda Nusantara Mosque follows the Qibla direction in Jatinangor area, West Java Indonesia, which is 143.333 degrees towards the Kaaba in Mecca. The site plan composition of the mosque leaves a yard of 10 to 15 meters facing Raya Cirebon Bandung Street. The massing Al-Huda Nusantara Mosque does not follow the surrounding's pattern, but with a 15-meter setback used as a front parking area, Al-Huda Nusantara Mosque mass orientation also does not frontally present an angled view towards Jalan Raya Cirebon Bandung.

Fig. 4. Al-Huda Nusantara Mosque mass orientation (left), Great Mosque of Demak mass orientation (right)

Most of great mosques in Indonesia always place on the west side of the town square, and due to the large size of the mosque makes it a starting point for conducting the surrounding area's layout city pattern. The difference found in the massing between the Great Mosque of Demak which is located in Kauman Street Central Java Indonesia and Al-Huda Nusantara Mosque is that Al-Huda Nusantara Mosque has a 10 to 15meter setback to avoid disrupting the pattern of Raya Cirebon Bandung Street, whereas the area pattern of the Demak Grand Mosque adjusts its massing to the mass of the Demak Grand Mosque.

At-Taufik Mosque faces two sides of Lenteng Agung Raya Street in South Jakarta Indonesia. The mosque's building orientation is linear pattern, resulting in two front faces on the vertical sides. The Qibla direction for the South Jakarta area is 295.1 degrees, meaning that in terms of massing placement, At-Taufik Mosque does not follow the Qibla direction. This is due to the limitation of the mosque's linear plot, which runs west-east and faces perpendicular to Lenteng Agung Raya Street. The land constraints also shape the building form of At-Taufik Mosque to follow the existing plot shape.

In the massing placement and city pattern of Ulu Ogan Houses, the reference concept for the South Sumatran Indonesia architecture of At-Taufik Mosque, the architecture of Ulu Ogan House follows the direction of the river flow, which is located in the highlands of Mandala Village, Peninjauan, Ogan, South Sumatera. By following the river flow direction, the massing position of Ulu Ogan House of South Sumatera aligns with the river direction, resulting in a horizontal west-east massing orientation with the front facade on the horizontal side.

Fig. 5. Ulu House mass orientation (left), At-Taufik Mosque mass orientation (right)

2) Comparison of Nusantara Architecture Expression Analysis in the Access Quality of Masjid Al-Huda Nusantara and Masjid At-Taufik

The difference in accessibility and approach between the Al-Huda Nusantara Mosque area and the Great Mosque of Demak area lies in the number of reception areas in the front yards of both mosque complexes. The Huda Nusantara Mosque complex has two access points to enter the mosque's front yard: the first is the main reception area in the front yard, and the second is at the back yard of the mosque, connecting the mosque complex with the local residential area, with access restricted by the mosque authorities. Great Mosque of Demak complex can be accessed from Kauman Street, Central Java Indonesia, the main road leading to the mosque area.

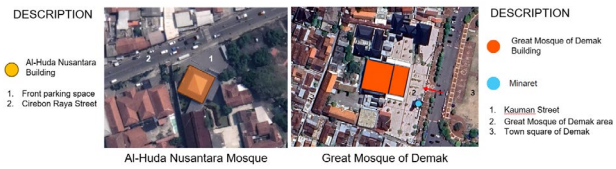

Fig. 6. Al-Huda Mosque accessibility (left), Great Mosque of Demak accessibility (right)

Access to the Masjid At-Taufik Jagakarsa complex is from Jalan Lenteng Agung Raya, with the front of the building facing the Partai DPP PDI Perjuangan School. The access to the mosque from the main facade facing Lenteng Agung Raya

Street and adjacent to the railway tracks, is closed off and used as a parking lot. In the architecture of Ulu House and Cara Gudang House areas on Mandala Street, South Sumatera, access to the houses is accessed from the main road for vehicles and from the back yard of the houses which facing the river in the settlement.

Fig. 7. Ulu and Cara Gudang area accessibility (left), At-Taufik Mosque accessibility (right)

3) Comparison Analysis of Nusantara Architecture Expression: Interrelationship Between Building and Site of Al-Huda Nusantara Mosque and At-Taufik Mosque

The landscape of the At-Taufik Jagakarsa Mosque complex is adapted to the linear shape of the land, resulting in a linear-shaped mosque building. Visually, the colours of At-Taufik Mosque are dark with a red pattern symbolizing the PDIP party. The composition of the landscape creates a dynamic and spacious impression from Lenteng Agung Raya Road. Along Lenteng Agung Raya Road, there are three Islamic schools: YPS Lenteng Agung Islamic Vocational High School, YPS Jakarta Islamic Junior High School, and Islamic Primary School Exemplar Saadatuddarain, all located in a row, approximately 300 meters from Masjid At-Taufik. Besides accommodating office workers, the mosque also serves students from these Islamic schools. Comparatively, the relationship between the Rumah Ulu buildings adjacent to Rumah Cara Gudang in the Mandala area of South Sumatra follows the linear road shape, and the row of houses conforms to the organic pattern dictated by available land in the area. The houses are closely packed together and aligned with other houses, establishing a reciprocal relationship between the site and the buildings with front yards adjacent to the road, yet balanced among the row of buildings.

Fig. 8. At-Taufik Mosque interrelationship (above), Ulu and Cara Gudang House (below)

Al-Huda Nusantara Mosque complex's courtyard is surrounded by walls on the left, right, and back sides, but not at the front. This positioning of the walls creates a clear boundary between the mosque complex on Raya Cirebon Bandung Street and the buildings on the left and right. The minaret of Al-Huda Nusantara Mosque is located on the right side of the front courtyard area, and the mass placement pattern of the mosque is centered, with some space left of 10-15 meters at the front courtyard. In the area of Great Mosque of Demak, the mosque's mass is centrally located in a horizontally linear area (due to renovations over the years), and the building's orientation parallels the road (not angled like Al-Huda Nusantara Mosque). The minaret in the Great Mosque of Demak complex is situated on the left side of the mosque. Overall, the reciprocal relationship between the site and the building in both Al-Huda Nusantara Mosque and Great Mosque of Demak provides a visually open and orderly pattern within the area.

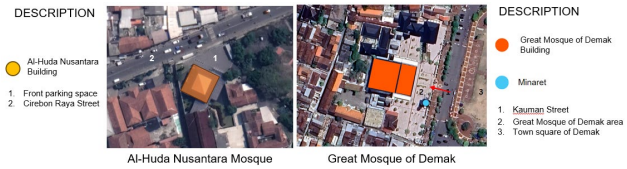

Fig. 9. Al-Huda Nusantara Mosque interrelationship towards Raya Cirebon Bandung Street and Great Mosque of Demak towards Kauman Street

B. Evaluation of Nusantara Architecture Expression: Building Aspect of Al-Huda Nusantara Mosque and At-Taufik Mosque

1) Comparative Analysis of Nusantara Architecture Expression: Roof Elements of Al-Huda Nusantara Mosque and At-Taufik Mosque

The significant differences found between Al-Huda Nusantara Mosque and Great Mosque of Demak are in the number of roof tiers and the silhouette of the interior roof sides. The roof element Great Mosque of Demak resembles a multi-tiered pagoda that tapers towards the uppermost tier. In contrast, Al-Huda Nusantara Mosque features an interior roof arrangement that curves to form a dome-like silhouette, with the upper tiers having a gentle slope and the lower tiers a steeper one. Another difference is the number of roof layers in each mosque: Great Mosque of Demak has 3 layers, whereas Al-Huda Nusantara Mosque has 4 layers, with the second roof layer seemingly resting upon the third layer."

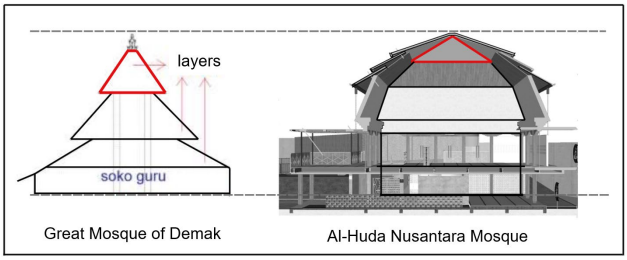

Fig. 10. Differences between Great Mosque of Demak (left) and Al-Huda Nusantara Mosque (right) roof element

The proportions of the head, body, and legs of the building are divided based on size, and the proportion of the roof to the walls, and the proportion of the walls to the building floor element. The concept of the shape of Masjid At-Taufik draws reference from the compilation of architecture in South

Sumatra, specifically resembling the Ulu House and Gudang Cara House. Masjid At-Taufik is estimated to be 12 meters wide and the overall building height reaches 18 meters. The roof proportion accounts for one-third of the building, hence in terms of proportion, the roof shape still categorizes as an expression of Nusantara architectural roof proportions. When compared to the shape and proportions of buildings in South Sumatra architecture, the roof shape of Masjid At-Taufik bears more resemblance to Dayak or Toba House architecture.

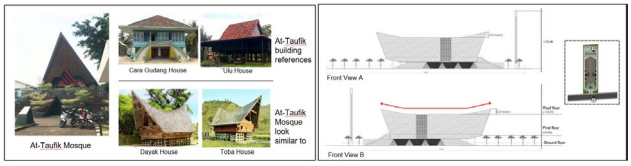

Fig. 11. Differences between South Sumatran architecture (left) and At-Taufik Mosque (right) roof element

2) Comparative Analysis of Nusantara Architecture Expression: Wall Elements of Al-Huda Nusantara Mosque and At-Taufik Mosque

The wall elements of Great Mosque of Demak emphasize the *'soko guru'* columns supporting the *'tajug'* roof at each tier. The columns supporting the roof layers signify the symbol and identity of the spatial hierarchy. In contrast, the columns in Al-Huda Nusantara Mosque are positioned on the outermost layer of the roof, creating spacious open floor plan areas. The second floor of both mosques serves as the prayer space for men. The prayer areas are not enclosed by solid walls but instead by glass walls and doors, allowing direct sunlight to illuminate the interior and reducing the need for artificial lighting during daylight hours.

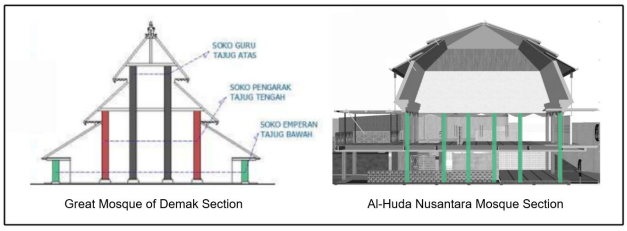

Fig. 12. The placement of pillars of Great Mosque Demak (left) and Al-Huda Nusantara (right)

Fig. 13. Body and floor proportion of Al-Huda Nusantara Mosque

The overall, the expression of the first floor represents the stage of the body by creating a darker atmosphere, while the body section of the second floor is part of Al-Huda Mosque, featuring transparent room walls and exposed building columns. The expression of the body section is shown by creating a pilotis impression and elevating the body elevation higher on the second floor.

The wall elements in Ulu House architecture emphasize the columns that support the long eaves roof section of the house. The number of columns can vary, estimated to be between 4 to 8 columns. The proportion of walls in Ulu House is relatively small compared to the proportions of roof and floor elements. Ulu House architecture adapts to its coastal environment, responding to the sea currents from the beach, and the houses are built on stilts to prevent water from entering.

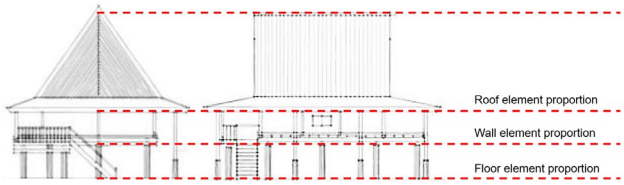

Fig. 14. Roof, wall and floor element proportion of Ulu House South Sumatran Architecture

Elevation in At-Taufik Mosque consists of 2 floors, with each floor having different proportions of wall elements in the building. On the first floor of the mosque, the wall elements blend with the floor elements, forming a stage silhouette from the exterior. On the second floor of the mosque, the wall elements blend with the roof elements, so from the exterior, the proportion of roof elements reaches 1/3 of the entire building. Visually, the mosque architecture lacks wall elements and primarily features roof and floor elements.

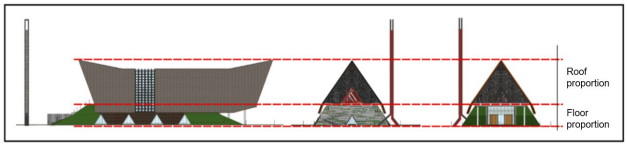

Fig. 15. Roof and floor proportion of At-Taufik Mosque

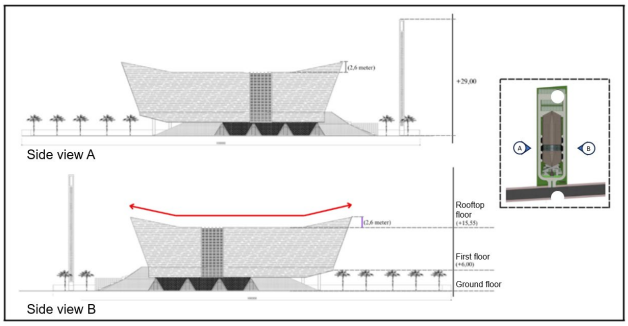

Fig. 16. Elevation of At-Taufik Mosque

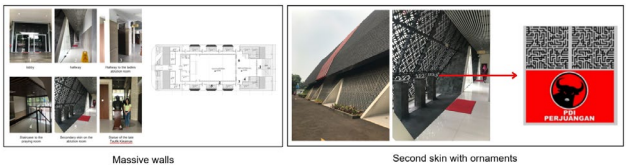

Fig. 17. Wall element and facade of At-Taufik Mosque

The wall closure elements combine solid and transparent walls with the use of a secondary skin featuring the motif of the PDI Perjuangan party logo. The placement of solid walls

functions to differentiate private and public zone areas within the mosque, such as distinguishing the zones of the ablution area and the auditorium space.

3) Comparative Analysis of Nusantara Architecture Expression: Floor Elements of Al-Huda Nusantara Mosque and At-Taufik Mosque

The expression of floor elements in Great Mosque of Demak is demonstrated by the floor standing on a solid square-shaped floor slab foundation, elevated higher than the veranda area. The elevation difference in Al-Huda Nusantara Mosque is intended to convey the different purposes of the spatial expression between its floors. Regarding the explanation of wall elements, the first floor of the mosque tends to provide a darker and more enclosed atmosphere, while the second floor is brighter and open. The concept of creating different atmospheres is also reflected in the elevation between the two floors of the mosque. The first floor is designed to be lower, giving the impression of users descending stairs from the parking area to the first floor. On the second floor of the mosque, the room atmosphere is brighter and more open due to window openings and balconies.

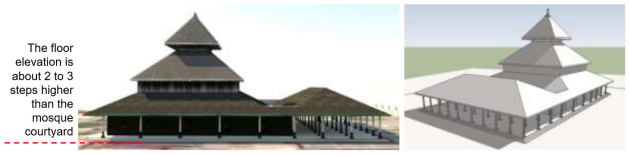

Fig. 18. Floor element of Great Mosque of Demak

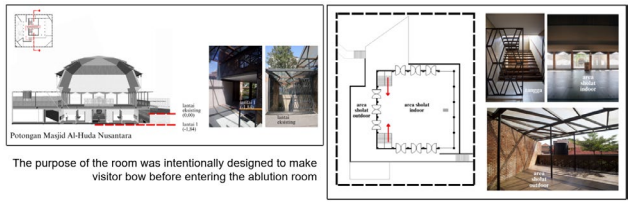

Fig. 19. Floor element and floor plan of Al-Huda Nusantara Mosque

The concept of the floor elements in At-Taufik Mosque aims to give a luxurious and grand impression to the mosque building. The grand impression is achieved by elevating the floor elevation on the first floor and creating a landscape of stairs on the main facade of the mosque leading to the second floor. The elevation increase with the staircase landscape blends the proportion of floor elements as the legs and the elevation of the walls as the body. In Ulu House architecture, the floor elements are clearly visible with stairs leading to the body of the building, and the wall elements, floor elements, and roof elements are distinctly separated.

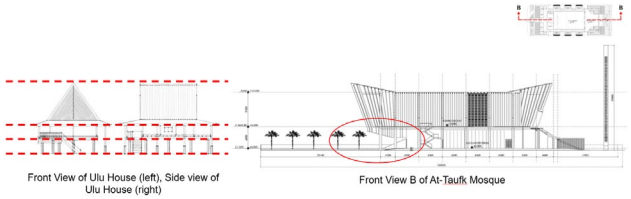

Fig. 20. Comparative analysis of building proportion of Ulu House (left) and At-Taufik Mosque (right)

C. Evaluation of Nusantara Architecture Expression: Sustainability Aspects of Materials in Masjid Al-Huda Nusantara and Masjid At-Taufik

The application of materials in both case studies uses steel and reinforced concrete as the main structural components of the buildings. In Al-Huda Nusantara Mosque, the roof is constructed using metal sheets and ironwood, supported by tie beams resting on columns. The mosque's walls utilize local materials by combining bricks with finger joint wood salvaged from previous buildings before the mosque was renovated. The reinforced concrete columns are cast using a tie block system, and they are adorned with wood carvings and calligraphy.

The structural system in the roof junctions of At-Taufik Mosque entirely uses steel, with modifications made to the ridge part of the roof. The ridge part of the roof is designed flat at a lower roof elevation and returns to a sharper pitch at the apex of the roof. In the design concept of At-Taufik Mosque, the variation in roof heights aims to accentuate the grandeur of the mosque, where, in comparison to traditional Nusantara Mosque architecture, the roof shapes and constructions do not resemble the Rumah Anjungan style. The steel construction of the mosque involves welding at each joint.

4. Conclusion

1) The concept of Nusantara architectural expression in Al-Huda Nusantara Mosque and At-Taufik Mosque

The overall concept of Nusantara architecture expression in Al-Huda Nusantara Mosque is well-structured and clear compared to At-Taufik Mosque. The detailed sequence of concepts in Masjid Al-Huda Nusantara can be seen in the specific reference to translating the form of the Walisongo mosques, such as Great Mosque of Demak, into modern mosque designs. This approach avoids the typical dome shape and aims for Indonesian mosques to express Nusantara architecture through visual and thermal aspects. In At-Taufik Mosque, the concept of Nusantara architecture expression is less detailed, lacking clarity in specific references to Nusantara architecture. The ambiguity in this Nusantara architecture concept is evident in the compilation of South Sumatra architecture references, which exhibit diverse forms that cannot be stereotypically categorized into one South Sumatra architectural style.

2) The physical manifestation originating from the concept of Nusantara architectural expression in Al-Huda Nusantara Mosque and At-Taufik Mosque

Both case studies superficially represent mosques with non-dome shapes, and from the perspective of Nusantara architecture, the saddle roof and shield respond well to Indonesia's thermal aspects. However, there are significant differences between the two case studies. In Al-Huda Nusantara Mosque, the expression of Nusantara architecture in the form of the mosque focuses on translating the expression of Great Mosque of Demak and Islamic philosophy as a sacred place of worship. This requires worshippers or visitors entering the mosque through the main entrance to bow down and remove their shoes before stepping onto the first floor. The influence of Great Mosque of Demak is also evident in the layered roof

elements, transparent walls, and visible column supports, minimizing the use of solid wall elements in the building.

According to Cahyo Novianto, the expression of Nusantara architecture in At-Taufik Mosque is manifested in the proportion of the roof and body. The building's wall elements blend with roof and floor elements, giving the impression that the mosque lacks a body and only has a head and legs. Compared to Ulu House architecture and Cara Gudang buildings, At-Taufik Mosque leans more towards Ulu House architecture, as seen in the similarity of both buildings having saddle roofs, rather than Cara Gudang architecture with shield roofs. However, At-Taufik Mosque does not delve deeply into Ulu House architecture, so the application of Ulu House architecture concepts appears more akin to Dayak or Toba House architecture.

3) Comparative evaluation study of the responses from Nusantara architecture experts and the researchers' analysis in evaluating the application of Nusantara expression in Al-Huda Nusantara Mosque and At-Taufik Mosque

Both architectural experts, Mohammad Cahyo Novianto and Mr. Rahmat Kurniawan, agree that both case studies indeed represent mosques without domes, which is one of the main reasons why Indonesian architects adopt the concept of Nusantara Mosque expression in modern mosque designs. However, both architects also agree that Al-Huda Nusantara Mosque more successfully applies Nusantara architecture expression in its mosque design compared to At-Taufik Mosque. This reasoning is reinforced by the clear visual aspect where Al-Huda Mosque prominently displays the characteristic features of Walisongo mosques, whereas At-Taufik Mosque is less successful in showcasing Nusantara expression, despite its design concept describing larger roof proportions, saddle roof forms, and higher building elevation from the reception area as the main depiction of Nusantara architecture. In terms of thermal aspects, Al-Huda Nusantara Mosque successfully responds to the local climate by incorporating openings and maximizing cross-ventilation systems into its design.

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