



Application of Neo-Vernacular Malay Architecture in the Sports Buildings of the Youth and Sports Department of North Sumatra

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ABSTRAK

This study examines the application of Malay neo-vernacular architecture in the Sports Building of the North Sumatra Youth and Sports Agency as a form of integration of local cultural values in modern building design. The neo-vernacular architectural approach was chosen to combine traditional Malay elements such as bamboo shoot ornaments, hanging bees, symbolic colors (yellow and green), and the shape of the fascia and roster walls into a functional sports building design. The research method used is qualitative descriptive with observation techniques and visual analysis of three study objects: a bowling sports building, a basketball sports building, and a futsal sports building. Based on the results of observations and analysis conducted by the researcher, although there is no official statement or written data stating that the sports building managed by the Youth and Sports Agency was designed using the neo-vernacular architectural concept, a number of elements were found that show the characteristics of this approach. Elements of local culture, especially Malay culture

INTRODUCTION

Indonesia has many patterns and varieties of culture and traditions that come from the diversity of ethnic groups spread throughout the archipelago. Each ethnic group has its own customs and culture, one of which is in the province of North Sumatra which has a very rich and diverse culture, because it is inhabited by various tribes such as Batak (Toba, Karo, Simalungun, Mandailing, Pakpak), Malay, and Nias. With an area of 72,981.23 km², North Sumatra is a province that has experienced rapid growth in development and in the field of sports (Central Statistics Agency 2020).

In today's era of globalization, it is important to maintain local cultural heritage and its application in modern development. In selecting the building theme, the concept of neo-vernacular architectural theme approach is used which is applied to the design of the North Sumatra Youth and Sports Service Sports Building, which tries to combine traditional architectural elements from North Sumatra, including the Malay ethnic group. Therefore, the concept based on the Malay vernacular architectural theme approach can be a good thematic work to produce a building that is identical to the ethnic groups in North Sumatra.

Along with the development of the times, many Sports Halls are built with modern designs that tend to ignore local cultural values. This can lead to the loss of cultural identity and the community's connection to their heritage. Therefore, this study aims to analyze the application of vernacular architecture in the Sports Hall of the North Sumatra Youth and Sports Service, and explore how this design can create a space that is not only functional but also reflects local cultural identity.

The urgency of this research lies in the need for cultural aspects in the design of Sports Buildings. According to Latif (2024) the application of cultural values in building design can strengthen local identity and increase the community's sense of belonging to public spaces. Thus, this research is expected to provide a significant contribution to the understanding of how vernacular architecture can adapt and be relevant in modern building design.

Through a qualitative approach and case study method, this research will collect data through direct observation, interviews with building managers, and analysis of related documents. In this way, it is expected to obtain a deeper understanding of the application of Malay vernacular architecture in the design of the Sports Building and its impact on local cultural identity.

LITERATURE REVIEW

Literature review shows that the application of Malay vernacular architecture in modern design has become an important topic in the current era of globalization. Previous studies have shown that the application of traditional architectural elements can enhance the cultural identity of a building and promote the preservation of local heritage (Triyadi & Harapan, 2008). In addition, this application can also meet the functional and aesthetic needs expected in the context of modern development.

1. **Understanding Neo Vernacular Architecture**

According to Haruna et al. (2022), Neo-Vernacular Architecture is an architectural style that emerged in the Post Modern era around the mid-1960s. This term consists of two words: "Neo" which means new, and "Vernacular" which comes from the Latin "Vernaculus" which means original. Lucy Peel (1998) defines Neo-Vernacular Architecture as part of post-modernism characterized by a deliberate return to traditional forms, especially local models.

Thus, Neo-Vernacular Architecture is not only limited to replicating building forms, but also tries to describe visual expressions that include ornaments, clothing, attributes, colors, and philosophy (Nuraini, 2023; Nuraini, 2024; Nuraini, 2019). This approach shows diversity in the interpretation of Vernacular elements, allowing creativity to blend with local traditions and create architectural designs that are innovative but still connected to strong cultural roots (Rambe & Nasution, 2023). Neo vernacular architecture is more oriented towards modern forms combined with local customs, even when combining contemporary materials such as glass and metal. (Wiryadhi Saidi et al., 2019). The following are the main characteristics of Neo Vernacular Architecture in general:

2. **Characteristics of Neo Vernacular Architecture**

Neo vernacular architecture is more oriented towards modern forms combined with local customs, even when combining contemporary materials such as glass and metal (Wiryadhi Saidi et al., 2019; Nuraini, 2023; Nuraini, 2024; Nuraini, 2019). The following are the main characteristics of Neo Vernacular Architecture in general:

- a. **Adapting Traditional Architectural Forms** That is, taking the basic forms of local architecture such as roofs, spatial layout, proportions, and typical structural elements.
- b. **Use of Local and Modern Materials** That is, combining traditional materials (wood, bamboo) with modern materials (concrete, glass, steel) harmoniously.
- c. **Respect for Cultural and Climate Context** That is, responding to the local natural and social environment, such as the orientation of the building to the wind and sun.
- d. **Transformation of Traditional Ornaments** Traditional motifs and symbols are reused in new styles or modernized (simplified forms).
- e. **Contemporary Functions and Technology** The building still meets today's needs (comfort, energy efficiency, technology), without leaving behind cultural values.

- f. **Cultural Symbolism** Architecture becomes a symbol of cultural identity, as a medium for inheriting local values in a contemporary form.

3. Traditional Malay Architecture

Traditional Malay Architecture is a cultural heritage that reflects the identity, philosophy, and adaptation of the Malay people to the environment. According to Hanafi (2017), traditional Malay architecture is a physical form of culture formed from the influence of the environment, religion, and customs which have characteristics in the form of stilt houses with wooden materials, colors and ornaments. Research by Tambunan (2019) describes the philosophy of color in North Sumatran Malay architecture, there are three colors that are identical to those used by the Malay people, namely, Yellow has a symbol of power, prosperity and majesty. Red has a symbol of courage, the general public and the people. Green has a symbol of loyalty, peace. Meanwhile, research conducted by Kartono (2018) classifies several ornaments in Malay houses, namely:

- a. **Floral Motifs**, These motifs usually take inspiration from natural plant forms such as flowers, leaves, tendrils and twigs. The designs are often made symmetrical, with tendrils and roots blending together, with soft and natural colors, for example (bamboo shoots, Melur flowers, Kundur flowers, ferns).
- b. **Faunal Motifs**, These motifs are largely inspired by animals that live in the surrounding environment, and are depicted in a stylistic and unrealistic manner, for example animals (Ants in a Row, Ducks Coming Home in the Evening, Dragons, etc.).
- c. **Geometric Motifs**, geometric motifs in Malay customs often use repetitive and symmetrical patterns, tending to use straight lines and abstract shapes, for example (Potong Wajik, Pucuk Rebung Bersusun, Awan Larat).
- d. **Calligraphy Motifs**, calligraphy in Malay custom is characterized by using writing based on Arabic letters, for example (Verses of the Qur'an, hadiths, or sentences of monotheism).



Figure 1. Sri Menanti Malay Puri House North Sumatra
(Source: Wiono Karsu, Google Maps, 2022)

4. Comparative Study

a. Great Mosque of West Sumatra

The Mahligai Minang Mosque is a symbol of Padang City. The Grand Mosque of West Sumatra is a magnificent work designed by Rizal Muslimin. It

was built on an area of 40 thousand square meters with a building area of 18 thousand square meters. This mosque, the winner of an architectural competition attended by 323 architects from various countries, shows the beauty of its architecture and is an important symbol for Padang City (URBANE, 2016)



Figure 2. Great Mosque of West Sumatra
(Source: Malang Hits Team, 2024)

5. Comparative Study Point

The design concept was inspired by three main elements: the existence of a water source that has a historical connection with the development of Islam, the cultural background of the Padang community, and traditional values based on the principle of *'Bandi Syara'*. In addition, the philosophy of *'Syara' basandi Kitabullah* is the basis for strengthening Minangkabau traditional values, as traditional houses stand firmly because of their foundations and supporting pillars (URBANE, 2016).

The Grand Mosque of West Sumatra displays architectural characteristics that are different from mosques in general. Instead of using a dome, this mosque adopts the traditional Minangkabau roof shape like *Rumah Gadang*, with four pointed corners that reflect the shape of *gonjong*. This design provides a strong identity and characterizes the integration of local cultural values in the form of religious buildings.

a. Diamond Arena Beijing

The Diamond Arena is in the spotlight for its distinctive architectural form and its central role in the development of sports in China. This magnificent structure not only displays stunning aesthetics, but also shows the harmony between the design form, material selection, and construction techniques (Archdaily, 2011).



Figure 3. Diamond Arena Beijing
(Source : ArchDaily, 2011)

6. Comparative Study Point

Visitor comfort is carefully designed, where general audiences are directed to enter through the terrace on the second floor, while special access for players, staff and VIP guests is provided from below the terrace. This strategy is designed to reduce the possibility of clashing flows between users, thus creating a comfortable and orderly indoor space experience (Archdaily, 2011).

The careful planning aspect is also visible in the exterior area of the building. Entrances and exits for different user groups are designed separately and systematically, to avoid overlapping flows and ensure smooth circulation, even when the stadium is full.

METHODOLOGY

This study uses a qualitative method with a descriptive approach to explore the application of Malay neo-vernacular architecture in the design of the Sports Building of the North Sumatra Youth and Sports Service. The qualitative method was chosen because it allows researchers to understand social and cultural phenomena in depth, as well as provide richer insights into the context and meaning behind the architectural design studied (Moleong 2000, in Wisdianti et al., 2024; Wsidiyanti, 2022; Irawan & Nuraini, 2025; Samudro et al., 2025).

1. Descriptive Approach

The descriptive approach is a research method that aims to describe systematically, factually, and accurately the facts, characteristics, or relationships between the phenomena being studied (Yin, 2000 in Irawan & Nuraini, 2025; Moleong, 2000 in Samudro et al., 2025; Dimas dhh, 2022; Akbar & Nuraini, 2024). This approach is used to describe and analyze the elements of traditional architecture applied in the design of the Sports Building. With this approach, researchers can identify specific characteristics of the design that reflect local cultural values. A detailed description of these elements will provide a clear Figure of how traditional architecture contributes to the identity of the building (Nuraini, 2024: Nuraini, 2023)

2. Data Collection Techniques

Field observation is a data collection technique by directly observing objects, events, or conditions at the research location to obtain real and contextual information (Yin, 2000 in Praja & Nuraini 2024; Moleong 2000, in Turio & Nuraini, 2024). Data collection techniques in this study include direct observation of the North Sumatra Youth and Sports Service Sports Building. Observations were made to directly observe the architectural elements applied, such as the shape of the roof, the use of local materials, and typical ornaments that reflect regional architectural traditions. This observation aims to gain a better understanding of how these elements function in the context of modern design and how they interact with the surrounding environment. Researchers noted important details that could provide information about the concept of traditional architecture in the design of the Sports Building.

3. Data analysis

The data analysis process from field data is a stage for processing, interpreting, and drawing meaning from data that has been collected through observation, interviews, or documentation (Yin, 2000 in Azmi & Nuraini, 2024; Muazro & Nuraini, 2024; Nasution & Nuraini,, 2024). Data collected through observation is then analyzed in depth to find out how traditional architectural elements are applied in the design of the building. The analysis is carried out by categorizing the observed elements and linking them to relevant architectural theories. Researchers also consider the cultural and social contexts that underlie the design, so that they can provide a more comprehensive interpretation.

Through this analysis, it is expected to find certain patterns in the application of neo vernacular architecture that can contribute to the understanding of how modern design can apply local cultural values. The results of this analysis will be the basis for compiling conclusions and recommendations in this study.

By using qualitative methods and descriptive approaches, this study aims to provide in-depth insights into the application of traditional architecture in the design of the Sports Building of the North Sumatra Youth and Sports Service. Through direct observation and careful data analysis, it is hoped that this study can provide significant contributions to the understanding of the importance of implementing cultural values in modern architecture.

RESULTS AND DISCUSSION

1. Research Object

The object of this research is the Sports Building of the Youth and Sports Service located at Jln. Williém Iskandar No. 9 Medan - 20222, the location is located between the Medan City area and Deli Serdang Regency. There are several Sports Buildings managed by the Youth and Sports Service including, Mini Stadium, Bowling sports hall, Futsal Sports Hall, the Sports Building functions as a facility for carrying out various sports activities and athlete development and a sports activity center that can be used to improve public health and fitness.



Figure 3. Location of the Sports Center of the North Sumatra Youth and Sports Service

(Source: Syahputra, Google Maps, 2024)

2. Youth and Sports Service Bowling Sports Hall

The initial bowling sports building was built with the aim of fulfilling the wishes of bowling enthusiasts in North Sumatra who experienced obstacles in conducting coaching due to the absence of a representative bowling lane in North Sumatra, after the Super Bowl Perisai Plaza Medan Track stopped operating (closed), Arafat (2024). This building was built in 2017, during the Governor Tengku Erry Nuradi era, completed in the era of Governor Edy Rahmayadi.



Figure 4. Front View or Entrance of the Bowling Sports Building
(Source: Sigit Kurniawan, 2024)

Right view of the building

Rear view of the building



Figure 5. Right View and Rear View of the Bowling Sports Building
(Source: Syahputra, 2025)

3. Youth and Sports Service Basketball Sports Hall

The construction of the Basketball Sports Hall was built in January 2016, Member of Commission X of the Indonesian House of Representatives, Dr. Sofyan Tan explained that the budget came from assistance from the Ministry of Youth and Sports (Kempora), it has been a long time since North Sumatra received budget assistance for the construction of sports facilities from the APBN, even though the North Sumatra Provincial Government has allocated and worked on the construction of sports facilities using APBD funds. The GOR which was built with an area of 26x36 meters was planned to be completed by the end of 2016.

Front view of the building



Rear view of the building



Figure 6. Front and Rear View of the Basketball Sports Building
(Source: Syahputra, 2025)

Right view of the building



Left view of the building



Figure 7. Right and Left Views of the Basketball Sports Building
(Source: Syahputra, 2025)

4. Futsal Sports Hall of the Youth and Sports Service

The Futsal Sports Hall (GOR) managed by the North Sumatra (Sumut) Youth and Sports Agency (Dispora), Jalan Willem Iskandar/Jalan Pancing, Medan, was inaugurated on June 6, 2018, by the Governor of North Sumatra at that time, Dr. Ir. HT Erry Nuradi, the Futsal GOR was named HT Erry Nuradi as a tribute to the governor. Governor Erry Nuradi in his speech said that the naming of the Sports Halls with the names of governors and figures of North Sumatra was to commemorate the history of the development of Sports and to be a motivation to do better in the future. "Advanced countries are those that always remember the names of their heroes or governors, because a great nation is one that remembers history and appreciates the services of its predecessors," he said.

Front view of the building



Rear view of the building



Figure 8. Front and Rear View of the Futsal Sports Building
(Source: Syahputra, Google Maps, 2024)

Right view of the building



Left view of the building



Figure 9. Right and Left Views of the Futsal Sports Building
(Source: Syahputra, Google Maps, 2024)

1. Application of Neo Vernacular Architecture in the Sports Building of the Youth and Sports Service

The application of Neo Vernacular Architecture is an approach in architecture that combines local values (traditional/vernacular) with current technology, needs, and aesthetics. This application can be done in various aspects, such as building form, materials, structures, and design philosophy. Deddy Erdiono (2011).

2. Application of Neo Vernacular Architecture At Bowling Sports Building

This building has a modern design with a touch of traditional architecture that can be seen from the use of ornaments on the facade. This ornament resembles a motif pucuk rebung combined with flowers in Malay customs, in the middle of each element looks like a shoot or leaf pointing upwards, which is a characteristic of the motif pucuk rebung, while on the left and right there are circular shapes that are often associated with flowers or open petals. This motif is often found in traditional Malay houses, especially in the screen or plank list section. The function of this motif, apart from being an aesthetic element, also

acts as a secondary skin or second facade that helps reduce the intensity of direct sunlight into the building, creating thermal comfort indoors.



Figure 10. Front View or Entrance of Bowling Sports Hall
(Source: Syahputra, 2025)

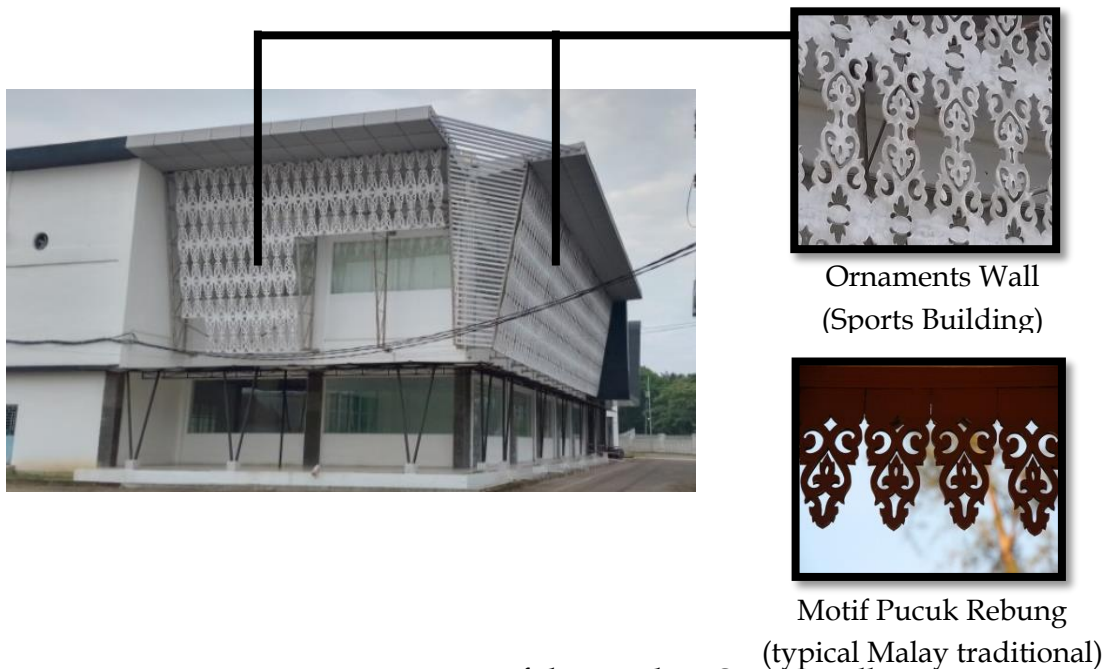


Figure 11. View of the Bowling Sports Hall
(Source: Syahputra, 2025)

The placement of Malay traditional ornaments in the Bowling Sports Building is placed on the facade wall of the building, the ornaments are on the side facing the main road, namely Jl. Williem Iskandar, the location of the ornament placement is very appropriate because the position can be clearly seen by the general public passing by, so that it can increase awareness and appreciation of the richness of Malay culture to the general public passing by and create cultural continuity amidst the development of modern architecture, proving that traditional elements remain relevant and have high aesthetic value.

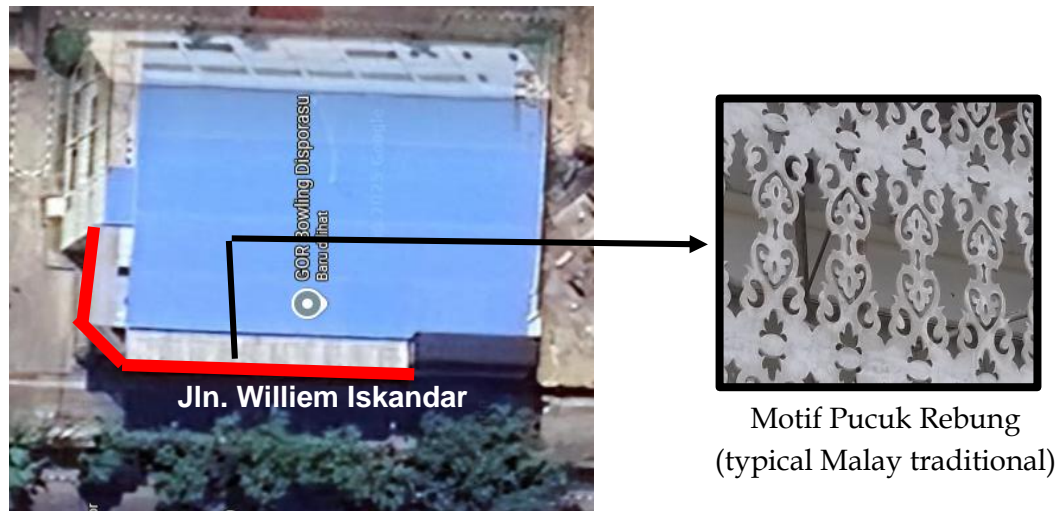


Figure 12. Placement of Malay Traditional Motif Ornaments
Bowling Sports Hall
(Source: Syahputra, 2025)

3. Application of Neo Vernacular Architecture At Basketball Sports Building

Decorative elements are components used to beautify or add aesthetic value to an object, Anggi Dwi Astuti (2021). These decorative elements are often inspired by traditional cultures that have symbolic meanings, such as wall ornaments, roof shapes, stage structures, etc. There are several decorative elements on the facade of the North Sumatra Basketball Sports Building, one of which is in the form of wall ornaments located on the facade of the building, the ornaments are in the form of repeating triangular patterns, interconnected and symmetrical and even tend to use straight lines, but these ornaments cannot be identified with traditional Malay identity. However, the main walls and columns in the Sports Building are painted yellow and green, these colors remind us of the characteristics of the Deli Malay community. According to Zulkifli, A.R. (2018) there is a symbolic meaning of the colors yellow and green, namely, symbolizing prosperity and peace, as the field in the Sports Building which is a meeting point for various backgrounds, prosperity and peace are arenas where all parties can compete fairly and join hands in togetherness.

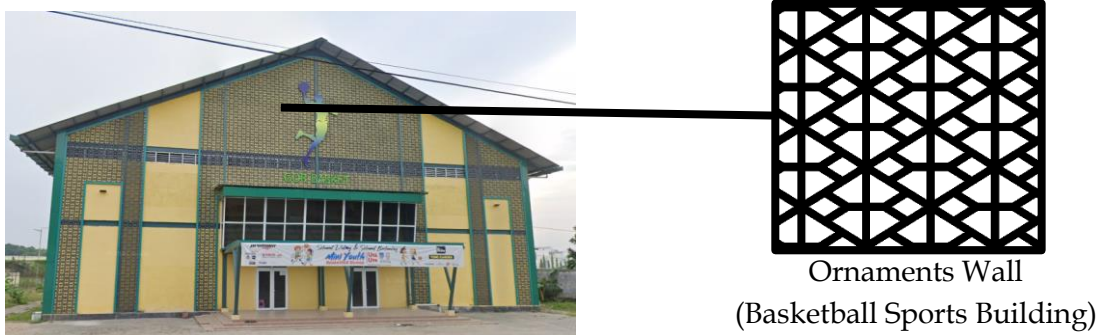


Figure 13. View of the Basketball Sports Hall
(Source: Syahputra, 2025)

4. Application of Neo Vernacular Architecture At Futsal Sports Building

The North Sumatra Futsal Sports Building displays a synthesis of traditional and modern architecture, through the use of yellow and green colors, from the application of traditional Malay architecture that symbolizes prosperity and peace. Meanwhile, the ornaments on the walls or roster walls display shapes resembling leaves or four-petaled flowers, which are visually reminiscent of the typical floral motifs of Malay culture. However, these forms cannot be specifically identified as traditional motifs from Malay or Batak culture. This motif appears to be the result of a free interpretation or stylization of natural forms that are often found in traditional art, but have undergone simplification or transformation of form in the design process. Its existence still provides a strong ethnic and local nuance, while enriching the visual expression of the building elements.

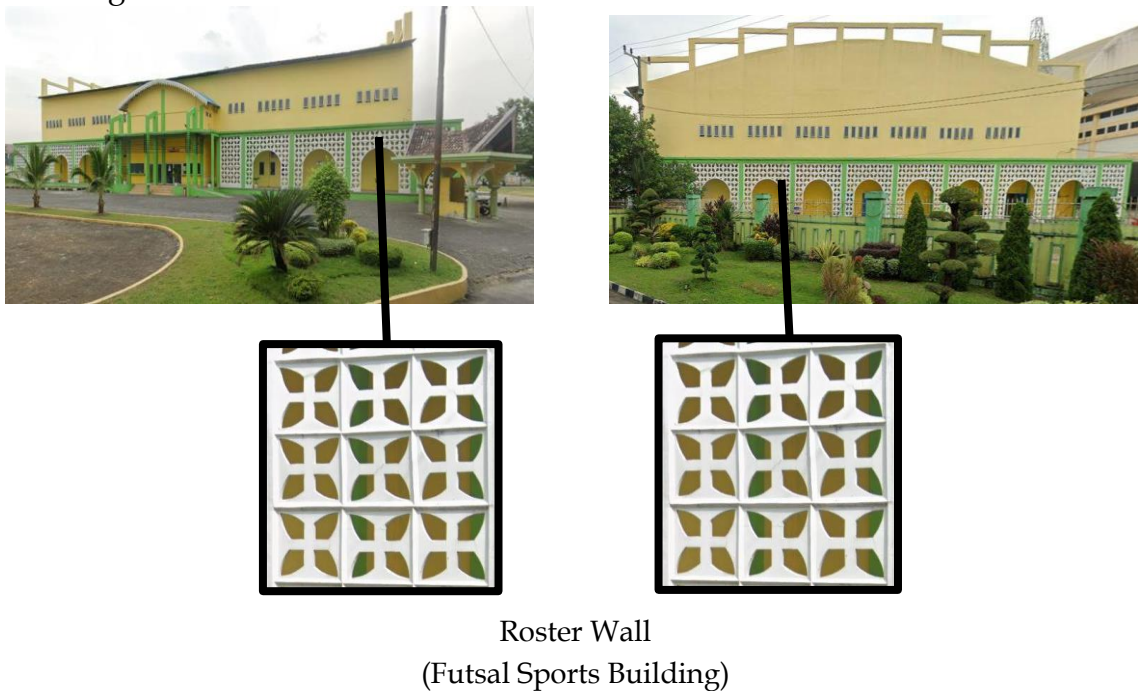


Figure 14. View of the Futsal Sports Hall
(Source: Syahputra, 2025)

In addition, the fascia at the main entrance of the Futsal Sports Building also displays a shape that is reminiscent of one of the typical motifs of traditional Malay architecture, namely the Lebah Bergayut motif. This motif is commonly found on fascia, screen cliffs, or roof edge decorations of traditional Malay houses. The presence of this motif not only enriches the aesthetic value, but also strengthens the connection between the building design and local cultural heritage. This pattern depicts a swarm of bees hanging or perching in a place, creating a repetitive arrangement that is aesthetic and full of philosophical meaning that depicts the beauty of nature and order in everyday life. The design of the North Sumatra Futsal Sports Building shows how traditional architectural solutions can be applied to modern building types.

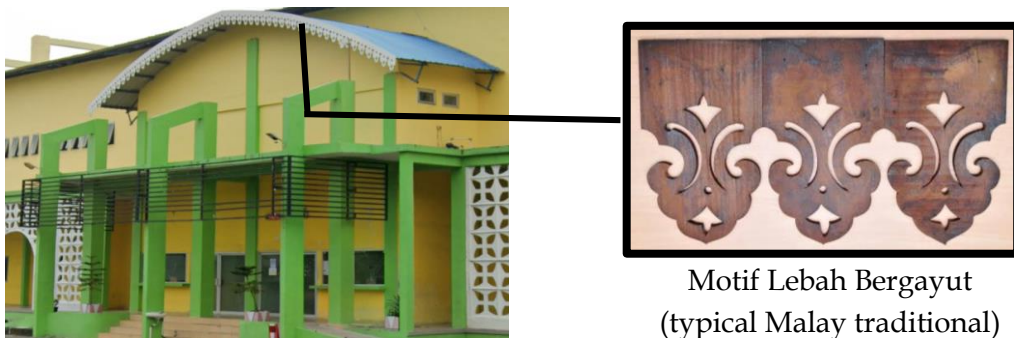


Figure 15. View of the Main Door of the Futsal Sports Hall
(Source: Syahputra, 2025)

There is a typical Malay traditional motif in the Futsal Sports Building, namely a bee-shaped hanging motif. The placement of the bee hanging motif is at the main entrance of the Futsal Sports Building. With the strategic location of the building right near the entrance of the Youth and Sports Agency (Dispora), the presence of these Malay motifs provides visual education to every visitor about the richness of local culture. People who come to exercise or visit Dispora will indirectly absorb the traditional Malay aesthetic values that are increasingly rare in modern buildings.

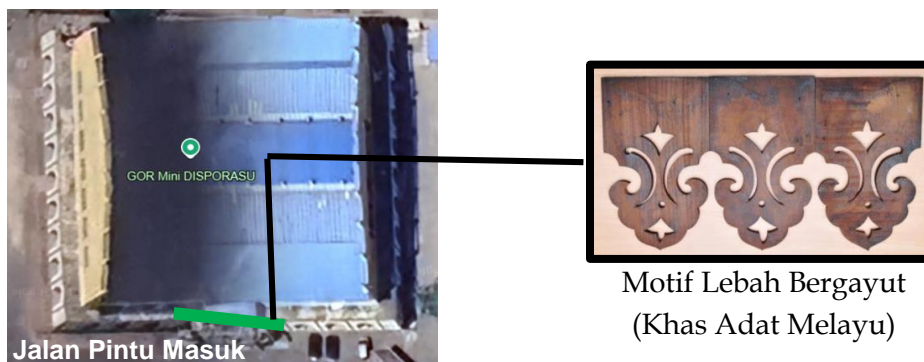


Figure 16. View of the Main Door of the Futsal Sports Hall
(Source: Syahputra, 2025)

Table 1. Elements of Traditional Malay Architecture

Traditional Malay Architectural Elements				
Sports Hall (GOR)	Ornamen	Roof Shape	Color	Stage Structure
Bowling Sports Hall	√	-	-	-
Basketball Sports Hall	-	-	√	-
Futsal Sports Hall	√	-	√	-

(Source: Syahputra, 2025)

Based on the data in the table above, the Sports Building (GOR) of the Youth and Sports Service shows that there are ornaments on the Bowling GOR and Futsal GOR. The Sports Building applies ornaments as one of the traditional architectural elements of North Sumatra, namely Malay culture in its building design, while the ornamental walls on the Basketball GOR cannot be identified with Malay identity. In addition to ornaments, several GORs also use typical Malay cultural colors.

Table 2. Placement of Traditional Architectural Elements

Placement of Traditional Architectural Elements North Sumatra			
Area	Bowling Sports Hall	Basketball Sports Hall	Futsal Sports Hall
Roof	-	-	√
Wall	√	-	√
Floor	-	-	-

(Source: Syahputra, 2025)

The placement of traditional architectural elements in the Dispora Sports Building is generally on the walls because the walls are the most strategic and visible areas to display the identity of traditional architecture. The walls offer a wide vertical surface that can be clearly seen by visitors and provide an optimal opportunity to express the ornaments and details of traditional North Sumatran architecture without disrupting the main function of the building as a sports facility. There are also traditional architectural elements on the roof of the futsal sports hall, namely on the fascia in the form of a bee motif hanging typical of Malay customs.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of observations and analysis conducted by researchers, although there is no official statement or written data stating that the sports building managed by the Youth and Sports Agency was designed using the neo-vernacular architectural concept, a number of elements were found that show the characteristics of this approach. Elements of local culture, especially Malay culture, are reflected through the use of ornaments and color choices in several sports buildings. For example, in the bowling sports building there is an ornament with a bamboo shoot motif, which is one of the typical Malay symbols. The basketball sports building displays a dominant green and yellow color, which is identical to the Malay cultural identity. Meanwhile, the futsal sports building is decorated with an ornament with a hanging bee motif and yellow-green walls, which also represent elements of local culture. This finding indicates that, indirectly, the design of these buildings reflects a neo-vernacular architectural approach by adapting local cultural symbols and values. Although the building structure uses contemporary construction technology and materials, the essence of local culture is maintained as the visual identity and symbolic meaning of the building. This shows that the neo-vernacular approach can be a bridge between cultural preservation and the demands of modern architecture in the context of public facility development.

FUTHER STUDY

This research still has delays, so further research needs to be done on the topic of Application of Neo-Vernacular Malay Architecture in the Sports Buildings of the Youth and Sports Department of North Sumatra in order to improve this research and add insight for readers.

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