



The Philosophy of Tradition and Innovation: The Philosophical Meaning of Riau Traditional House Elements in the Design of the Sei Gong Batam Dam Management Building

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ABSTRACT

The Sei Gong Dam Management Building in Batam, Riau Islands, is the main building within the dam complex, featuring a design that combines modern architectural elements with traditional Riau Malay motifs. The building's design adapts roof elements and natural woven panels (bidai) commonly found in traditional Riau houses, but with a simplified approach using modern materials such as flat concrete roof tiles and lightweight steel frames. Additionally, the bidai ornaments in this building feature floral motifs, including leaves, stems, and flowers, symbolizing respect for nature, with yellow as a representation of authority and wisdom. The application of modern materials in the building's design aims to enhance durability and construction efficiency without sacrificing local cultural identity. The combination of modern architecture and traditional elements in the Sei Gong Dam Management Building provides a unique aesthetic value, preserves local wisdom, and serves as a reference for the development of culturally-based building designs. The research method used in this study is a qualitative descriptive method with a case study approach. Data collection was carried out through photo observation of the building and 3D design analysis, as well as a literature review. The analysis focused on identifying the traditional architectural elements applied, the types of modern materials used, and their impact on the visual appearance and cultural value of the building.

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1. INTRODUCTION

In this digital era, many buildings have moved away from traditional architectural styles that utilize natural materials such as wood. However, a number of architects have started to combine modern and traditional architectural elements. Traditional architecture does not merely represent a cultural aesthetic it also conveys profound meanings related to life, humanity, and divinity.

The shape of the roof, for example, serves not only as protection against the weathers but also holds deep philosophical meaning in Riau Malay culture. The division of the roof into three segments reflects religious values and reverence for God Almighty. This concept is often found in various aspects of Malay culture, including architecture, where each element of the building carries symbolic and profound meaning.

Plant forms are one of the primary foundations in the creation of ornamental motifs in the decorative arts of the Riau Malay community. The deep meaning found in their ornamentation is strongly tied to the values and traditions they uphold. Among floral motifs, each flower species is also endowed with symbolic meaning. Hence, it is unsurprising that flowers have become a fundamental source of inspiration in their ornamental art (Prihatin, 2007).

City identity is considered important for creating a unique character for each region. With the ongoing development of technology and industry in this digital age, local cultural knowledge must be integrated into the surrounding environment. Design plays a critical role in motivating future cultural development by emphasizing cultural potential as a foundation for design. This positions design as an expression of Indonesian character—evoking local atmosphere through elements and patterns that reflect regional identity, not merely as decoration or superficial addition (Noorwatha, 2020).

Malay culture is found in several regions such as Riau, Medan, Jambi, Palembang, and others. It involves various aspects including substance, function, ethics, and artistic form—each with unique characteristics that differ by region. These distinctions are visible through both interior and exterior features of buildings. Malay identity is also influenced by historical phases including the pre-Hindu-Buddhist, Hindu-Buddhist, Islamic, and Dutch colonial periods (Tarwiyani, 2020).

Traditional and modern architecture are interwoven through the integration of historical elements into contemporary design, fostering cultural identity and sustainability. This fusion enhances aesthetic appeal while addressing present-day needs, resulting in innovative structures that honor heritage and respond to modern contexts (Zhang, 2024).

The Sei Gong Dam Operations Building located in Batam serves as a primary structure supporting one of Indonesia's National Strategic Projects (PSN) a dam development initiative. This operations building blends traditional and modern architectural elements by incorporating lightweight steel and glass as modern materials. Meanwhile, the traditional Riau influence is visible through the use of the *Selaso Jatuh Kembar* roof form and *bidai* motif detailing that reflects Riau Malay culture.

Traditional houses from various regions in Indonesia are rich in local artistic and cultural elements. Each area has its own traditional house style with diverse shapes and patterns—even within the same province or island, variations in design are common despite sharing a basic form. This diversity is a unique cultural wealth rarely found in other countries. As Indonesians, we should take pride in possessing such an extraordinary heritage. The uniqueness of traditional houses lies in their architectural forms, which enrich the identity of Indonesian vernacular architecture (Muhaimin, 2017).

The *Selaso Jatuh Kembar* traditional house is one of Riau Province's cultural symbols. Its structure is similar to *Balai Salaso Jatuh*, a large stilted house with multiple levels. In addition to serving as a residence, it contains spaces for traditional meetings and discussions, storage for cultural artifacts like traditional musical instruments, and even kitchen facilities. One of its distinctive features is the *sikulang* shape of its roof (Aulia, 2021).

The *Selaso Jatuh Kembar* Malay house was traditionally the residence of *datuk*, elders, and other cultural leaders. It consists of large rooms for sleeping, sitting in council, viewing platforms (*anjungan*), and kitchen spaces. Every element of the house—from the pillars, roof, attic, stairs, to the floor—is intricately carved. The house is also equipped with a customary hall (*balai adat*) for cultural meetings and deliberations (Dianawati, 2002).

The incorporation of traditional aesthetics into modern architectural design is an intriguing and essential concept in the development of contemporary architecture. Modern architecture often draws inspiration from traditional aesthetic elements to create innovative and captivating works. This discussion will explore how the use of traditional aesthetics in modern architectural design can produce works that remain relevant and appealing (Manurung, 2024).

These motifs are inspired by natural forms such as flora, geometric patterns, *awan larat* (cloud trails), *pucuk rebung* (bamboo shoots), and sometimes fauna. The motifs used in *bidai* (woven wall or screen panels) carry deep meanings related to the cultural values and philosophy of the Malay community, such as fertility and harmony with nature (Alwahab, 2024).

The *Selaso Jatuh Kembar* roof features a rich variety of ornamental motifs filled with symbolic meaning, reflecting the social values of the Riau Malay community. There are nine types of decorative patterns: *Wajik Kuntum Tak Jadi*, *Awan-awanan*, *Tebuk Buih Bersusun*, *Pakis-pakistan*, *Lebah Bergantung*, *Selembayung*, *Selok Layang*, *Bintang-bintangan*, and *Siku Keluang* (Saragi, et al. 2024).

The combination of traditional and modern forms results in a unique design that retains cultural elements while also benefiting from the durability and quality of modern materials. The ease of construction and installation of modern materials further enhances the practicality of such designs.

Bidai motifs are typically layered and decorated, serving a dual function as both ornamentation and ventilation. The protruding sections with flooring are referred to as *teban layar*, *lantai alang buang*, or *undan-undan*. The *bidai* motifs often appear symmetrical, thereby embodying the concept of reflection or mirroring. These motifs can be found on the roof of traditional meeting halls (*Balai Adat*). *Bidai* is also known by other names such as *teban layar* or *tebek* (Alwahab, 2024).

There are three types of ornamental motifs found in the *Rumah Adat Selaso Jatuh Kembar*: cloud motifs, plant motifs, and animal motifs. Among these, plant motifs are used more frequently than animal motifs, as the Malay people traditionally lived along riverbanks and estuaries. In the use of animal motifs, the *gastiril* method is applied meaning the full form of the animal is not depicted. Instead, only specific parts or the basic pattern of the animal's shape are represented (Panggabean, et al., 2024).



Figure 1. Exterior view of the Dam Management Building.
Source: Instagram @arisandruo, 2020



Figure 2. 3D Illustration of the Sei Gong Dam Area.
Source: Author's illustration, 2025

Overall, the adaptation of modern technology to local materials opens up significant opportunities for the development of sustainable architecture. With continuously advancing technology, local materials can be processed in such a way that not only maintains their sustainability but also enhances the quality and durability of buildings in line with modern demands (Mustafa, 2024).

Geographically and administratively, the Riau region is divided into two parts: mainland Riau (known as Riau Province) and the Riau Islands (known as the Riau Islands Province). Generally, traditional architecture in both regions does not show significant differences.

This study focuses on the building façade design of modern structures that incorporate vernacular Malay architectural elements, particularly in Riau Province with Pekanbaru as its capital. The presence of vernacular Malay architecture has a strong influence on shaping the urban image of Pekanbaru. The local community sees it as a cultural heritage that must be preserved and not lost to the pressures of modern times.

The integration of vernacular architectural elements with modern architecture is regarded as a creative expression of architects in preserving cultural identity while adapting to contemporary developments (Nasril S., Elfida Agus).

Cultural symbols in Riau feature decorative designs with animal, plant, and geometric motifs. These designs serve decorative, symbolic, and functional purposes, reflecting the creativity and heritage of the Malay community (Nofiyanti et al., 2022).

As stated in the book *Traditional Architecture of Riau Region* (1987), traditional Malay houses in Riau use wood as the main material and include several distinctive architectural elements, such as:

- **Curved Roofs** – Traditional Malay Riau houses often feature curved roofs that not only provide a distinct aesthetic but also help improve air circulation within the house.
- **Artistic Carvings** – Decorative carvings on wood or other architectural elements are characteristic of Malay Riau houses. These carvings often carry symbolic or religious meanings that reflect the culture and beliefs of the local community.
- **Local Materials** – Vernacular Malay Riau architecture relies on local building materials such as wood, bamboo, and natural weavings. The selection of materials reflects sustainability principles and adaptation to the local environment.
- **Open Pavilions or Yards** – Traditional houses are often equipped with open pavilions or front yards used for gatherings, traditional ceremonies, or simply for relaxation.
- **Multipurpose Spaces** – The layout of Malay Riau houses usually includes an integrated living room, kitchen, and family area designed to meet the daily needs of its occupants.
- **Environmental Adaptation** – Buildings are designed to withstand tropical climate conditions and flood risks. The placement of doors and windows takes into account functional and safety aspects.
- **Natural Colors** – The use of natural colors such as brown, cream, and green fosters a harmonious relationship between the building and its surrounding environment.
- **Elevated Structures** – To anticipate flooding risks, many traditional Malay Riau houses are built on raised platforms above ground level.

These characteristics demonstrate how traditional Malay Riau architecture not only reflects cultural identity but also functions as an architectural solution adapted to the environment.

2. METHODOLOGY

The research method employed is a qualitative interpretive approach, in which data is collected in detail on a specific object or situation through the emergence of certain phenomena related to the subject (Nur Hadiansyah et al., 2021).

This study focuses on the correlation between architectural elements of traditional Riau houses and their application in modern building design, using the Sei Gong Dam management office located in Batam, Riau, as a case study. The analysis is carried out through a comparative literature study, incorporating various sources such as scholarly articles, books, and published journals, to explore the deeper meanings and symbolic significance of elements from traditional Riau architecture.

Additionally, this research observes various forms of representation media and three-dimensional models of the roof and *bidai* motifs at the Sei Gong Dam management building to identify physical elements reflecting traditional Riau house architecture. This includes interpretations of floral carvings in the *bidai* ornamentation, roof forms, and building colors, which are then analyzed and interpreted symbolically.



Figure 3. Diagram research method
(Source: Author's illustration, 2025)

3. RESULT AND DISCUSSION

The Sei Gong Dam Management Building serves as the primary facility within the Sei Gong Dam complex, functioning to oversee and manage dam operations. As the first estuary dam in Batam, Riau Islands, this infrastructure plays a vital role in water resource management in the area. The management building occupies a land area of approximately 11,700 square meters and is accompanied by supporting facilities such as a mosque, office, guard post, and staff dormitories. The project is owned by the Ministry of Public Works and Housing (PUPR) and was constructed by the state-owned enterprise Wijaya Karya (WIKA).

In general, the architectural style throughout the dam complex adopts a modern concept, characterized by the dominant use of contemporary materials such as glass and steel. However, what distinguishes the management building is its integration of both modern and traditional architectural elements. These traditional elements are adapted from the vernacular architecture of the Malay Riau house, particularly the *Rumah Adat Selaso Jatuh Kembar*. This is reflected in the roof form, which mimics the distinctive style of *Selaso Jatuh Kembar*, as well as the symmetrical *bidai* ornament motifs featured on the building's façade.

Culturally, traditional houses like *Selaso Jatuh Kembar* can represent the identity of specific ethnic communities in a given region. In this context, the house symbolizes the cultural heritage of Riau Province (Pur, 2021). Traditionally, the *Selaso Jatuh Kembar* is not used as a residence, but rather serves as a space for communal deliberation and ceremonial meetings, aligning with the role of the management building as the central operational hub. It also acts as a symbol of authority reflecting the strategic importance of the dam in regional water governance.

The name *Selaso Jatuh Kembar* is derived from its architectural configuration, where two identical open corridors (*selasar*) are situated beneath the main structure, giving the impression of a “twin” form (Fatimah et al., 2022).



Figure 4. Selaso Jatuh Kembar Traditional House
Source: Radio Republik Indonesia (RRI),
<https://www.rri.co.id>



Figure 5. 3D Illustration of the Sei Gong Dam Management Building Façade
Source: Author's Illustration, 2025

Traditional houses are buildings passed down through generations and are used by local communities for carrying out daily activities. These houses are characterized by unique features in terms of construction methods, shapes, functions, and ornamentation (Alfiansyah et al., 2022).

Although the management building at the Sei Gong Dam draws inspiration from the *Selaso Jatuh Kembar* traditional Malay house, its roof design has been simplified by integrating modern architectural concepts. This simplification includes the use of more practical and durable roofing materials, such as concrete roof coverings and steel frame structures. Nevertheless, traditional cultural elements are preserved through the

incorporation of a triple pyramidal roof form and symmetrical *bidai* ornaments, reinforcing the building's Malay architectural identity.

One notable simplification is the omission of several distinctive elements found in traditional houses. These include the *selembayung*, a horn-shaped finial symbolizing glory and nobility; the *sayap layang-layang*, typically installed at roof corners to enhance grandeur; and the *layang lebah begayut*, decorative wood carvings replacing the fascia board on the roof edges.

Despite these adaptations, the essence of Malay culture remains present in the design, reflecting a balance between tradition and innovation. The simplified approach not only aims to improve construction and maintenance efficiency but also ensures the building remains functional and relevant to contemporary needs. By retaining the triple pyramidal roofs and *bidai* ornaments, the design continues to represent Malay architectural identity while preserving its aesthetic and symbolic value.

Furthermore, the minimalist approach to ornamentation reflects adaptation to modern architectural trends, where simplicity and efficiency are primary design considerations. This demonstrates that traditional architecture can remain relevant in modern contexts through adaptive strategies that honor cultural heritage while accommodating practical demands and advanced construction technologies.

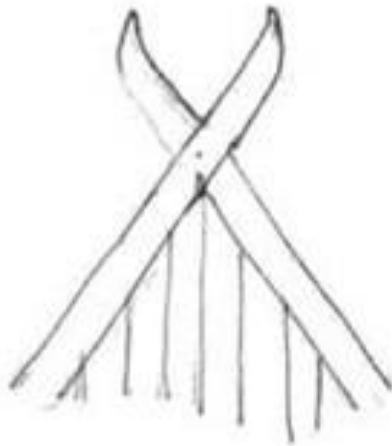


Figure 6. Illustration Selembayung

Source: book arsitektur melayu : rumah tradisional dalam sketsa dan lensa, 2020



figure 7. illustration sayap layang - layang

source:book arsitektur melayu : rumah tradisional dalam sketsa dan lensa, 2020



Figure 8. Lebah Begayut Source: source:book arsitektur melayu : rumah tradisional dalam sketsa dan lensa, 2020

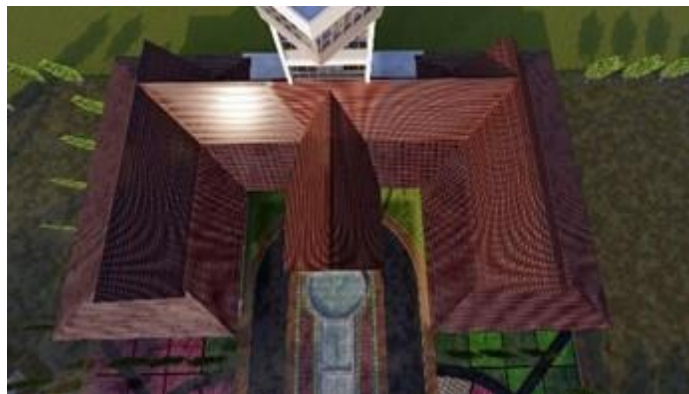


Figure 9. Roof building from top view
Source: Source: Illustration Author's, 2025

3.1 Philosophy and Meaning of the Roof Form

The roof structure of the Sei Gong management building consists of three segments left, center, and right where the external form typically mirrors the internal spatial layout. In Riau Malay culture, the division into three segments holds deep philosophical meaning, closely tied to religious values and reverence for the One Almighty God. This triadic concept frequently appears in various aspects of Malay culture, including architecture, where every architectural element embodies symbolic and spiritual significance.

The ornamentation on the roof serves not merely as an aesthetic component but also as an expression of the belief in divine unity. Furthermore, the form is inspired by the *Selaso Jatuh Kembar* traditional house, which is traditionally used for ceremonial and communal purposes. This reinforces the symbolic role of the management building as a place for gathering and deliberation, aligning with its function as the operational and coordination center of the dam complex.

From a chromatic perspective, Riau Malay culture typically employs three primary colors: green, yellow, and red. In the design of this building, red is the dominant color, symbolizing courage and heroism. In Malay symbolism, red is often associated with blood, reflecting the spirit of struggle and sacrifice in defending traditional values and cultural dignity. Therefore, the integration of form, ornamentation, and color in the building does not merely serve a visual purpose but also represents the cultural identity and philosophical worldview of the Riau Malay community.

3.2 Analysis of *Bidai* Ornament Motifs

The *bidai* ornament is not merely an aesthetic element in traditional Riau Malay architecture, but also serves a functional role as a ventilation feature. Typically designed with perforated or open patterns, *bidai* allow natural airflow into the interior spaces of a building, providing passive cooling while maintaining a sense of privacy. This reflects the climate-responsive and culturally attuned nature of vernacular architecture in the Riau region.

The motifs used in *bidai* ornaments are often inspired by elements of nature, particularly flora and fauna. These motifs highlight the intimate relationship between the Malay community and their surrounding environment. In addition, *bidai* are often composed with symmetrical triangular patterns, which not only contribute to visual harmony but also symbolize balance and order key values in the Malay worldview and social philosophy.

The application of *bidai* ornamentation in modern buildings, such as the Sei Gong Dam management office, demonstrates how traditional elements can be integrated into contemporary architecture. This approach preserves cultural symbolism while adapting its functional and philosophical values for modern use.

There are three primary classifications of *bidai* based on their structure and social significance (Gun Faisal & Yohannes Firzal, 2020):

Bidai One (Bidai Rata): This is the most basic form of *bidai*, used primarily in public buildings accessible to all members of the community.

Bidai Two: A two-tiered *bidai* design. Each tier incorporates a *lantai buang*, *teban layar*, or *undan-undan* architectural features that distinguish the building's elevated status. Structures with Bidai Two are often associated with individuals of noble descent or respected societal status.

Bidai Three: The most elaborate form, consisting of three levels. It is traditionally reserved for royal or highly significant buildings, such as palaces, royal halls (*balai kerajaan*), customary assembly halls (*balai adat*), or the residences of *datuks* and other high-ranking royal officials.

The continuation and adaptation of these *bidai* designs in modern architecture emphasize not only their visual appeal but also the layered cultural and hierarchical meanings embedded within traditional Malay built forms.

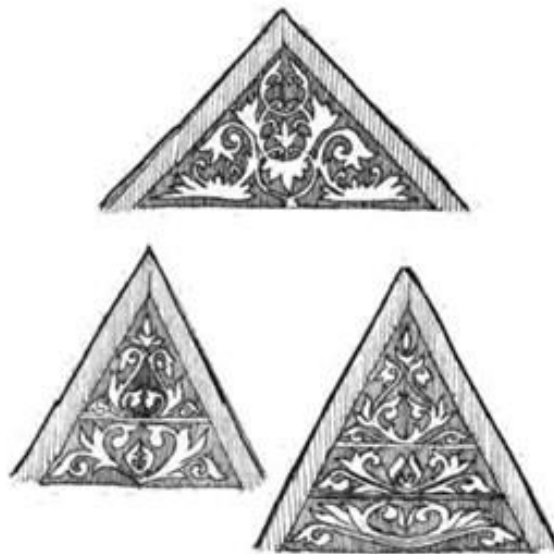


Figure 10. Detail of Bidai Ornament

Source: book *Arsitektur Melayu: Rumah Tradisional dalam Sketsa dan Lensa*, 2020

In the administrative building of the Sei Gong Dam, the use of the *Bidai Tiga* (Triple Bidai) serves not only as an aesthetic element but also carries deep symbolic meaning aligned with the building's function. As the central hub for managing the entire dam complex, this structure acts as the primary authority overseeing all other facilities within the area. Thus, the application of the *Bidai Tiga* reflects authority, leadership, and coordination in managing the site as a whole.

In the context of Malay culture, the number three is often associated with harmony and balance socially, spiritually, and structurally. Therefore, the integration of the *Bidai Tiga* in the façade of the administrative building not only reinforces cultural identity but also emphasizes its role as the central symbol of authority within the Sei Gong Dam complex.



Figure 11. Ornament bidai on the building
Source: Illustration Author's, 2025

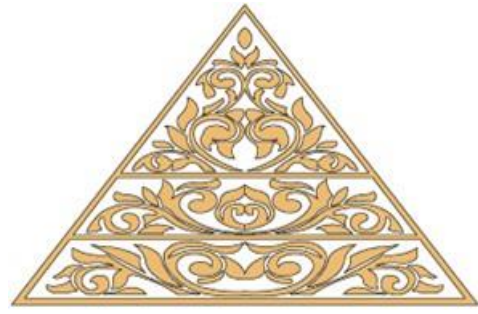


Figure 12. Detailed ornament bidai
Source: Illustration Author's, 2025

The *bidai* motif on the administrative building of the Sei Gong Dam is inspired by floral elements, as reflected in the visible shapes of leaves and stems carved at the edges. Additionally, the motif features blooming flowers and buds at the center of the carving. These decorative elements not only enhance the aesthetic appeal but also convey profound philosophical meanings.

The ornamentation including the floral motifs and the front gate symbolizes respect and embodies social values such as kinship, religious faith, economic aspects, and communal togetherness. A blooming flower represents growth, development, and prosperity, while an unopened bud symbolizes potential and hope for the future. Overall, the motif expresses a harmonious relationship between humans and nature and reflects the reverence for the environment, which is a vital aspect of Malay culture (Irmasolina et al., 2023).



Figure 13. depicts leaves in the carving
Source: Illustration Author's, 2025



Figure 14. depicts bloom flower in the carving
Source: Illustration Author's, 2025

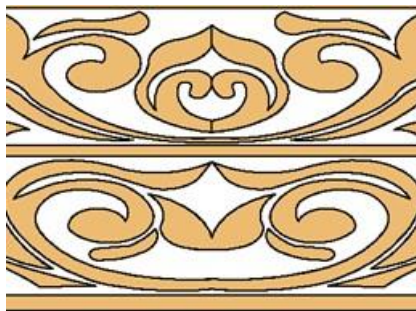


Figure 15. depicts unbloomed flower in the carving
Source: Illustration Author's, 2025

Plant forms serve as one of the primary foundations in the creation of ornamental motifs in the decorative arts of the Malay Riau community. The profound meanings embedded in these ornamental arts are closely tied to the cultural values and beliefs upheld by the Malay people. This is evident in motifs derived from vegetation, often referred to as *hiasan berpunca dari tumbuhan* (“decorations derived from plants”), which carry a wide array of symbolic meanings. These include signs of enduring life, lasting affection, self-awareness, constant mindfulness, growth from what is sown, increased charm when held, blessings when worn, deeply rooted virtues, purity of heart, lineage and descendants, adherence to customs and institutions, remembrance of representatives in life, honoring of legacies in death, protection from calamity, abundance of sustenance, household harmony, unity in life, discernible taste, visible beauty, tangible bonds, integrity in truth, fairness in judgment, gratitude within Malay identity, and continuous fortune (Tenas Effendi, 1993: 138–139).

Additionally, within the category of floral motifs, the Malay Riau society attributes deep symbolic meanings to each type of flower. It is therefore not surprising that flowers often serve as the conceptual foundation in the creation of their ornamental arts. For example, the *kundur* flower symbolizes perseverance in life; *jasmine* and *melur* flowers represent purity; *mangosteen* and *clove* flowers signify grandeur; *cempaka* flowers symbolize sincerity; and the *black flower* represents the diversity within the life of the Malay Riau community (Mahyudin, 2003: 88).



Figure 16. Tri color malay culture
Source: wikipedia, 2025

Green symbolizes spirituality and obedience, and is closely associated with Islam, the predominant religion among the Malay community. Yellow represents monarchy and grandeur, referring to the traditional Malay governance system led by royalty, where yellow is the color of the royal family. Red signifies bravery and heroism, often linked to blood and the general populace, and holds an important place in Malay literature (Wikipedia 2025).

Beyond the motif itself, the yellow color used in the *bidai* ornament carries strong symbolic meaning. In Malay tradition, yellow is often associated with authority, honor, and wisdom, typically reserved for key architectural elements or symbols of leadership. Therefore, the use of both motif and color in the *bidai* of the management building enhances not only

its cultural value but also reinforces the building's role as the center of authority within the Sei Gong Dam complex.

The integration of traditional aesthetics into modern architectural design has a significant impact on shaping built environments that are unique, diverse, and meaningful. By honoring cultural values and local heritage while simultaneously adopting the latest construction technologies and techniques, architects can create designs that blend beauty, functionality, and contextual relevance. This approach not only results in visually compelling architecture but also enriches the human experience by fostering deeper interaction with the built environment. (Manurung, 2024)

3.3 Analysis of Roofing Materials and *Bidai* Motifs

The decorative motifs in traditional Malay architecture are generally categorized into four main types: floral, faunal, natural elements, and religious beliefs (Aurelia et al., 2019). Simplification of architectural forms and material selection is often perceived negatively, seen as a shortcut to achieve efficiency, durability, and ease of construction. However, in the management building of the Sei Gong Dam, such simplification is reinterpreted as a thoughtful design approach creating architectural harmony and cultural innovation. The use of materials such as lightweight steel and concrete roof tiles is not arbitrary; rather, it represents an adaptive response to contemporary needs while preserving the symbolic values of traditional cultural architecture.

The application of ornamental designs, combining various motif types, reflects the distinctive character of Malay culture, which is deeply interwoven with Islamic teachings. Within these teachings, only certain decorative elements such as flora, fauna, nature, and Arabic calligraphy are permitted, with placement guided by their inherent spiritual and cultural meanings (Andrina et al., 2023).

Historically, traditional Riau houses were constructed using environmentally friendly natural materials readily available in the region. Key materials included wood, bamboo, and various types of leaves for roofing. Roof structures were typically made from wood and bamboo due to their lightweight and flexible properties, while roof coverings utilized natural materials like nipa leaves, thatch, or *ijuk* (sugar palm fibers). These materials were not only abundant but also highly functional providing protection from heat and rain while ensuring good air circulation within the house.

Over time, with the advancement of construction technologies, there has been a shift in material preferences. Traditional thatch roofing has been largely replaced by more durable materials such as clay tiles, corrugated metal sheets, and asbestos, which offer better resistance to extreme weather and require less maintenance. This transformation addresses the growing need for stronger, more weather-resistant buildings with simplified construction and upkeep.

The ornamental elements of Riau traditional houses have also evolved. The *bidai* motif, a hallmark of Malay-Riau architecture, is traditionally crafted through intricate wood carving, often adorned with symbolic floral patterns. These carvings were typically painted gold serving not only an aesthetic function but also signifying grandeur, prosperity, and the homeowner's social status. Gold in Malay decorative arts symbolizes the community's appreciation for beauty and nobility expressed through simplicity.

In the Sei Gong Dam management building, the adoption of modern materials is a strategic move to enhance structural durability, ease of maintenance, and construction efficiency. The traditional wooden and bamboo roof frames have been replaced with structural steel and lightweight steel, offering greater resilience against extreme weather and

pests like termites. Similarly, the roof covering has shifted from organic materials to flat concrete roof tiles, which provide superior long-term durability, leak resistance, and a clean, modern aesthetic.

From a visual perspective, the roof is painted in metallic red, a bold and striking choice amidst the surrounding natural landscape. This color not only functions aesthetically but also symbolically reinforces the building's role as the central administrative and authoritative hub of the dam complex. The visual contrast between the modern building and its natural context emphasizes the harmony between tradition and modernity showcasing how traditional Malay architectural elements can remain relevant in contemporary design.

Furthermore, the use of pola bingkai (framing motif), characterized by its simple, non-ornate lines and distinct borders, supports a clean yet culturally rooted appearance. These elements demonstrate how modern adaptations can respectfully reinterpret tradition, ensuring that architectural identity is preserved and celebrated through contemporary forms. (Repi et al., 2020)

In addition to material and color considerations, the integration of traditional Malay Riau architectural elements in the Sei Gong Dam management building is also evident in the roof form, which retains the characteristic slope typical of traditional Malay houses. This sloped design is not only an aesthetic feature but also serves practical functions, such as facilitating the runoff of rainwater and reducing wind pressure crucial adaptations to the tropical climate of Riau. Furthermore, several traditional Malay ornamental features are incorporated into the building's exterior details, albeit in a more minimalistic and modern manner.

The inclusion of these elements illustrates that, although the building has undergone modernization in terms of materials and construction techniques, cultural values and local wisdom remain integral to its design. This fusion creates architectural harmony between tradition and innovation. The simplification of form and the use of modern materials in the management building are not merely technical decisions; they reflect a conscious effort to ensure cultural continuity within architectural practice.

The application of lightweight steel and concrete roof tiles enhances the building's efficiency and durability. However, the retention of the pyramidal roof form (*atap limas*) and the inclusion of traditional *bidai* ornamentation serve as philosophical symbols of Malay architectural heritage. This thoughtful simplification demonstrates that cultural values do not solely depend on preserving the entirety of traditional forms, but can instead be expressed through selective adaptation that maintains their symbolic meanings.

Ultimately, this balance between functional needs and symbolic expression results in an architecture that is contextually relevant, culturally meaningful, and intelligible both from technical and socio cultural perspectives.



Figure 17. Traditional Selaso Jatuh Kembo-style roof Source: <https://www.freedomsiana.id>

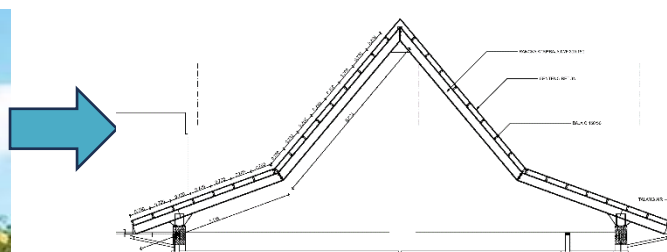


Figure 18. Roof section of the Sei Gong management building Source: Illustration Author's, 2025

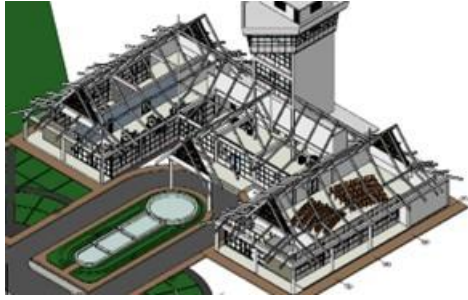


Figure 19. Isometric illustration of a steel roof structure

Source: Illustration Author's, 2025



Figure 20. roof shape from top view

Source: Illustration Author's, 2025

3.4 Summary of the Philosophical Meanings of Architectural Elements

Based on an in-depth analysis and observation of the design and architectural elements of the management building at the Sei Gong Dam, a summary in the form of a table has been compiled to explain the meanings and philosophies behind each element used. This table not only details the symbolism of architectural components, but also illustrates the relationship between the building's design and local cultural values particularly the Riau Malay tradition and the influence of Islamic teachings, which serve as a foundation in the selection of motifs, forms, and the arrangement of ornamental elements. Thus, the table becomes an interpretive tool that shows how architecture goes beyond physical function to carry profound philosophical meanings and cultural identity.

The design elements of the ornamentation in the carvings are a combination of geometric fields functioning as frames and organic forms arranged symmetrically within them. These organic forms consist of three main variations, which when combined and composed in a specific arrangement, resemble the distortion technique seen in the *lebah bergayut* (hanging bee) carving motif. This distortion technique is defined as an artistic effort to alter the basic form of an element through certain simplifications or transformations while still maintaining its essential visual character (Rahman & Kurniawan, 2021).

Figure	Philosophical meaning
 <p>Source: Illustration Author's, 2025</p>	<p>Buildings that incorporate triangular forms are typically special structures, such as palaces, royal halls, traditional assembly halls, or the residences of nobles and high-ranking officials of the kingdom." (Gun Faisal & Yohannes Firzal, 2020)</p>
 <p>Source: Illustration Author's, 2025</p>	<p>The <i>bidai</i> motif on the Sei Gong Dam management building is inspired by floral elements, as reflected in the leaf and stem shapes clearly visible at the ends of the carvings. Additionally, the motif features elements of both blooming and unopened flowers in the center of the carving. This motif not only carries aesthetic value but also conveys a profound philosophical meaning</p>
 <p>Source: Illustration Author's, 2025</p>	<p>A blooming flower symbolizes growth, development, and prosperity. The kundur flower represents resilience in life, while jasmine (<i>melati</i>) and <i>melur</i> flowers symbolize purity. The mangosteen and clove flowers signify grandeur, the Chinese flower symbolizes sincerity of heart, and the black flower represents the diversity within the life of the Malay Riau community (Mahyudin, 2003: 88)</p>
 <p>Source: Illustration Author's, 2025</p>	<p>The unopened flower represents potential and hope for the future. Overall, this motif illustrates the harmonious relationship between humans and nature, and reflects a deep respect for the environment, which is an essential aspect of Malay culture</p>
 <p>Source: Instagram @arisandruo, 2020</p>	<p>The green color on the background of the bidai carving symbolizes spirituality and obedience, and is closely associated with Islam, the religion practiced by the Malay community.</p> <p>The yellow color on the bidai motif symbolizes monarchy and grandeur, referring to the system of governance led by Malay kings, where yellow is the royal family's color.</p> <p>The red color on the roof covering symbolizes courage and heroism, often associated with blood, the general populace, and holds a significant place in Malay literature.</p>
	<p>The roof form of the management building consists of three segments left, center, and right typically following the layout of the interior spaces. In Malay Riau culture, this tripartite division carries deep philosophical meaning, closely related to religious values and reverence for the Almighty God.</p> <p>Broadly speaking, vernacular houses of the indigenous people along the eastern coast of Sumatra consist of three main rooms that serve nearly identical functions, although they differ in naming (Faisal, 2017).</p>

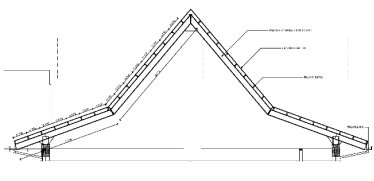
 <p>Source: Illustration Author's, 2025</p>	<p>The roof of a Malay house features a simple, long, and elevated ridge (perabung). The ridge is straight in form, symbolizing sincerity and uprightness of heart. (Gun Faisal & Yohannes Firzal, 2020)</p>
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Table 1. Table of Analysis Summary
Source: Illustration Author's, 2025

4. CONCLUSION

The Management Building of the Sei Gong Dam in Batam, Riau Islands, represents a fusion of modern architecture with traditional Riau Malay elements. This building is designed to reflect its primary function as the central management hub of the dam complex, as well as a symbol of authority within the area.

One of the traditional aspects adapted in its design is the use of the *Selaso Jatuh Kembar* roof form and decorative *bidai* panels. The *Selaso Jatuh Kembar* roof, traditionally used in customary houses as a space for deliberation, aligns with the building's function as a center for coordination and decision making. Meanwhile, the *bidai* ornamentation on the façade not only serves an aesthetic purpose but also carries deep philosophical meaning. Floral motifs in the carvings represent divinity and creation, while plant-based forms symbolize values such as humanity, social harmony, life, sustenance, unity, truth, and justice. Each flower also holds its own symbolism: the *kundur* flower represents resilience in life, *melati* and *melur* (jasmine) signify purity, *manggis* (mangosteen) and *cengkeh* (clove) stand for grandeur, *bunga cina* symbolizes sincerity, and the *black flower* represents the diversity of life in Riau Malay society (Mahyudin, 2003: 88).

Traditional design is often considered outdated; however, traditional architectural concepts not only carry symbolic meaning but often include visionary principles such as sustainability. These are evident in features like natural ventilation, daylight optimization, the use of eco-friendly materials, measured construction, and environmentally conscious development.

In traditional Riau houses, building materials are natural and environmentally friendly, such as wood, bamboo, *nipa* leaves, and *ijuk* fibers. In the modern adaptation seen in the Sei Gong management building, these materials have been substituted to improve durability and construction efficiency. The roof frame now uses steel and light steel, while the roofing material has shifted to flat concrete tiles. The roof is painted metallic red, creating a striking contrast with the natural surroundings and emphasizing the building's role as the central administrative facility.

By combining traditional and modern elements, the Sei Gong Dam Management Building exemplifies how cultural heritage can be preserved in contemporary architectural design without sacrificing functionality or efficiency. This adaptation demonstrates that Riau Malay cultural values remain applicable and can be continuously developed within modern infrastructure projects.

It is therefore hoped that more new buildings though modern in form will continue to incorporate traditional regional elements. Amidst the global trend of uniform architectural styles such as the International Style, traditional influences can serve as unique design identities. They not only contribute to the preservation of local heritage but also create distinctive and inspiring architecture for both local communities and international observers.

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REFERENCES

- Alfiansyah, I. R., Manurung, L. T., & Wulandari, R. (2022). Akulturasi budaya yang mempengaruhi elemen interior bangunan pada rumah adat Melayu Limas Potong. *Lintas Ruang: Jurnal Pengetahuan & Perancangan Desain Interior*, 10(1), 12–24.
- Andrina, H., Soewardikoen, D. W., & Nurhadiansyah, M. (2023). Ornamen rumah tradisional Melayu Riau di Pekanbaru: Rumah Tuan Kadi. *Lintas Ruang: Jurnal Pengetahuan dan Perancangan Desain Interior*, 11(1), 34–49.
- Aulia, D., Martaningsih, S. T., & Supriyanto, A. (2021). *Warna Nusantaraku*. Penerbit K-Media.
- Aurelia, N., Winandari, M. I. R., & Iskandar, J. (2019). Tipologi fasad arsitektur tradisional Melayu Riau. *Mintakat: Jurnal Arsitektur*, 20(1), 1–8. <https://doi.org/10.26905/mj.v20i1.3240>
- Cheris, R., Repi, R., & Amalia, D. (2019). Identifikasi bangunan tradisional arsitektur Melayu Kampar sebagai usulan cagar budaya Desa Kuapan Kabupaten Kampar, Riau (Tinjauan terhadap potensi wisata budaya Melayu). *Prosiding Seminar Nasional Pakar*.
- Dianawati, A. (2002). *Mengenal alam & budaya Indonesia*. WahyuMedia.
- Faisal, F. A. (2017). *Mengenal rancang bangun rumah adat di Indonesia*. Badan Pengembangan dan Pembinaan Bahasa.
- Faisal, G., & Firzal, Y. (2020). *Arsitektur Melayu: Rumah tradisional dalam sketsa dan lensa*.
- Fatimah, A., Wulandari, M., & Alim, J. A. (2022). Eksplorasi etnomatematika pada bangunan rumah adat Riau Selaso Jatuh Kembar. *Science and Education Journal (SICEDU)*, 1(2), 403–413.
- INDERA, E. E. R. A. M. (2023). Ethnomathematics exploration of the Malay traditional house Indera Perkasa Penyengat Island, Riau Islands. https://www.academia.edu/download/117299720/pdf_1.pdf
- Irmasolina, I., Faizah, H., Rahman, E., & Syafriah, S. (2023). Nilai sosial rumah lontiok di Desa Pulau Belimbing Kabupaten Kampar. *Journal on Education*, 5(2), 1868–1876. <https://doi.org/10.31004/joe.v5i2.827>
- Manurung, J. D. P. (2024). Estetika tradisional dalam desain arsitektur. *Tugas Mahasiswa Program Studi Arsitek*, 1(1).
- Muhaimin, M. (2017). *Mengenal kecerdasan ruang dari arsitektur rumah adat Indonesia*. Badan Pengembangan dan Pembinaan Bahasa.
- Mustafa, M. (2024). Pemanfaatan material lokal dalam desain arsitektur vernakular untuk permukiman modern. *Jurnal Cahaya Mandalika*, 5(2), 601–613.
- Nasril, S., & Agus, E. (2023). Arsitektur vernakular: Penerapan arsitektur vernakular pada bangunan rumah singgah Tuan Kadi di Kota Pekanbaru. *Journal of Scientech Research and Development*, 5(2), 969–979.
- Nofiyanti, N., & Heldi, H. (2022). Form, function, and meaning of facade ornament design Malay traditional balai building, Riau Province in Pekanbaru. *LANGGAM International*

Journal of Social Science Education, Art and Culture, 1(04), 01–06.
<https://doi.org/10.24036/langgam.v1i04.26>

- Noorwatha, I. K. D. (2020). Ranchana Vidhi: Metode desain interior berbasis budaya lokal dan revolusi industri 4.0. *In Suparyanto dan Rosad*, 5(3). LP2MPP ISI Denpasar.
- Nur Hadiansyah, M., & Ramadhani, F. (2021). Kajian elemen pembentuk suasana ruang bertema Korean street view pada interior Kafe Chingu di Bandung. *Serat Rupa Journal of Design*, 5(2), 166–185.
- Panggabean, E. M., & Wahyuni, W. (2022). Ethnomathematics study on the ornamentation of the traditional Malay house of Selaso Jatuh Kembar.
- Rahman, F., & Kurniawan, H. (2021). Penerapan ciri khas arsitektur Melayu pada fasad bangunan kontemporer di Kota Pekanbaru (Kasus perkantoran pemerintahan di Tenayan Raya). *Journal of Architectural Design and Development*, 2(2), 103.
<https://doi.org/10.37253/jad.v2i2.4967>
- Repi, R., Cheri, R., & Amalia, D. (2019). Konsep teknologi bangunan tradisional arsitektur Melayu di Desa Rantau Bais, Kabupaten Rokan Hilir, Provinsi Riau. *Prosiding Seminar Nasional Cendekiawan*.
- Repi, R., Cheri, R., & Amalia, D. (2020). Ornamen bangunan tradisional Melayu. *Paper Knowledge. Toward a Media History of Documents*, 1–8.

Example:

- Becker, E. (2001, August 27). Prairie farmers reap conservation's rewards. *The New York Times*. Retrieved from <http://www.nytimes.com>
- Becker, L. J., & Seligman, C. (1981). Welcome to the energy crisis. *Journal of Social Issues*, 37(2), 1-7.
- Bergquist, J. M. (1992). German Americans. In J. D. Buenker & L. A. Ratner (Eds.), *Multiculturalism in the United States: A comparative guide to acculturation and ethnicity* (pp. 53-76). New York, NY: Greenwood.
- Brislin, R. W. (1984). Cross-cultural psychology. In R. J. Corsini (Ed.), *Encyclopedia of psychology* (Vol. 1, pp. 319-327). New York, NY: Wiley.
- Dent-Read, C., & Zukow-Goldring, P. (2001). Is modeling knowing? [Review of the book *Models of cognitive development*, by K. Richardson]. *American Journal of Psychology*, 114, 126-133.
- Gregory, G., & Parry, T. (2006). *Designing brain-compatible learning* (3rd ed.). Thousand Oaks, CA: Corwin.
- Hershey Foods Corporation. (2001, March 15). 2001 Annual Report. Retrieved from <http://www.hersheysannualreport.com/2000/index.htm>