

BLENDING WABI-SABI PRINCIPLES WITH MINAHASAN CULTURAL IDENTITY IN THE DESIGN OF THE CITY LIBRARY AND LEARNING CENTER MANADO

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ABSTRACT

Manado is currently experiencing a demographic bonus characterized by a growing proportion of productive-age population. This demographic condition presents an important momentum for the development of environments that support intellectual growth, creativity, and knowledge exchange. However, urban activities in Manado are largely concentrated in commercial spaces that are predominantly consumption-oriented. While these spaces function as popular gathering places, they are not designed to support meaningful learning processes or knowledge-oriented activities.

At the same time, contemporary learning has evolved beyond conventional classroom settings and increasingly occurs in flexible and informal environments, including public spaces. Despite this shift, Manado still lacks adequate public facilities that intentionally nurture learning processes within the urban environment.

This study proposes the design of a City Library and Learning Center in Manado as a public learning infrastructure that responds to this urban gap. The design integrates Wabi-Sabi architectural principles, which emphasize simplicity, natural materials, and harmony with nature, while also incorporating Minahasan cultural identity into the architectural expression. Through literature study, precedent analysis, and site analysis, the design explores spatial strategies that balance quiet learning environments with collaborative and interactive spaces.

The resulting architectural proposal aims to create a public learning environment that supports both focused study and social knowledge exchange while reinforcing the cultural identity of Manado.

Keywords: Library, Learning Center, Wabi-Sabi, Minahasan Culture, Demographic Bonus, Manado.

ABSTRAK

Manado saat ini sedang mengalami bonus demografi yang ditandai dengan meningkatnya proporsi penduduk usia produktif. Kondisi demografis ini menghadirkan momentum penting untuk pengembangan lingkungan yang mendukung pertumbuhan intelektual, kreativitas, dan pertukaran pengetahuan. Namun, aktivitas perkotaan di Manado sebagian besar terkonsentrasi di ruang komersial yang didominasi oleh orientasi konsumsi. Meskipun ruang-ruang ini berfungsi sebagai tempat berkumpul yang populer, mereka tidak dirancang untuk mendukung proses belajar yang bermakna atau aktivitas yang berfokus pada pengetahuan.

Di sisi lain, pembelajaran kontemporer telah berkembang melampaui pengaturan kelas konvensional dan semakin terjadi di lingkungan yang fleksibel dan informal, termasuk ruang publik. Meski ada pergeseran ini, Manado masih kekurangan fasilitas publik yang memadai yang secara sengaja mendukung proses pembelajaran dalam lingkungan perkotaan.

Studi ini mengusulkan desain Perpustakaan dan Pusat Belajar Kota di Manado sebagai infrastruktur pembelajaran publik yang menanggapi kesenjangan perkotaan ini. Desainnya mengintegrasikan prinsip arsitektur Wabi-Sabi, yang menekankan kesederhanaan, material alami, dan harmoni dengan alam, sambil juga memasukkan identitas budaya Minahasa ke dalam ekspresi arsitektural. Melalui studi literatur, analisis preseden, dan analisis lokasi, desain ini mengeksplor strategi ruang yang menyeimbangkan lingkungan belajar yang tenang dengan ruang kolaboratif dan interaktif. Proposal arsitektural yang dihasilkan bertujuan untuk menciptakan lingkungan belajar publik yang mendukung baik studi fokus maupun pertukaran pengetahuan sosial, sambil memperkuat identitas budaya Manado.

Keywords: Perpustakaan, Pusat Belajar, Wabi-Sabi, Budaya Minahasa, Bonus Demografi, Manado



INTRODUCTION

The role of libraries has evolved from traditional repositories of books into multifunctional learning environments that support various educational and community activities. Contemporary libraries no longer function solely as spaces for reading, but also facilitate collaborative learning, digital engagement, and public interaction. As learning practices continue to develop alongside digital technology, libraries must adapt spatially to accommodate more flexible and hybrid learning environments.

In many cities, libraries also function as civic spaces that contribute to the cultural identity of the urban environment. In Manado, the capital city of North Sulawesi, the current demographic bonus presents an opportunity to strengthen educational and creative capacity.

According to 2024 data from the Statistics Indonesia (*Badan Pusat Statistik*, BPS), 307,006 residents, representing approximately 66.8% of Manado's total population, are within the productive age group of 15–59 years, indicating strong potential human capital for knowledge and learning development.

However, urban activities are still largely concentrated in consumption-oriented spaces such as shopping centers and cafés, which provide limited opportunities for meaningful learning activities. Based on the Community Literacy Development Index (IPLM) published by BPS, North Sulawesi recorded a score of 62.54 in 2024, ranking 27th out of 38 provinces, indicating that the region's literacy ecosystem remains below the national average.

DESIGN ISSUE

based on the background presented, the following design issues can be identified:

1. How can the library foster literacy and learning engagement among the community
2. How can Wabi-Sabi principles be applied as a design approach to design a Library and Learning Center in Manado
3. How can Minahasan cultural identity, as a sub-theme, be blended with Wabi-Sabi principles to create a design that is culturally expressive, and fosters a sense of belonging while supporting meaningful learning experiences

The aims of this design are as follows :

1. To develop a public library in Manado that enhances literacy and learning engagement through inclusive, adaptive, and participatory spatial approaches.
2. To create a design that integrates Wabi-Sabi principles with Minahasan cultural identity, fostering a culturally expressive, contextually responsive, and meaningful spatial experience that encourages a sense of belonging.

DESIGN METHODS

The “Glass Box” method, introduced by J.C. Jones (1970), was applied in the design of the City Library & Learning Center Manado. This approach emphasizes a rational and logical design process, ensuring that the final outcome does not emerge spontaneously, but is developed through systematic data processing, analysis, and synthesis.

The initial stage involves collecting



primary data relevant to the design object through field observations, literature review, and precedent studies. This data includes primary information obtained directly from sources via observation, as well as secondary data from literature, documents, and references related to libraries and learning centers.

Once the data is gathered, the next stage is analysis, where the information is examined and processed to guide design decision-making. The analysis encompasses site conditions, interior and exterior spaces, building mass and volumetry, utilities, and structural considerations.

The final stage is synthesis, which involves selecting the best design alternative based on the previous analysis. This process produces the design concept for the City Library & Learning Center Manado, resulting in an integrated, contextual, and functional design that aligns with the Wabi-Sabi principle and reflects Minahasa cultural identity.

LITERATURE REVIEW

In the design of the City Library and Learning Center in Manado, three main approaches are employed: the typological approach, the locational approach, and the thematic approach. The typological approach involves the study of similar precedents, comparative analysis, and design evaluation of public libraries and learning centers to collect relevant data and identify spatial and functional issues related to learning environments.

The locational approach is based on the study of the spatial planning context of Manado City, including the analysis of urban conditions, accessibility, land use patterns, and potential site alternatives, followed by a detailed analysis of

the selected site. This approach aims to ensure that the proposed design responds to the urban context and integrates effectively with the surrounding environment.

Meanwhile, the thematic approach is developed through literature studies, case studies, and comparative analysis in order to apply the design theme of Wabi-Sabi architecture combined with the reinterpretation of Minahasan cultural identity. This thematic framework guides the architectural character, spatial atmosphere, material expression, and the relationship between people, community, and nature within the design.

Contextual Study of the Design Object Typology

- Prospect of the Design Object

The development of a City Library and Learning Center in Manado presents strong prospects from social, cultural, and urban perspectives. According to demographic data from the Central Bureau of Statistics (BPS), a large proportion of Manado's population falls within the productive age group, indicating significant potential for educational development and knowledge-based activities. However, the availability of inclusive public learning facilities in the city remains limited. Existing urban spaces are largely dominated by commercial and consumption-oriented environments such as malls, cafés, and lifestyle establishments, particularly along the Boulevard corridor (*Pierre Tendean Street*).

While these spaces function as



social gathering points, they do not provide environments that intentionally support literacy development, intellectual exploration, or collaborative learning. The establishment of a City Library and Learning Center therefore offers an opportunity to introduce a knowledge-oriented public facility that can nurture learning processes, creativity, and community interaction. In addition to its educational role, the project also has the potential to become a civic landmark that reflects the cultural identity of Manado through the reinterpretation of Minahasan values in its architectural expression.

- Feasibility

From a locational perspective, the selected site is situated within one of Manado's most active urban corridors, characterized by high accessibility, strong pedestrian and vehicular circulation, and proximity to commercial, recreational, and institutional facilities. These conditions provide strategic advantages for public visibility and accessibility, allowing the library to function as an integrated part of the urban environment.

In terms of technical feasibility, the project utilizes construction systems and materials that are widely available locally, including wood, stone, and other natural materials that align with the architectural concept. Environmental conditions of the site also support passive design strategies such as natural ventilation and optimal daylight penetration, which contribute to spatial comfort and energy efficiency.

Through the integration of contextual analysis, technical considerations, and cultural interpretation, the proposed City Library and Learning Center demonstrates strong feasibility as

a public learning facility that supports literacy development, social interaction, and the diversification of urban public spaces in Manado.

- Object Typology Knowledge

A library is traditionally defined as a facility that provides access to books, information resources, and spaces for reading and study.

A learning center, on the other hand, supports a broader range of educational activities, including collaborative learning, discussion, and knowledge exchange. When combined, a library and learning center functions as an integrated public learning environment that accommodates both individual study and interactive educational activities within a shared space.

Site Selection and Regulation Planning

The City Library and Learning Center is located on *Pierre Tendean Street*, North Sario, Manado, within one of the main urban corridors, characterized by high accessibility and active surroundings. The 13,110.77 m² site is bounded by the coast, providing significant potential for integrating waterfront activities and views. It is also subject to local planning regulations, including Maximum Building Coverage (KDB), Floor Area Ratio (KLB), Minimum Green/Open Space (KDH), and Building Setback Line, supporting its function as an accessible public learning space.



Figure 1. Site Location
Source : Google Earth

Site Analysis

The key parameters of the site are summarized in Table 1, providing an overview of its size and characteristics.

Table 1. Site Parameter Analysis

Parameter	Value
Site Area (m ²)	13,110.77 m ²
KDB (Building Coverage Ratio) (%)	40%
KLB (Floor Area Ratio) (%)	720%
KDH (Green Open Space Ratio) (%)	60%
KLB(m ²)	Site Area × KLB = 13,110.77 m ² × 720% = 94,397 m ²
KDB(m ²)	Site Area × KDB = 13,110.77 m ² × 40% = 5,244.31 m ²
KDH(m ²)	Site Area × KDH = 13,110.77 m ² × 60% = 7,866 m ²

Source : Analytical Study

Thematic Study of the Design

- Wabi-Sabi Philosophy in Architecture

Wabi-Sabi is a Japanese aesthetic philosophy that appreciates the beauty of simplicity, imperfection, and the natural process of aging. Rooted in Zen philosophy, *Wabi-Sabi* emphasizes simplicity, imperfection, and the beauty of aging.

The philosophy of Wabi-Sabi is commonly understood through seven core principles that guide aesthetic and spatial expression:

1. *Kanso* (simplicity) – the elimination of

unnecessary elements to achieve clarity and purity in design.

2. *Fukinsei* (asymmetry) – the appreciation of irregularity and imbalance as part of natural beauty.
3. *Shibumi* (subtle beauty) – understated elegance that avoids excessive ornamentation.
4. *Shizen* (naturalness) – authenticity and harmony with natural forms, materials, and processes.
5. *Yugen* (mysterious depth) – the suggestion of depth and subtlety that invites curiosity and exploration.
6. *Datsuzoku* (freedom from convention) – openness to creativity and innovation beyond rigid formal rules.
7. *Seijaku* (tranquility) – the creation of calm and peaceful spatial atmospheres that encourage reflection.

Implementation of the Design Theme :

Table 2. Wabi-Sabi Principles Implementation in Design

Principle	Design Strategy	Design Application
<i>Kanso</i> (Simplicity)	Reduce unnecessary elements and maintain clarity of space	Simple circulation, and clean spatial organization
<i>Fukinsei</i> (Asymmetry)	Embrace natural irregularities and non-uniform compositions	Organic massing responds to the site, emphasizing asymmetry through varied natural materials and textures.
<i>Shibumi</i> (Subtle Elegance)	Create quiet and understated architectural expression	Subtle and non-provocative entrance and restrained façade
<i>Shizen</i> (Naturalness)	Emphasize authenticity and harmony with nature	Gardens for contemplative and reading spaces, framing and

		transition corridors blur indoor-outdoor boundaries, and the use of natural materials in exterior and interior.
<i>Yūgen</i> (Subtle Depth)	Introduce layered spatial experiences and visual depth	Massing transitions from quiet, contemplative spaces to active areas, guiding movement and gradually evoking mood, while breathing corridors, framing, and sensory elements—light, water, vegetation—enhance depth and atmosphere.
<i>Datsuzoku</i> (Freedom from Convention)	Encourage flexible and informal spatial use	Spaces supporting informal learning and community interaction
<i>Seijaku</i> (Tranquility)	Create calm and contemplative environments	Quiet zones, acoustic control, and landscape elements for reflection

Source : Analytical Study

DESIGN CONCEPT

Minahasan Cultural Identity as Sub-Theme

Minahasan cultural identity in this study refers to the collective cultural characteristics that represent the Minahasa region and its society. These cultural elements are selectively expressed through decorative and material aspects that are reinterpreted through the principles of Wabi-Sabi, which emphasize simplicity, imperfection, and the passage of time. As illustrated in Figure 2, Wabi-Sabi functions as the primary philosophical framework, while

Minahasan cultural identity acts as a contextual layer that enriches the architectural expression. Both aspects are synthesized into a unified architectural language that reflects timeless aesthetic values while maintaining local cultural identity.



Figure 2. Diagram of the Integration of Wabi-Sabi and Minaahasan Cultural Identity
Source : Author's Analysis

Site Development Plan

The building complex consists of three main volumes: the library, learning center, and commercial space. These volumes are connected through a transitional zone, serving both as a communal area and a transition space between the buildings. The separation into three distinct volumes reflects the different activity patterns and spatial atmospheres required by each function.

The massing is arranged sequentially from the quietest to the most active spaces: library → learning center → commercial. The library is placed at the forefront to establish a calm atmosphere from the exterior, allowing visitors to gradually enter an environment that supports focus and reflection before progressing to more active areas.

The main entrance, oriented along the primary road, provides direct access and visual guidance, complemented by a nearby pedestrian drop-off area. Vehicular exit routes are separated to reduce congestion, while internal pathways guide users

seamlessly from arrival points to building entrances and open spaces.

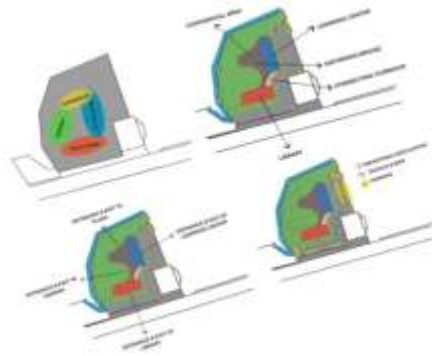


Figure 3 Concept of Site Development, Relative Placement of Building Masses, Entrance-Exit and Circulation within the Site

Source : Author's Analysis

Building Envelope Design

The building envelope utilizes tropical hardwood selected for its durability, environmental performance, and cultural relevance. Among several Indonesian timber species, ulin (*Eusideroxylon zwageri*) demonstrates the highest resistance to termites, moisture, and biological decay, making it suitable for exterior applications in humid tropical environments such as Manado.

Over time, ulin develops a natural patina, gradually changing from light brown to deep dark brown or nearly black. Within the framework of Wabi-Sabi aesthetics, this transformation reflects the values of impermanence and authenticity.

The façade is designed as a layered envelope that partially conceals the building mass, creating visual depth and gradual spatial revelation. Variations in the spacing and articulation of timber elements introduce subtle irregularity consistent with Wabi-Sabi principles while responding to environmental conditions. Cultural identity is further expressed through the abstraction of Kabasaran-inspired motifs

integrated into the timber façade elements.

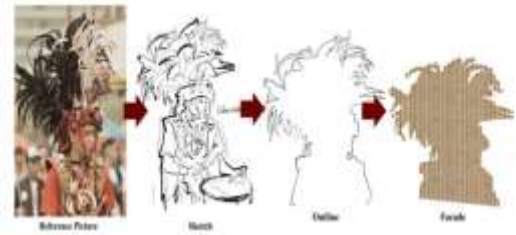


Figure 4. Abstraction Process of Kabasaran Elements into Architectural Façade Pattern

DESIGN RESULT

Outdoor Space Analysis and Design

The outdoor spaces are designed to accommodate both contemplative and active social activities of the users. Therefore, the site is organized into three main outdoor areas: (1) the parking and entrance area, (2) the reading garden, and (3) the plaza. Each space is designed with different purposes and spatial characteristics.

Two of these areas support user interaction: the garden and the plaza. The garden is designed with multiple partitions, vegetation separations, and pedestrian pathways, emphasizing a more intimate spatial experience with nature. It also represents the manifestation of the Wabi-Sabi concept and Japanese garden aesthetics through the inclusion of a Zen garden, incorporating traditional Japanese elements to create a calm and contemplative atmosphere.

In contrast, the plaza is designed as an open and flexible space for social interaction. The area is intentionally spacious and includes a stage that can accommodate various public activities and community events.

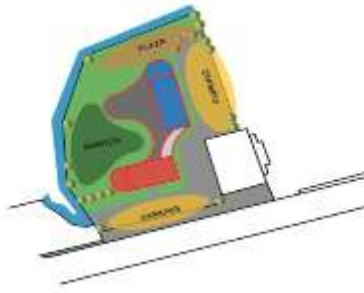


Figure 5. Placement of the Parking Area, Reading Garden, and Plaza.
Source : Author's Analysis

Structure Analysis

The structural system employs pile foundations with a depth of approximately 15 m to ensure stability on reclaimed soil conditions. Each building mass is structurally separated using expansion joints (dilatation) to accommodate structural movement and minimize the risk of cracking due to differential settlement.

The design of the Library and Learning Center emphasizes the integration of the seven Wabi-Sabi principles. Consequently, when viewed from Pierre Tendean Street, the building does not reveal its full form, and only a single mass, the library, is visible. Following the Wabi-Sabi principles, the timber façade covers much of the building's exterior, creating a subtle and mysterious impression. Extensive green open spaces are provided to support contemplative activities, allowing users to read and engage not only inside the building but also in outdoor areas.



Figure 6. Site Plan

The building mass gradually unfolds toward more active areas, progressing from the library to the learning center and commercial spaces. This arrangement sets a calm and reflective mood at the front, while revealing more dynamic and engaging activities deeper within the site. Inside, the learning center accommodates a variety of educational functions, promoting active learning and exploration, whereas the commercial area is designed to attract visitors, encouraging interaction and supporting the lively functions of the overall complex.

The following figure shows the elevation of the Library and Learning Center in Manado.



Figure 7. Front & Back Mass Elevation



Figure 8. Left & Right Mass Elevation

The site view of the Library and Learning Center in Manado highlights the building in its surrounding context, circulation patterns, and open spaces.



Figure 9. Front & Right Site Elevation

The façade uses ulin wood in its natural state to highlight texture and authenticity. Acting partially as a sunshade, the layered panels form a subtle motif visible only from certain angles or under sunlight, embracing imperfection and reflecting the Wabi-Sabi aesthetic.

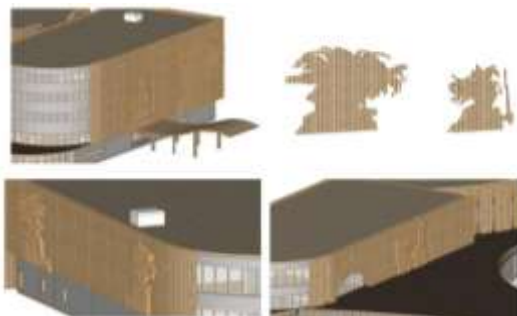


Figure 10. Building Envelope Design

Over time, the wood will weather and develop a natural patina, embracing imperfection and expressing the Wabi-Sabi aesthetic, the

CONCLUSION

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beauty of time.



Figure 11. Building Envelope (ulin wood) Before and After weathered

The spatial qualities and materiality of the Library and Learning Center are illustrated through two complementary perspectives. The eye-level view demonstrates the building as experienced by pedestrians, while the bird's-eye view provides an overview of the site layout, circulation, and the relationship between building masses and open spaces.



Figure 12. Human Eye Perspective



Figure 13. Bird Eye Perspective

The interior combines natural wood accents from bookshelves and *Kabasaran* motifs in gathering areas, such as the lobby, with grey cement-plastered walls, creating a subtle contrast while maintaining a cohesive tonal palette.



Figure 14. Interior Spots

The exterior is characterized by the warm wood tones of the building envelope, which covers a substantial portion of the façade. Vegetation is integrated throughout the site, fostering a serene and contemplative environment that aligns with the Wabi-Sabi design principles.



Figure 15. Exterior Spots

The design of the City Library and Learning Center in Manado responds to the city's demographic potential and the limited availability of public learning spaces that support literacy and knowledge exchange. By integrating Wabi-Sabi architectural principles with Minahasan cultural identity, the project proposes a public learning environment that balances contemplative study spaces with areas that encourage social interaction.

The spatial organization consists of three main building masses: the library, the learning center, and the commercial area. These masses are arranged sequentially from quieter functions to more active activities in order to create a gradual spatial transition. The architectural experience is further enhanced through the use of layered building envelopes, natural materials, and outdoor spaces that support both reflection and community interaction. The use of ulin timber in the façade allows the architecture to express the natural process of aging, reflecting the Wabi-Sabi appreciation of impermanence and authenticity.

The reinterpretation of local cultural elements also contributes to the architectural expression. The abstraction of *Kabasaran* motifs and the rhythmic composition inspired by Minahasan traditions strengthen the cultural identity embedded within the design. Overall, the proposed design demonstrates the potential of a public library and learning center to function not only as a learning facility but also as a civic space that supports literacy development, creativity,



and a sense of cultural belonging within the urban context of Manado.

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