Original Research

The Structural Illustration Reog Ponorogo Art Museum with Joglo Building as Javanese Vernacular Architecture

Dian P.E. Laksmiyanti*, Esty Poedjioetami, Randy Pratama Salisnanda, Eri Muktib

a. Laboratory of Structure and Architectural Science, Department of Architecture, Adhi Tama Surabaya Institute of Technology, Jl. Arief Rachman Hakim No. 100, Surabaya, Indonesia
b. Laboratory of Urban design, Settlement and Landscape Design, Department of Architecture, Adhi Tama Surabaya Institute of Technology, Jl. Arief Rachman Hakim No. 100, Surabaya, Indonesia
c. Laboratory of Design Architecture, Department of Architecture, Adhi Tama Surabaya Institute of Technology, Jl. Arief Rachman Hakim No. 100, Surabaya, Indonesia

Abstract

Vernacular architecture refers to the cultural context of buildings, with the main purpose of preserving local art, historical education, and stimulating local economy. The purpose of this study is to put forward a theoretical proposition concerning the adaptation of vernacular architectural features into cultural preserve development projects. Our approach will be from the vantage point of architecture education, using vernacular architecture in Java (Indonesia) as an illustration. With specific objects the development of design concepts for the Reog Ponorogo Art Museum with Joglo model. This paper discusses the layout configuration and the function/aesthetics properties that are important from an architectural perspective. The study contributes to link between architecture and local wisdom society, which presents a major challenge to enable the design of culturally appropriate buildings with environmental advantages. In addition, the study also highlights structural sustainability benefits ideas that are important for development construction with inherited socio-cultural norms.

Keywords : Vernacular Architecture, Sustainability, Environment, Reog, Museum.
1. Introduction

In last decade, the academic interest in the cultural embodiment of vernacular building traditions has grown noticeably. One common trend to emerge from these studies is the underlying idea that conventional development of cultural preserve or cultural embodiment of vernacular building architecture traditions. (Gil-Piqueras & Navarro, 2021) emphasizes the importance of knowing and valuing this vernacular heritage to protect it and show commitment to future generations. Sustainable architecture should adapt to the natural conditions of the territory, the climate, and the materials. Through, remodeled building depicts the local testimonies of cultures and civilizations that direct link to the past. In order to meet new insights and socio-economic prerequisites, the vernacular architecture need to be well adapted to local social and embodying a comprehensive wisdom. With expected outcome such as positive impact on local economies, preserves building handicrafts, and safeguards the cultural identity of traditional. The study found that socio-cultural sustainability was the strongest predictor of tourist satisfaction, followed by institutional and economic sustainability. The study also highlighted the importance of cultural exchanges between tourists and the local community for sustainable heritage tourism development (Asmelash & Kumar, 2019).

There is a great diversity between “traditional” and “modern” vernacular architecture in Indonesia. Nowadays, many buildings show traditional as well as modern elements in terms of material, technology, layout, and decoration (Navaratnam et al, 2019). Most majority well-known Javanese traditional in Indonesia is Joglo buildings and Reog Ponorogo art (Weichart, 2020). Lately, there is a trend modernize Joglo buildings with function for meetinghouses, offices, and cafes as effort preserve Javanese vernacular design (Yusran et al, 2021). Furthermore, Reog Ponorogo art for past decades have been world tour promotion within the framework of globalization and mobility as defined by UNESCO's concept of World Heritage (Ferreira et al, 2022).

In the present study evaluates vernaculars Javanese region of Indonesia in terms of the physical form of buildings based on the passive design principles character of the region. Concatenate Reog Ponorogo art as the main interior embellishment-features in modern museum architecture design. Therefore, it is of great significance to preserve the culture not only for the tourism industry purpose but also for a wide range of special relevance to a particular culture in a particular geographic region or locality. This study tends to put forward a theoretical proposition concerning the adaptation of vernacular architectural features into cultural preserve development projects being performed in the region.

2. Research Method

Comparative studies are used to explore or look for various issues in design based on field case studies and also literature case studies (Curedale, 2019). The comparative study will later have a relationship between the object and the theme so that it can become a reference or benchmark in carrying out the activities of the Reog Ponorogo Art Museum Design process. The objects of field comparative studies and literature comparative studies include: (a) Literature Case Study: Museum of Fine Arts and Ceramics, Jakarta. Tumurun Art Museum Private, Solo (b) Field Case Study: house of shampooerna museum, surabaya. Museum Jogja Lagi, Yogyakarta. (which all of these studies are related to objects as well as themes). After reviewing the field studies and literature studies, it can be concluded that some of the existing case studies still have deficiencies in each building from several aspects, such as land layouts that are less communicative in placing vehicle circulation, parking patterns. In the form of buildings, several case studies still do not highlight the focal point aspect. while the spatial configuration, several case studies have not shown any energy savings in buildings and also in the surrounding environment. In the end, all finding concepts transform into design illustration architecture with Autocad 2023 and Enscape 3.3 software for analysing thermal performance and heat-flow of the building.

3. Result and Discussion

3.1 Site Overview

The location of the museum site is located on Jl. Warok Suromenggolo, a street that is popular in the Poonorogo community with a nickname “Dalan Anyar/Ratan Anyar” a road that connects with several roads in the area so that with a very strategic location, located in the heart of Ponorogo-
-city connected to the facilities public areas such as Squares, Terminals, Malls, Shops, Offices, Hospitals, Religious Areas and other economic areas. Around the museum site is a highway. The main highway is located in the east of the site, alternative roads are located in the west and the route to public facilities is located in the south of the site. The area of the museum site is approximately 2.5 ha which is divided into 3 zones. The Public Zone which includes: Parking Areas (R2, Cars, Buses, Semi-long Vehicles and Parking for Managers), Landscape, and Mosques.

The Transition Zone includes: Management Building, Museum Building, Merchandise Shop, Caffetaria, and Performance Stage. As well as the Private Zone includes: Art education building, Loading Dock, Mechanical Engineering area. All buildings on the site are connected to service routes and emergency routes which are used as evacuation routes and routes for service vehicles. The Site Entrance Museum is on the main road, Jl Warok Suromenggolo to the east and the main entrance to the west which is on Jalan Mawar as well as a service door (Figure 1).

The concept of “Vernacular Java” was chosen and adjusted according to the results of the discussion according to the issue to produce a micro land arrangement in the form of a joglo traditional house land arrangement so as to create an atmosphere and arrangement of land arrangements that are in accordance with their functions, and as a whole so as to create a good and effective order and still follow land use rules. Which is in accordance with the placement and zoning of the traditional joglo-house. The application of the museum building to the Joglo traditional house land arrangement is as follows: At the front / main there is a pavilion, the circulation that is applied is directed, from front to back, symmetrical in shape. In the middle of the site there is the main / joglo building, on the right and left sides there is gandhok / supporting buildings, as well as behind the site there is a senthong and also a service area.

3.2 Building Form

The shape of the main building is the use of a joglo roof in the museum building and the pavilion. The use of a traditional house in the form of a joglo is to raise local wisdom. The Javanese Traditional House is also a traditional house which has a lot of local wisdom typical of Javanese architecture which we must preserve today. Applying the roof form of the joglo house. Implementing a form of architectural building that is elevating the vernacular Javanese architectural style. The shape of the building is taken from the shape of the traditional joglo house which is a bit distinctive.

The arrangement of the interior of the museum is in accordance with the theme and adapts to the museum building. So the Architectural Concept in interior space is to pay more attention to function and aesthetics as well as comfort. elevating local wisdom from the typical Ponorogo architecture. The peacock feather ornament is an ornament that functions as a unity in every building and makes it a motif in every building's interior. Creating a comfortable, beautiful, clean and beautiful room atmosphere according to the REOG slogan (clean,-
3.3 Interior Of The Museum

The Reog Ponorogo Art Museum complex has several facilities, a pavilion, museum building, management building, mosque, stage for performances, art education area, cafeteria, merchandise shop, all of which have different functions and space designs. By having a Javanese concept of space in the interior of the building and supported by furniture made of wood (figure 4). The joglo roof structure is made of exposed Javanese teak wood. This roof structure is supported by pillars in the middle and other pillars that are smaller than pillars. The joglo log house has several names, including: blandar, duduran, nok, anchor, clamp. All the elements of the wooden beams are arranged without using nails / bolts so that they use a wooden connection in the form of a pen / purus connection. Nilam sari is an arrangement of wooden beams that is on the central roof of the building. In this museum building patchouli sari-
-has 4 levels of arrangement of wooden beams so as to provide height to the joglo roof and provide an attractive interior.

The circulation pattern is important to be considered in the design of the museum. Arrangement of vocal points and placement of objects according to the hierarchy will form the path flow of visitor circulation in the museum (Sembiring, Setiawan, & Bawono, 2018). Museums must also have the necessary facilities for persons with disabilities such as: ramps, lifts, toilets for disabled, (Naima, Wijayanti, & Indriastjario, 2018).

In the design of this museum, the arrangement of spatial patterns according to the hierarchy of Javanese vernacular architecture and pa that will be displayed about the reog itself has been arranged, but the facilities for blind visitors are still lacking attention. It would be better if there was a braille floor on the floor or street outside to help blind visitors to the part of the museum that exhibits Reog culture audially. For the exhibition space which contains photographs and the history of Reog Ponorogo, this museum uses natural lighting.

The consideration is using natural lighting in this zone because the building is an open joglo with quite a large distance and circulation, and every photo and poster has been installed protected by glass so that direct sunlight will not damage the color and quality of the display. The use of natural lighting is expected to save operational energy for buildings such as the Keris Nusantara Museum in Surakarta (Yuliantina & Suharyani, 2020). In the three-dimensional gallery section, artificial lighting is needed to help further emphasize the texture of objects. This museum has also considered climate aspects such as indoor room temperature, humidity,-

-air movement, to protect fragile and sensitive objects. (Laksmiyanti, Nilasari, & Hendra, 2020).

Application of Architectural Science, the Museum has a rectangular site that extends north-south. With climatological analysis, wind coming from north to south has great potential as natural ventilation which can reduce the use of artificial ventilation throughout the day such as air conditioning so that the museum which is in the form of a semi-open building in this joglo building utilizes the potential of natural ventilation throughout the day. In addition, the museum also has the potential for sufficient sunlight throughout the day because the site is elongated north-south. Thus the museum takes advantage of this potential for lighting from morning to evening throughout the mass of the building (Laksmiyanti, Nilasari, & Hendra, 2020).

The design idea chosen is adjusted to the theme and concept taken from microspace, Javanese vernacular which also elevates the local architectural style typical of the Ponorogo district. The dominant interior uses local materials such as wood etc. as the main material in the building interior. Apart from that, the room also has ornaments of peacock feather motifs as the unity of a building mass using colors that resemble the typical Reog art.

On the designed site, it can be seen that the Reog art museum complex has a large green open area on the courtyard and also the parking lot. The landscape design consists of a combination of softscape and hardscape elements arranged in such a way as to produce an interesting pattern that describes life. from peacocks and, the provision of ponds and gardens gives a more natural and calm impression. From some of these elements, when-

Figure 4. Interior of the Reog Art museum which use a lot of woods like the Javanese
-viewed from above, you can see the transformation of the peacock which is applied in landscape design (figure 5).

4. Conclusion

The background for the planning and design of the Reog Ponorogo Art Museum is to create a forum for the history of the origins of the Reog Ponorogo art, as well as a tourism and educational facility that can revive the Ponorogo Regency economy. Besides that, it also provides support that Ponorogo is the original area where the Reog Art was born and developed. So that Reog is an art and culture that we must preserve so that it does not happen again due to the claims of other countries. With a very strategic location chosen to be located in the heart of the city so that it is connected to several accesses and public places so that it becomes an attraction and has the potential for future museum development. With the existence of this museum, it is hoped that it will be able to introduce historical stories and artistic values contained therein both to children and adults so that Reog art can be known and also studied by the wider community so that it is known abroad.

With various discussions on case study analysis which contains several aspects in it. Both literature case studies and field case studies so that later they can be used as a reference in carrying out the process of planning and designing a new object, the Reog Ponorogo Art Museum which can become a “New Tourism Icon” with Ponorogo’s uniqueness as “Warok City and Reog City”.

Reference

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