

EDUCATION AND TRAINING CENTER OF BASKETBALL IN SALATIGA WITH A SUSTAINABLE ARCHITECTURE DESIGN

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Abstract.

Basketball has become one of the sports that is highly favored by people worldwide, including in Indonesia. In Indonesia itself, there is a premier national competition known as the Indonesian Basketball League (IBL), which is participated in by numerous major cities, including Salatiga. Salatiga possesses great potential for the development of basketball in Indonesia. The city's numerous championship victories and individual accolades bestowed upon Salatiga basketball athletes highlight its significant contribution to the advancement of basketball in the country. However, in order to further support and nurture these achievements and potentials, it is essential to provide adequate facilities capable of accommodating the needs of athletes, aspiring athletes, and basketball enthusiasts throughout Indonesia, particularly in Salatiga. Establishing an internationally standardized facility with a focus on education and training would serve as a medium to prepare future athletes. The primary objective of this design report is to outline the plans for the Salatiga Basketball Education and Development Center, utilizing a Sustainable Architecture approach, which would effectively cater to the requirements of athletes and aspiring athletes in enhancing their knowledge and basketball skills. Additionally, this planning aims to fulfill the building's function as a competitive venue for national athletes participating in events held in Salatiga. The design of the basketball education and development center entails various processes, including problem identification, data collection, site identification, site selection, site analysis, and the implementation of the sustainable architecture approach.

Keyword: *Sport, Basketball, Salatiga, Sustainable Architecture*

INTRODUCTION

Sports is a structured physical activity that aims to improve an individual's physical health. Basketball is a popular sport globally, including in Indonesia. While it may not be the most popular sport, basketball has experienced significant development in Indonesia. The Indonesian Basketball League (IBL) has garnered high interest from the Indonesian community, with 26,834 spectators recorded during the league's final match in 2020.

Salatiga, a city in Indonesia, actively participates in the IBL through the Satya Wacana Saints Salatiga basketball club. The club has achieved notable accomplishments, such as being the runner-up in the 2007 National BAPOMI Championship and winning the LIBAMA competition in 2008 and 2009. Henry Cornelis Lekay, one of the club's players, received the title of The Most Inspiring Young Player in the 2018 IBL competition. Salatiga's presence extends to student-level basketball competitions, with several high schools from Salatiga emerging as champions.

Salatiga's involvement in various basketball competitions showcases the potential for basketball development in the city. However, the lack of adequate facilities for basketball training and competition remains a challenge. To address this, there is a need to establish a Sustainable Basketball Education and Development Center in Salatiga. This center aims to cater to the needs of athletes, students, and basketball enthusiasts while promoting the sport in Salatiga and providing an internationally standardized venue. Moreover, the center can serve as a platform to showcase Salatiga's cultural diversity, tourist attractions, and local cuisine.

The Sustainable Basketball Education and Development Center in Salatiga will be designed with a sustainable architecture approach, considering environmental, economic, cultural, and social aspects. This approach is crucial to address pressing issues such as deforestation, climate change, and the depletion of natural resources. By incorporating sustainable design principles, the center aims to minimize its negative impact on the environment while fulfilling its functional requirements.

The establishment of the Basketball Education and Development Center signifies an effort to advance basketball in Indonesia, particularly in Salatiga. Furthermore, the center acts as a unique attraction for visitors and athletes, indirectly promoting Salatiga by showcasing its cultural diversity, tourism potential, and local cuisine. It will provide a venue that meets international standards for athletes, students, and the general public interested in basketball, taking into account the city's existing potential and limitations.

MATERIAL AND METHODS

The method applied in the preparation of the Foundation of Planning and Architectural Design Program is qualitative descriptive. The application of this method involves explaining everything related to the design of the Center for Education and Development of Basketball Sports in Salatiga with a Sustainable Architecture approach. The explanations are presented objectively and supported by data obtained through observation. The collected data will be analyzed and lead to conclusions that will serve as the fundamental concept for the design of the Center for Education and Development of Basketball Sports in Salatiga.

CONCEPT

Sustainable Architecture is an applied concept in the field of architecture that supports the idea of sustainable development. Sustainable development refers to development that meets the current needs of humans without compromising the ability of future generations to meet their own needs. According to Jack A. Kramers (Kurniasih, 2013), Sustainable Architecture is a response and an expression of our well-being and respect for the environment around us.

The Center for Education and Development of Basketball Sports in Salatiga implements the Sustainable Architecture approach as the basis for the design process. This approach focuses on reducing negative impacts on the environment and human health, thereby enhancing performance throughout the building's lifecycle. Careful considerations are given to water, energy, building materials, and solid waste. In its implementation, this approach offers several benefits, including:

- a. Reducing operational costs by improving productivity and using less energy and water.
- b. Improving public health and occupant well-being due to enhanced indoor air quality.
- c. Mitigating environmental impacts by utilizing sustainable resources.

PLANNING LOCATION



Figure 1. Site Planning Location

Source: Google Earth (processed by author)

Based on the site assessment results that have been explained, one site has been selected to be planned as the Basketball Education and Development Center in Salatiga. This site fulfills the criteria better than the other alternative sites. The data related to the selected site are as follows:

- Location : Jl. Lingkar Selatan Salatiga, Pulutan Village, Sidorejo Subdistrict, Salatiga City, Central Java
- Area : 52,300 m²
- Designation : Public service, education, and service area
- Building Coverage Ratio (KDB) : 60%
- Land Coverage Ratio (KLB) : 6.4
- Maximum Height : 32m
- Building Height Ratio (KDH) : 10%
- Distance from the Road Axis (GSB) : 3.75m
- Topography : Undulating
- Site Boundaries:
 - North : Rice fields
 - East : Residential area in Pulutan Village
 - South : Jl Dipomenggolo
 - West : Jl Lingkar Selatan Salatiga

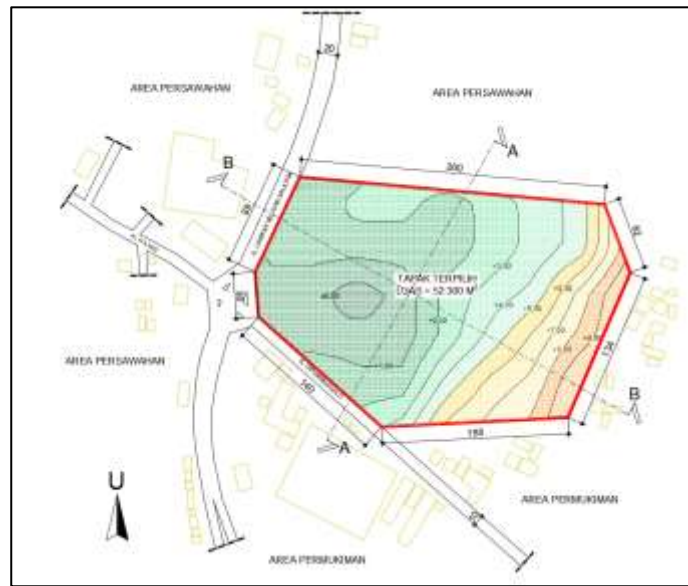


Figure 2. Site Planning Location
Source: Google Earth (processed by author)

CONTEXTUAL ASPECT APPROACH

Accessibility

1. One way to address the potential occurrence of traffic congestion is by positioning the entrance to the building on the northern side, away from the intersection.
2. Implementing a circular circulation pattern by providing access around the building. The surrounding access paths are placed at a distance from the outer boundary, in this case, GSB, to accommodate a large volume of vehicles and minimize the potential for congestion.
3. To ensure smooth and efficient circulation, a traffic management system is implemented by directing the entrance through Jl. Lingkar Selatan Salatiga and the exit on a different side, in this case, Jl. Dipomenggolo.

Climatology

The natural movement of the sun emerges from the east and sets in the west. The eastern side of the site borders residential areas, while the western side borders Jl. Lingkar Selatan Salatiga. The direction of the sun's movement has an impact on the environmental processing, orientation, and openings of the building itself.

View

1. In order to maximize the visibility of the building, the land development tends to be more open and reduces the use of solid and tall fencing.
2. Openings are provided at strategic points along the sightlines to enhance the visibility of the building.

ARCHITECTURAL ASPECT APPROACH

Site processing is carried out about the basic design concept. The placement and orientation of the buildings follow the imaginary lines that act as perpendicular axes to the boundary lines of the intersection, resulting in a comprehensive orientation of the area towards the west side. The processing of the site area is also determined by using the site boundaries as references in determining the shape of the green area, circulation, and buildings.

The initial stage of site processing involves determining the macro functions through zoning, which results in a carefully planned layout. The parking area is divided into two categories, with visitor parking located in the front area and management parking in the rear area. The main building is situated at the highest point of the existing contour, indicating the hierarchical difference between the main building and supporting elements such as outdoor fields, communal spaces, mini cafes, and mini markets grouped in the front area of the main building. Through the zoning results, a well-designed circulation is established, with the main entrance located on Jl. Lingkar Selatan Salatiga and the exit on Jl. Dipomenggolo, taking into consideration the accessibility analysis results to ensure good traffic management.



Figure 3. Basketball Academy
Source: author



Figure 4. Main Building
Source: author



Figure 5. Galery
Source: autho



Figure 6. Basketball Academy
Source: author

DESIGN RESULT



Figure 7. Block Plan
Source: author



Figure 8. Building Facade
Source: author

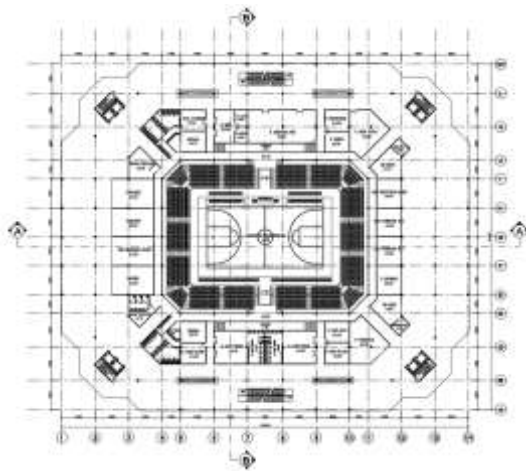


Figure 9. Main Building First Floor
Source: author

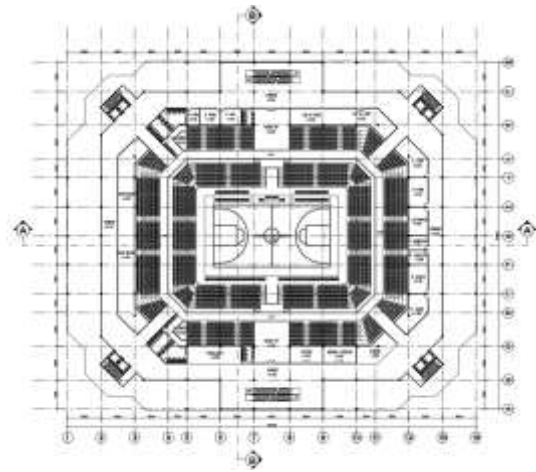


Figure 10. Main Building Second Floor
Source: author

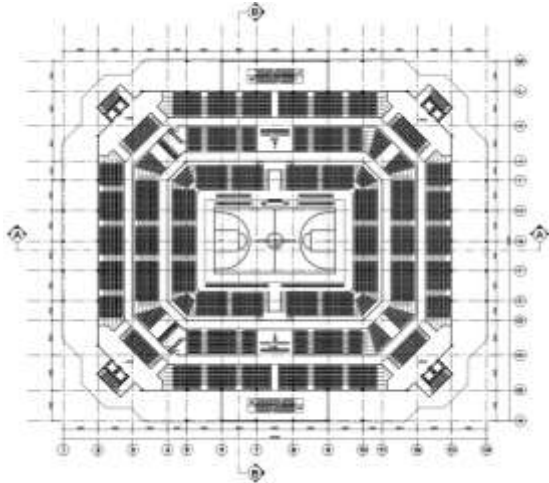


Figure 11. Main Building Third Floor
Source: author

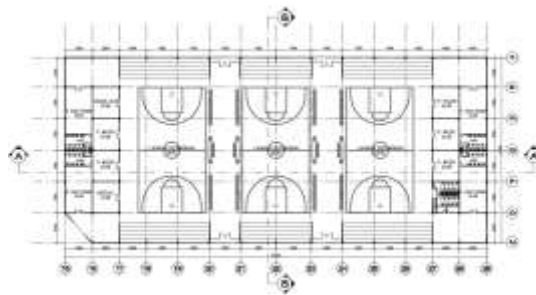


Figure 12. Academy Building
Source: author



Figure 13. Front Façade Main Building
Source: author



Figure 14. Left Façade Main Building
Source: author



Figure 15. Back Façade Main Building
Source: author



Figure 16. Right Façade Main Building
Source: author



Figure 17. Front Facade Academy
Source: author



Figure 18. Back Facade Academy
Source: author



Figure 19. Side Facade Academy
Source: author

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