

(M. Maria Sudarwani) Design
study with modern
architectural approach to
football academy building in
Jakarta

by sari simanjuntak

Submission date: 11-Dec-2023 03:25PM (UTC+0700)

Submission ID: 2255402550

File name: Daeli_2021_IOP_Conf._Ser._Earth_Environ._Sci._878_012022.pdf (970.24K)

Word count: 2620

Character count: 14167

PAPER · OPEN ACCESS

Design study with modern architectural approach to football academy building in Jakarta

To cite this article: R Daeli *et al* 2021 *IOP Conf. Ser.: Earth Environ. Sci.* **878** 012022

View the [article online](#) for updates and enhancements.

You may also like

- [Security Systems to Preventing Misbehavior Among Football Fans in Malaysia: How Effective It Is?](#)
Nur Hafizah Yusoff, Zurinah Tahir and Shahidah Hamzah
- [Creating drag and lift curves from soccer trajectories](#)
John Eric Goff, John Kelley, Chad M Hobson *et al.*
- [Measuring the pitch control of professional football players using spatiotemporal tracking data](#)
Lewis Higginson, Tobias Galla, Brian Prestidge *et al.*



245th ECS Meeting • May 26-30, 2024 • San Francisco, CA

Submit now!

Don't miss your chance to present!

Connect with the leading electrochemical and solid-state science network!

Deadline Extended: December 15, 2023



Design study with modern architectural approach to football academy building in Jakarta

R Daeli*, S Pare and M M Sudarwani

Architecture Study Program, Indonesian Christian University, Jl. Mayjen Sutoyo No 2, Cawang Jakarta Timur, Indonesia

*uli_nata@yahoo.com

Abstract. Football is the most popular sport in almost all countries in the world, not least in Indonesia is a country that has the fourth largest population in the world, meaning that the population of a large country the quality of its human resources is also large, but when measured in terms of quality, Indonesia is categorized into one of the countries that has not been proud enough in its achievements in sports. In the field of soccer, Indonesia is not very competitive in various ways, especially in education, from nurseries to coaching to the empowerment of its athletes. As we know, the field of sports can be the pride of a country, and football can also be the glue of national unity, especially Indonesia, which has a diversity of tribes and cultures. Football is played by all levels of Indonesian society regardless of age, status, background and race. Various solutions are often launched by Indonesian soccer (PSSI) in an effort to improve and improve football at the junior level, among others, by promoting training programs from an early age and launching competitions in certain age groups.

1. Introduction

Football is the most popular sport in almost all countries in the world, no exception in Indonesia. Historically, Indonesia has achieved a proud achievement related to its work on the International football scene by becoming the first Asian representative at the 1938 World Cup, although at that time Indonesia still used the name of the Dutch East Indies. However, in its development, the national football progress has been lacked behind at the international level and at the regional level throughout Southeast Asia, Indonesia achievement is horrible.

One of the main causes of the decline in national football achievement is the lack of smooth process of coaching and development of human resources in the world of national football. So far, the development of football players is only a practical learning, not an integrated study. Trainings (education and training) that already exist, such as Ragunan Training, Salatiga Training, Sawangan Training, Mandau Training, etc., are still haven't touched on theoretical learning of football (literature studies, discussions, seminars, research, development, etc.).

PSSI (Football Association of Indonesia) as the institution responsible for the entire sports coaching process, in particular football, continues to evaluate what to do in order for the achievements of the Indonesian national team to show positive development. Referring to this, the Indonesian government places education or academies at an early age as the foundation of the nation's strengths, and intelligence. In order for Indonesia to have quality national football team players, it is necessary to have an education



Content from this work may be used under the terms of the [Creative Commons Attribution 3.0 licence](https://creativecommons.org/licenses/by/3.0/). Any further distribution of this work must maintain attribution to the author(s) and the title of the work, journal citation and DOI.

that accommodates all the problems of Indonesian football, specifically referring to the system of general knowledge, coaching, mental, and good football techniques.

The football academy is basically aiming to develop more sustainable and integrated coaching. For the Football Academy, it should not only practice football, but there are formal learning activities, which required indoor and outdoor space facilities. Jakarta city, as one of the cities that has made history in the national football competition, can create animo, trend, and at the same time a community football culture that can grow and develop, with the hope that the city of Jakarta can become the basis of Indonesian football education that can have an impact on the national football sport, the embodiment of this coaching can be done by establishing various football academies.

This is what encouraged the establishment of a National Football Academy in Jakarta as a coaching center for the younger generation of Indonesian football and an estuary of the breeding of the country's best talents, so that all the talented young people from all corners of the country get the right coaching and be able to develop their potential. With the facilitation of the necessary football facilities, it is expected to spur achievements for football in Indonesia.

2. Intention and purpose

2.1. Intention

Providing the design ideas of Indonesia Football Academy, which can realize coaching at an early age that refers to quality with the qualification process and educational competencies, thus producing Indonesian footballers who are ready to be released and compete into the world of professional football.

2.2. Purpose

Hosting problems on national football system. With some studies and ideas reviewed from an architectural point of view, It can develop modern architectural planning and design of football academy that houses a coaching system with adequate academy facilities. Applying the concept of modern architecture in design with the form of buildings, both inside and outside the building, and the use of modern technology for activities within the academy.

3. Scope of discussion

3.1. Substantial scope

The scope is emphasizing on the planning of the Football Academy with educational and sports typology as the main typology, as well as commercial, office, and residential typology (dormitories) as supporting typology. Equipped with standard building facilities adjusted to the needs, so that it is expected to improve the quality of academy players.

3.2. Spatial scope

Football Academy is planned to be built in Jakarta.

4. Methods

- The study process used in the Design of Jakarta Football Academy with Modern Architecture Approach is carried out by a research method that is quantitative-correlative analysis, namely finding and establishing a correlation between research variables. This method is a descriptive exposure to current phenomena, accompanied by literature that supports quantitatively used theory, and using descriptive methods that discuss the techniques of collecting, processing or analyzing and presenting data sets. Qualitative or correlative data analysis by conducting several stages through site and object location surveys to obtain data related to the design object.
- Data collection: Survey/Observation and Literature Study.

- Data source. The data source is divided into two, namely primary data and secondary data. Primary data is field study data. Secondary Data is a study of literature used as a reference of all kinds of sources such as books, journal papers, articles, thesis, and other scientific works.

5. Environmental aspect analysis

The location of this project is in Ancol area, Kec. Pademangan, North Jakarta City, Jakarta Special Capital Area, with an area of 6 hectares. North Jakarta is the name of an administrative city in the northern part of the Special Capital Region of Jakarta. Its government center is in Koja, to the north of North Jakarta bordering the Java Sea, to the east by Bekasi, to the south by West Jakarta, Central Jakarta and East Jakarta. To the west of North Jakarta, it borders Tangerang. In North Jakarta lies Tanjung Priok Port, Sunda Kelapa Port and the old town hall of Batavia city, now called Jakarta History Museum. Easy access and circulation. It has easy access because it is located right on the junction road and has secondary access to the site.

The strategic position of the site is also an empty land whose land is reserved for sports facilities.

- Easy access to land and also very close to public transport links and public area.
- The location of the site with one of the stadiums which is being built is BMW Jakarta stadium.
- Near to restaurants/restaurants.
- Near to office area.
- Near to the settlement

5.1. Site potential analysis

The site is located at Jl. Alwan Ancol Raya, Ancol, Pademangan, North Jakarta City, Jakarta Special Capital Area 14430.

Surface area: 5.88 hectares.



Source: Google Earth Pro, 2020.

Figure 1. Site location (North Jakarta City).

- Analysis of the North view leads to Bukit Golf Raya road, precisely on the Warpweft Company
- Analysis of the eastern view leads to alwan ancol raya road, precisely at the Shipping Work Health Center.
- Analysis of the South view leads to Bukit R.E Martadinata road, precisely at Bmw Stadium Jakarta
- Analysis of the Western view leads to the Jalan Pasir putih raya, precisely at PT. Sukanda Djaya

5.2. Activity analysis

The analysis of activities in the football academy building is divided into 7 sections namely managers and administrators, dormitory staff, teachers and coaches, students, health staff, support staff and visitors. Each consists of several subsections according to the managed fields.

- Managers and Administrators, are the people responsible for managing all activities within the football academy. To conduct planning, administration, bookkeeping and finance, organize the organizing of certain events or activities, the service of spaces, customer service, security, examiners and conduct publications to the public and also the maintenance of buildings.
- Dormitory staff, are people who work inside the academy dormitories. In charge of supervising the activities of students who are in the dormitory as well as people who conduct operational activities in the dormitory.
- Teachers and Coaches are the people responsible for formal teaching and football training. Conduct coaching and training activities both physically and mentally of the students on a regular basis.
- Students, are children of a certain age who take lessons or coaches within the football academy.
- Conduct learning and coaching activities both indoors and off the field.
- Health staff, are people who work as doctors and nurses who work to ward off injured or sick students or workers.
- Supporting staff, are people who work in supporting of activities that are within the football academy. Supporting staff such as janitors, security guards and others.
- Visitors are people who come to see training at the football academy or have other needs. Usually visitors who come are parents of students, journalists and others.

5.3. Spatial requirement analysis

Analysis of the amount of space and dimensions of space used follows existing standards adjusted to the needs and number of person involved in the activity. See table 1 below.

Table 1. Circulation room presentation.

No	Circulation	Necessity
1.	10 %	Minimum motion flow standards
2.	20 %	Circulation flexibility necessity
3.	30 %	Demands of physical comfort
4.	40 %	Demands of psychological comfort
5.	50 %	Demands of activity specifications
6.	70 – 100 %	Association with many activities

Some of the resources used in determining the amount of space within the football academy are: Human Dimension and Interior Space, Time-Saver Standards for Building Types-4th Edition, Neufert Architect Data, and FIFA.

6. Application of concepts in design

The basic concept of designing the Football Academy is to create a building that become a place for training and learning of football-gifted students as well as the facilities within it. Merging not only unites the activities in one container but also keeps them within their respective regions based on their

functions. To connect the activity is made a connecting medium in the form of vertical transportation namely ramps and stairs that students use to be able to reach the residence and also the facilities that are in it. The facilities located in the Football Academy can be used as a living room / a room with the students of the Football Academy will be planned and designed as an overnight building as well as educational and sports facilities that have complete facilities as should the football academy in the making. This Football Academy is an elite academy that has the goal of delivering students to achieve the ultimate goal of the school of football which is experience and becoming a professional player.

6.1. Concept of mass order

The mass order at football academies is divided based on the requirements of high levels of low public access and privacy levels. Therefore, the area inside the football academy site is divided into 3 groups, namely public, semi-public and private. Public zone consists of a parking area and open space. Semi-public zone consists of the management area. Private zones namely dormitory buildings, educational areas and ball fields. See figure 2 below.



Figure 2. Concept of mass order.

6.2. The expression of the shape shows the structure and material used

The structure used is the wide span, the use of exposed columns and the dominance of glass and steel materials. See figure 3 below.



Figure 3. Shape expression.

Harmonization of indoor space with the outdoor space. The provision of public interaction space on the inside of the building is open in nature, Open plaza functioned as a communal/public space as well as a recreation area and at the same time as an open space.

6.2.1. *Building interior.* The open building that being discussed is using large openings so the spaces in the academy, especially classrooms can get a good view as well as natural lighting. By maximizing maximum natural lighting, it can excite students in learning. See figure 4 below.



Figure 4. Building interior.

6.2.2. *Building exterior.* The application of Modern Architecture is so thick on the building, seen from the building's elegant façade and the arrangement of interconnected outdoor spaces greatly affects the training process. See figure 5 below.



Figure 5. Building exterior.

7. Advice

The football academy is designed to be able to provide a good educational facility and comfortable to train the talented individuals who will become pro players, both at the club and at the national team level. The layout is designed in such a space that it has a very comfortable open space for both the players and visitors.

References

- [1] [file:///C:/Users/User/AppData/Local/Packages/MicrosoftEdge_8wekyb3d8bbwe/TempState/Downloads/kupdf.net_arsitektur-high-tech%20\(1\).pdf](file:///C:/Users/User/AppData/Local/Packages/MicrosoftEdge_8wekyb3d8bbwe/TempState/Downloads/kupdf.net_arsitektur-high-tech%20(1).pdf)
- [2] <https://www.murraylegge.com/center-for-architecture>
- [3] <id.wikipedia.org>
- [4] <https://www.slideshare.net/jafetwullur/kurikulum-sepak-bola-indonesia-bag-1> FIFA Football Stadiums
- [5] FIFA Laws of The Game
- [6] www.e-architect.co.uk/copenhagen/orestad-gymnasium <http://greengopost.com/go-green-building-wood/>
- [7] <http://www.smma.com/ideas/inclusion-and-typical-classroom>

(M. Maria Sudarwani) Design study with modern architectural approach to football academy building in Jakarta

ORIGINALITY REPORT

14%

SIMILARITY INDEX

10%

INTERNET SOURCES

8%

PUBLICATIONS

10%

STUDENT PAPERS

MATCH ALL SOURCES (ONLY SELECTED SOURCE PRINTED)

4%

★ M S Alias, A S Mohd Rafie, O F Marzuki, M F Abdul Hamid, C C Chia. "Two dimensional numerical analysis of aerodynamic characteristics for rotating cylinder on concentrated air flow", IOP Conference Series: Materials Science and Engineering, 2017

Publication

Exclude quotes On

Exclude matches < 1%

Exclude bibliography On