Doctoral Dissertation

# The “Open Veranda” (“*Emper Terbuka*”) by Friedrich Silaban

# （フリードリッヒ・シラバンにおける「オープン ベランダ（エムペル・トゥルブカ）」）

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# Chapter 1
# Introduction

## 1.1. Background

This dissertation focuses on one of the first generations of modern Indonesian architects: Friedrich Silaban (1912-1984)[1)] and his design activities particularly his notion of open veranda ("*emper terbuka*") as a required space in Indonesian houses.[2)] This element is one of Silaban's design characteristics consistently presented in his works throughout his career.[3,4)] This dissertation will explore and clarify the formation of Friedrich Silaban's notion of open veranda ("*emper terbuka*") and the application of this notion in Silaban's private house projects by studying his texts and architectural design documents.

Indonesian architecture started to develop when various ethnic groups occupied different islands and areas in Indonesian archipelago and built their vernacular houses and buildings from generation to generation at the late prehistoric period (10.000 BCE-200 CE). Afterwards, Hinduism and Buddhism influences started to form the architecture of stone and brick temple from Proto-Historic (200-600 CE) to Classic period (600-1500 CE). Islamic traders then arrived and mixed their architecture with the existing Hinduism and Buddhism in the form of mosques, palaces, and cemeteries at Proto Modern period (1500-1600 CE).[5)]

The Early Modern Period (1600-1800 CE) began when European traders: Portuguese, Dutch, Spanish, and British arrived at the Indonesian archipelago and applied their architecture.[*1)] The Dutch invaded the archipelago and gave its name the Dutch East Indies (the current name for Indonesia) until 1942.[5);*2)] The Recent Modern Period began in early 19$^{th}$ century when the Dutch started to adapt their architecture to the local environment. The arrival of Dutch architects generated the modern architecture at the late colonial era when these architects presented their functionalism in line with the European modern architecture movement: an incorporated modernism blended with the regional architecture.[1)]

The Present Modern Period was marked by the proclamation of Indonesian independence on August 17, 1945 and followed by the formation of the first generation of Indonesian architects. These Indonesian architects replaced the Dutch architects who returned to the Netherlands after the Indonesian government had enacted the nationalization program in 1957.[1)]

The author highlights Friedrich Silaban as one of Indonesia's first-generation of modern architects. Silaban studies architecture at the Dutch East Indies school and worked for the government and owned a private architectural firm. He started his early career as a reputable Dutch East Indies young architect[*3)] during the Dutch occupation in 1930s and reached his career peak in the era of Indonesian Independence.[1,3,6-8)] After receiving an architect profession certificate from *Academie voor Bouwkunst* Amsterdam in 1950, he won three national design competitions: the Indonesia Bank Headquarter (1954), the National Mosque of Istiqlal (1955), and the National Monument (1956). He became well known as one of the most reputable Indonesian architects because of these competitions. Later, he was involved in the nation-building projects during the president Soekarno's era.[3)]

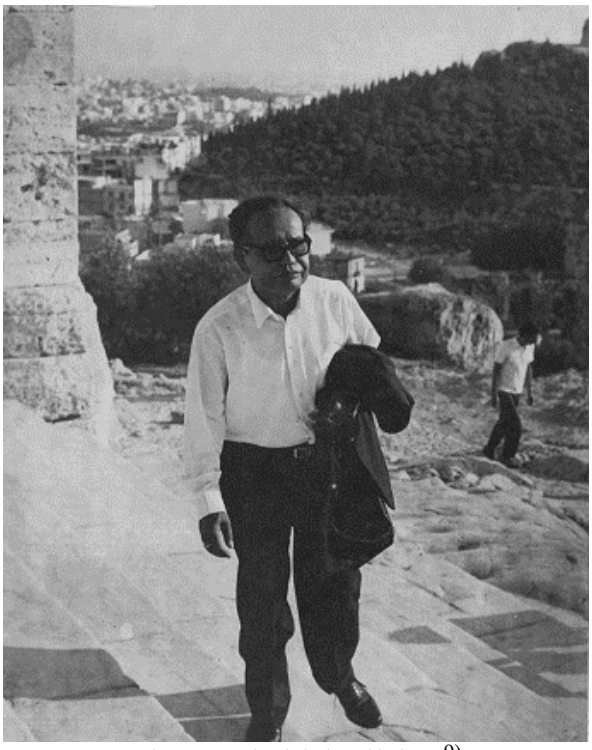

Fig1.1 Friedrich Silaban[9)]

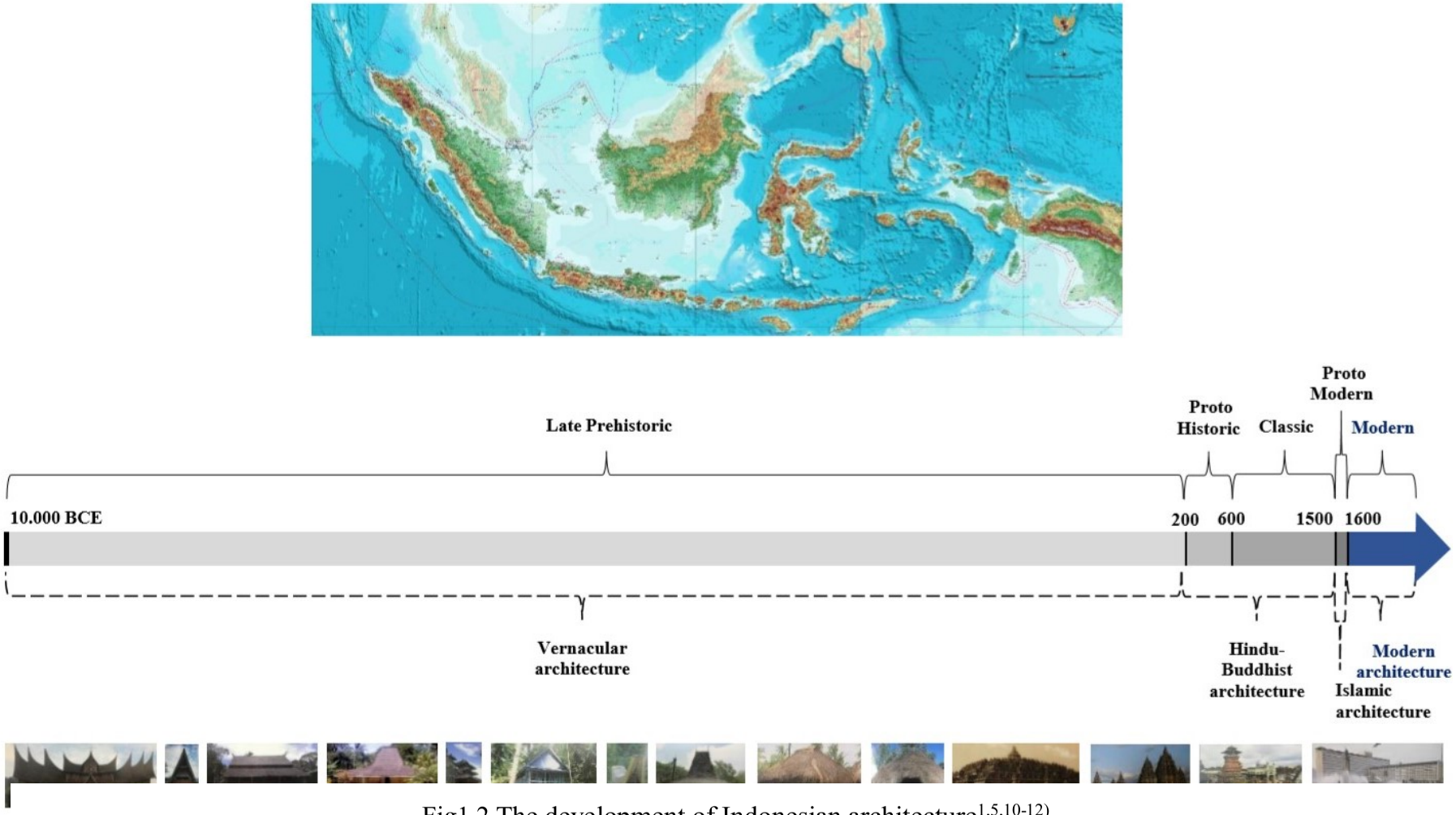


Fig1.2 The development of Indonesian architecture[1,5,10-12)]

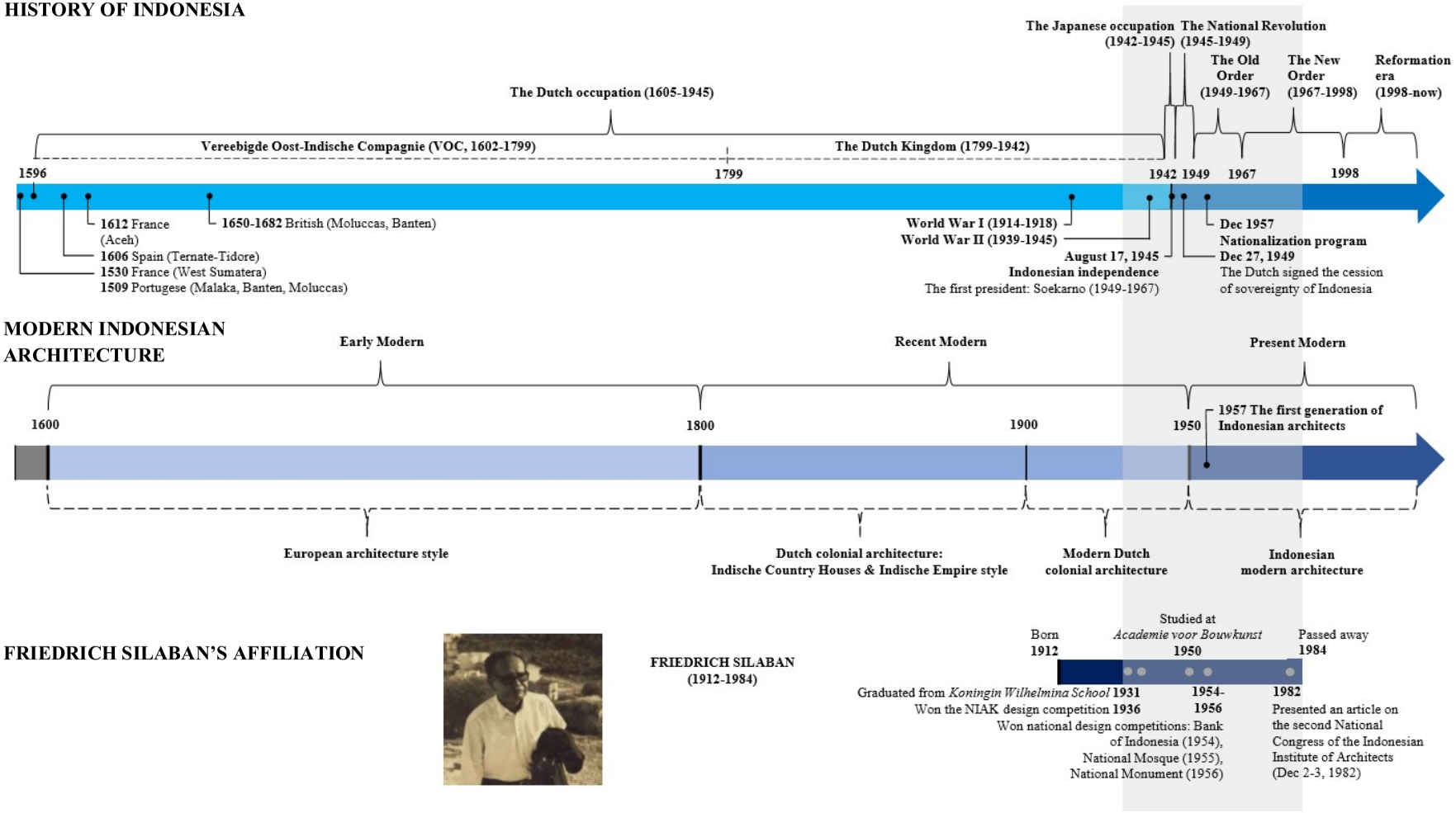


Fig1.3 The development of Modern Indonesian Architecture and Silaban' s affiliation[1,3,5,7,9,13,14)]

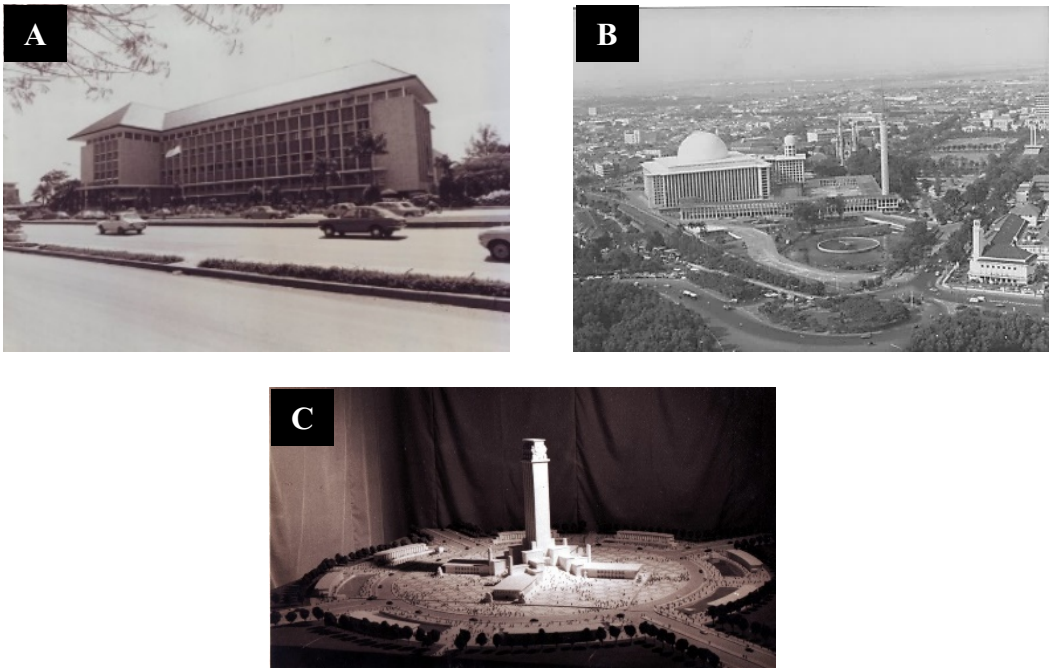

Fig1.4 Friedrich Silaban's design for Indonesia Bank Headquarter (A, 1954), National Mosque of Istiqlal (B, 1955), and National Monument (C, 1956)[9]

Silaban applies his modern architectural principles to develop the new Indonesian architecture.[7)] He emphasizes the modern tropical concepts for Indonesian architecture as explained in his article "Architectural Idealism and the Reality in Indonesia" in which he explains his idealism regarding the purity of Indonesian architecture. He presented this article at the Second National Congress of Indonesian Institute of Architects on December 3, 1982.[2)] In 1950s. The modern tropical concept is actually Silaban's architectural points to adapt the modern architectural principles to the tropical regions. This concept has been realized in Chandigarh, India, and Latin America such as Brasilia.[8), *4)]

As a part of the abovementioned congress article, Silaban considers seven points to be designed in tropical countries:

1). The importance of the roof for "climatic effects" mitigation,

2). "Open veranda (*emper terbuka*)" as required spaces in Indonesian houses,

3). The "ideal architectural form" is simple, concise, and clear,

4). Leak-free "roof material," shape, and construction,

5). Good quality of "materials,"

6). Harmony of modern "architecture forms" with tropical characteristics,

7). Inessential use of "Air Conditioning" for buildings in Indonesia.[2)]

At the final part of this congress article, Silaban formulates his ideal house criteria underlining the application of "open veranda" (*"emper terbuka"*) as an element of ideal house.[2)] It affirms the importance of the notion on "open veranda" (*"emper terbuka"*) as a required space in Indonesian houses based on Silaban's architectural idea.

The term "*emper terbuka"* is a combination of the words *"emper*" and *"terbuka.*" In the official Indonesian language dictionary, the word "*terbuka*" means open; not closed; revealed, while the word *"emper*" means veranda.[15)] In architecture, a veranda can be defined as an open porch or balcony that is usually covered and extends along the outside of a house or other buildings.[16)]

The existence of veranda in Indonesia as one of the house's outer spaces has been identified during the period of vernacular architecture. During the day, Indonesian people spend most of their time outside space engaging in daily social activities. Meanwhile, the inside parts of the house as walled spaces are only used for domestic purposes such as sleeping, cooking, and storing family heirlooms.[12)] Unlike the other outdoor spaces that are mostly separated from houses, veranda is mostly located at the front of a house and directly connected to the interior through a door. Veranda acts as a public space where households socialize and chat with neighbors, friends, and passerbys, and they informally receive guests, relax, and enjoy the environment.[1,7)]

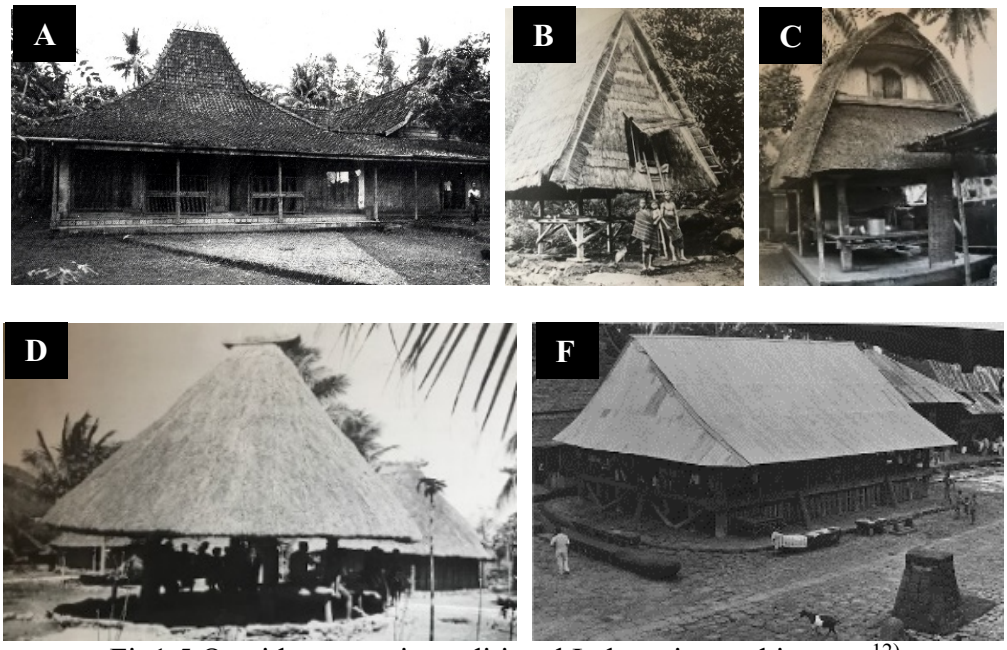


Fig1.5 Outside spaces in traditional Indonesian architecture[12)]
(A. Veranda, B. Sheltered area beneath the house, C. Platform under the rice barn, D. The simple roofed platform, and E. Purpose-built open-walled pavilion)

Fig1.6 The verandas in traditional Indonesian houses[11,20,21)]
(A. Palembang house, B and C. Javanese kampung house)

Silaban mentioned the term of open veranda ("*emper terbuka*") in the congress article published at the end of his career. According to his text documents written before 1982, typically he only used the term "veranda" (*"emper"*)[17,18)] and used the term "open veranda" (*"emper terbuka"*) only for one description in an unpublished article draft (1950s-1960s).[19)] It shows that Silaban himself passes through some processes to establish his notion of "open veranda" (*"emper terbuka"*).

Regarding his designs as a nation-building architect, Silaban is famous with his monumental building designs. However, it is currently believed that he deigns many residential projects from the beginning until his final career.[3,22,23)] The open veranda (*emper terbuka*) is one of Silaban's design elements consistently existed in his architectural works both residential and public buildings.[3,4)]

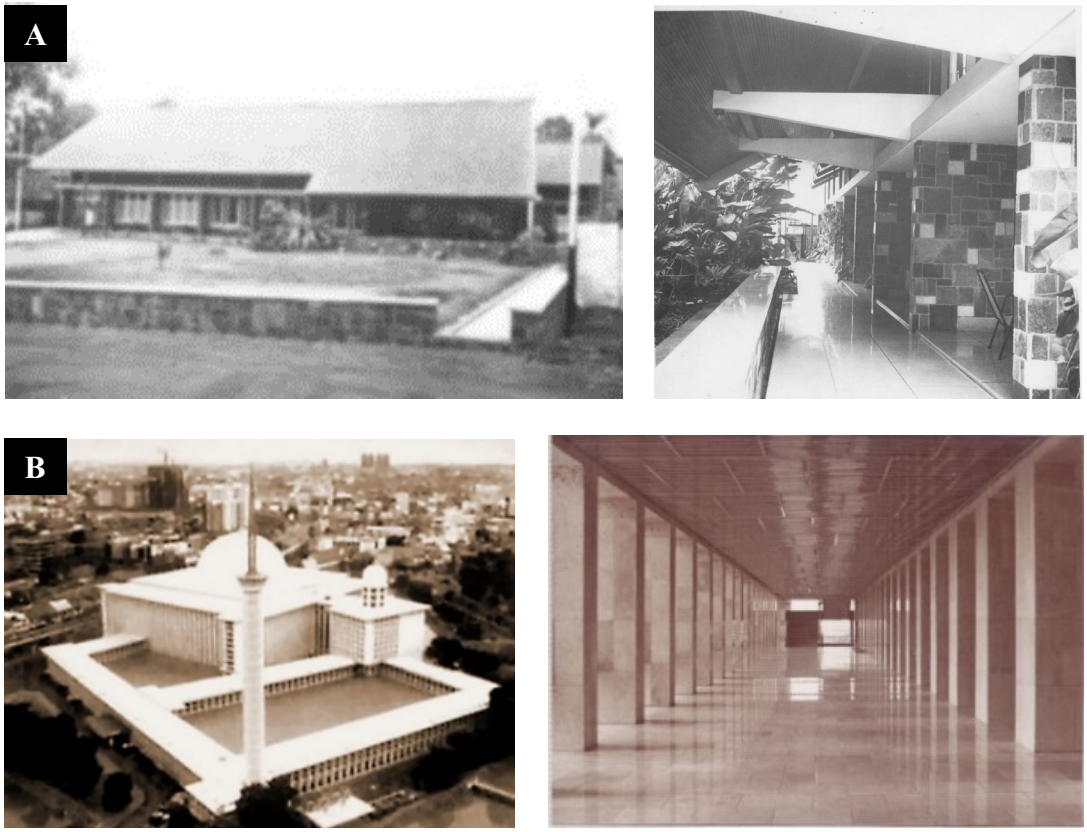


Fig1.7 Open veranda (*emper terbuka*) in Silaban's architectural projects:
(A. Silaban's house (1958), and B. Istiqlal Mosque (1954))[9)]

The notion of "open veranda" (*"emper terbuka"*) is the most closely related to the concept of Indonesian houses, which is the keyword to Silaban's residential designs.[2)] Based on Silaban's archive collections, Silaban designs some residential projects. In addition to private houses and villas, he also designs special types of buildings such as shop houses and houses for the government institutions or companies. Silaban's residential project archives showed that he started using the term "*emper*" (veranda) in 1950s. He wrote the Dutch term "terras" (terrace) in his residential project archives from 1930s to 1940s.[23)] It shows that he also has some processes to develop the open veranda in his private house projects.

From the viewpoints of architectural theories in this dissertation, the author will provide a comprehensive understanding of Silaban's notion on open veranda (*emper terbuka*) by analyzing his textual documents and exploring the formation processes of his notion. Furthermore, the author will examine the notion application to his architectural practices. Through a chronological analysis of his private house project design documents, the author will investigate the formation processes of Silaban's design

method to create the open veranda (*emper terbuka*) and clarify the relationships with the traditional Indonesian that still exists in the early period of Indonesian architecture development. By clarifying Silaban's design method, the link between two issues: tradition and modern in terms of open veranda (*emper terbuka*) will provide a new perspective to reinterpret the modern tropical architecture design. It will be an original academic contribution from this dissertation.

## 1.2. Objectives of the Study

The main objective of this dissertation is to clarify Friedrich Silaban's idea of open veranda (*emper terbuka*). Analyzing Silaban's textual documents and architectural designs causes two issues of the research.

1) **The formation of the notion on the "open veranda" (*"emper terbuka"*) by Friedrich Silaban**

This dissertation analyzes one of the critical issues: how Silaban forms his notion of open veranda (*emper terbuka*). The author will focus on Silaban's textual documents about open veranda (*emper terbuka*) to clarify his viewpoints about this notion. Silaban's texts will be comprehensively analyzed to clarify the contents, the differences among the texts, and the processes through which Silaban's notion of open veranda (*emper terbuka)* is formed. Furthermore, the understanding of Silaban's texts on open veranda (*emper terbuka*) will set the framework to analyze his architectural works, especially the private house projects.

2) **The formation of "open veranda" (*"emper terbuka"*) in Friedrich Silaban's private house projects**

Following the first issue, this dissertation analyzes the second main question: how Silaban applies the notion of open veranda (*emper terbuka*) in his architectural projects. The author will focus on analyzing Silaban's private house project documents to clarify the formation processes of Silaban's design method to create the open veranda. The analyses will be divided into two discussions: the private house projects in 1930s-1968 and the late realized private house projects in 1968-1969 compared with the preliminary design in 1970s. After analyzing these projects, a comprehensive discussion will be included in the final part of this dissertation.

## 1.3. Previous Studies and Position of the Research

### 1.3.1. Silaban's notion of the "Open Veranda" ("*Emper terbuka*")

Like the others in the first generation of Indonesian architects, Silaban does not leave many texts that can explain his ideas.[4)] According to Silaban's archives and biography references, Silaban himself writes only some texts.[3,9,22)]

The previous researchers have analyzed some of Silaban's text documents for instance Odang et al.,[24)] and Sopandi[3,4)] who discuss Silaban's article from the second National Congress of Indonesian Institute of Architects. The modern Asian Architecture Network[6)] and Sopandi[8)] discuss the conclusion of Silaban's journey reports to Japan and Chandigarh, India. Furthermore, Sopandi[3)] analyzes the details of Silaban's reports of his journeys to Japan, India, the United States of America, and West Germany. Also, the modern Asian Architecture Network[6)] and Sopandi[3)] discuss some sketches in an unpublished article draft to analyze Silaban's house designs.

These previous researchers mainly discuss the contents of Silaban′s textual monographs but do not explore the processes through which his notion changes. While most of the studies mentioned above discuss the open veranda shapes in Silaban's designs, only Sopandi[4)] discusses Silaban's descriptions of open verandas (*emper terbuka*) and confirms that Silaban's illustrations for *emper* (or *emper terbuka*) can be defined as "veranda, gallery or terrace, or *voorgalery* (front gallery) and *achtergallery* (rear gallery)." The sketch descriptions in the unpublished article draft regarding the open veranda (*emper terbuka*) are not explicitly discussed either.

In order to fill the gap left by these studies, the chapter 3 of this dissertation focuses on the differences between the descriptions of open veranda (*emper terbuka*) in Silaban's texts to analyze the processes through which his notion of open veranda (*emper terbuka*) is formed.

### 1.3.2. The "Open Veranda" ("*Emper terbuka*") in Friedrich Silaban's private house projects

The modern architecture affects the Southeast Asian countries: Indonesia, Malaysia, Singapore, and the Philippines after the independence of those countries had proclaimed.[25)] A modern movement indicated by a new architecture stream becomes a part of the national identity for the newly independent nations.[26)] When 1945 Indonesian independence is proclaimed, the early generation of Indonesian architects play an

important role in this modern architecture era.[1)] Friedrich Silaban (1912-1984) and Soejoedi Wirjoatmodjo (1928-1981) are the prominent architects who actively design the nation-buildings of Indonesia.[26)]

Silaban's notable design is his own house (1958, Fig.1-8), which shows his architectural concepts. The Japan Architect Magazine published an article regarding this modern tropical house in January 1964.[6)] Silaban applies the open veranda (*emper terbuka*) as one of his design characteristics in the form of large front veranda and the back one under an extended roof. As a comparison, Soejoedi Wirjoatmodjo has a different concept for his house in Rawamangun (1972, Fig.1-9) and the house in Sangkuriang, Bandung (1967-1968, Fig.1-10). He applies a small front terrace as an entrance and other private ones on the side and back of the house.[27)]

Fig1.8 Friedrich Silaban's house, Bogor (1958)[9)]

Fig1.9 Soejoedi Wirjoatmodjo's House in Rawamangun, Jakarta (1972)[27)]

Fig1.10 A house at Sangkuriang, Bandung (1967-1968) by Soejoedi Wirjoatmodjo[27)]

In a neighboring country Malaysia, the architects apply the modern architecture when their 1957 independence is proclaimed. At first, they develop a modern movement on the residential designs built mostly in Kuala Lumpur, for instance Kington Loo (1930-

2003) who designed his own house in 1958 (Fig.1-11).[29] After separating from Malaysia in 1965, Singapore becomes a republic neighboring country and develops the modern architecture to express a new republic country. The representative architect, Lim Cheong Keat (1930-) is one of the modern architects[25] who designs some residences in Malaysia and Singapore (Fig.1-12).

Fig1.11 Kington Loo's house, Kuala Lumpur (1958)[28]

Fig1.12 House of Tan Peng Nam, Binjai Park, Singapore (1958-1959)[29]

These comparisons show that Silaban's house (1958) is the special private house projects demonstrating the open veranda (*emper terbuka*). Silaban's house and some of his private house projects have been discussed by some researchers. Odang et al. compare Silaban's house, Small House of Abdullah Albawahab, and Residence of Lie A Hong clarifying the development of roof design from a gable roof (1951-1961) to a hipped roof (1968-1979).[24]

Meanwhile, modern Asian Architecture Network (mAAN), including Sopandi and Iwane as a one of the members, focuses on the characteristics of Silaban's house.[6] Furthermore, Iwane[30] and Sopandi[3] develop a complete study of Silaban's House. The discussion of Silaban's house not only talks about the realized plan as the previous researchers did but also talks about the unrealized plan. Sopandi discusses the first plan[3], while Iwane discusses the modification following the first plan.[30]

In addition to the discussion of Silaban's house, Iwane discussed the house designed in Dutch colonial period and studied the completed plan of Wisma Yaso. She also gave a brief explanation about two house plans in 1978.[30] Further, Sopandi continues studying Silaban's archives and writes a recently noted biography as an important study to provide the general information for Silaban's design. Besides discussing Silaban's

public building projects, he also writes a complete study of Silaban's house. The discussion of Silaban's house is followed by a brief explanation on the influence on Silaban's house expression in Wisma Yaso and Residence of Lie A Hong.[3)] However, the information of other private house projects is limited.

These researchers mainly discussed the open veranda's feature of Silaban's house as a tropical form. However, the development of open veranda is not fully discussed and the comparisons to other private house projects are also limited, so that the development of open veranda (*emper terbuka*) for all private house projects was not be discussed yet.

Further, Sopandi mentions that open veranda is a familiar space in traditional Indonesian houses. However, the discussion mainly targets Silaban's house by emphasizing its characteristics as a climate modifier.[3)] Therefore, in this dissertation, the author examines all Silaban's private house projects to clarify the development of open veranda (*emper terbuka*) and the processes of how this traditional shape affects Silaban's design method.

The special private house projects, which demonstrate the morphological development of open veranda (*emper terbuka*), are Silaban's own house in 1950s and Lie A Hong's Residence in 1960s. The Residence of Lie A Hong (1968-1969) is noted as one of the last realized private house projects to show his completed designs.

In the previous research, Odang et al. only analyzes the existing plans of Lie A Hong's Residence (1968) but does not explore the changing processes throughout a new further construction of design plans.[24)] On the contrary, based on Silaban's archives, Sopandi points out a brief explanation about the similarity of the roof design between Lie A Hong's Residence (1969) and the unrealized second plan of Silaban's house (1958).[3)] However, the brief explanation does not provide a further discussion about the open veranda design. In contrast, the author examines all the design drawings that are confirmed to exist in order to clarify the formation processes of open veranda on the realization of this residence. Later, Silaban's design method in this residence with the previous private house designs will be compared.

The author focuses on Friedrich Silaban's documents including his texts and private house design archives to explore his idea of open veranda (*emper terbuka*). With these documents, the author will explore a comprehensive understanding of the formation of Silaban's notion on open veranda (*emper terbuka*) and the formation processes of hiss

design method to create an open veranda (*emper terbuka*) through the development design of his private house projects.

## 1.4. Materials and Methodology

### 1.4.1. Materials

Friedrich Silaban's archive collections serve as the primary resource materials in this paper. After Silaban died in 1984, these archives were privately preserved in Silaban's house. The preservation of these archives has already been done by some team networks. In 2007, an international team: the modern Asian Architecture Networks and Setiadi Sopandi created a catalog and documented some of Silaban's archives.[6,22] Further, Pusat Dokumentasi Arsitektur (PDA/Architecture Documentation Center) digitalized most of the archives that was supported by the Ministry of Education and Culture of Republic of Indonesia.[3] Sopandi consistently studies those archives, publishes Silaban's biography, and at the same time begins a collaboration with PDA for the establishment of an online museum (arsitekturindonesia.org) for Silaban's archives under the Indonesian Architecture Museum Foundation (Yayasan Museum Arsitektur Indonesia). Some of Silaban's digital archives have been published on this online museum.[9]

During the research processes, from April 18 to May 12, 2017, the author had the opportunity for working as a volunteer to assist the development of Silaban's digital archive metadata. Later, the author was permitted to access Silaban's archives for this dissertation.

Fig1.13 The development of Silaban's digital archives metadata activities at Pusat Dokumentasi Arsitektur (PDA), Jakarta (April 18 – May 12, 2017)[31,32]

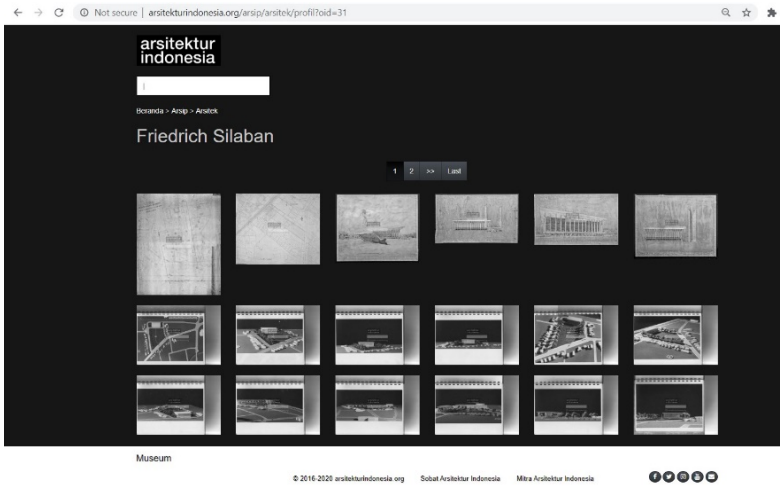


Fig1.14 Silaban's archives in the online digital museum published by Indonesian Architecture Museum Foundation[33)]

Using five texts of Friedrich Silaban's digital archives that include the description of open verandas, we can clarify the formation of the notion on open veranda for this dissertation. As additional resources, the author reviewes Silaban's biography concerning these texts and his photograph archives from the journey reports.

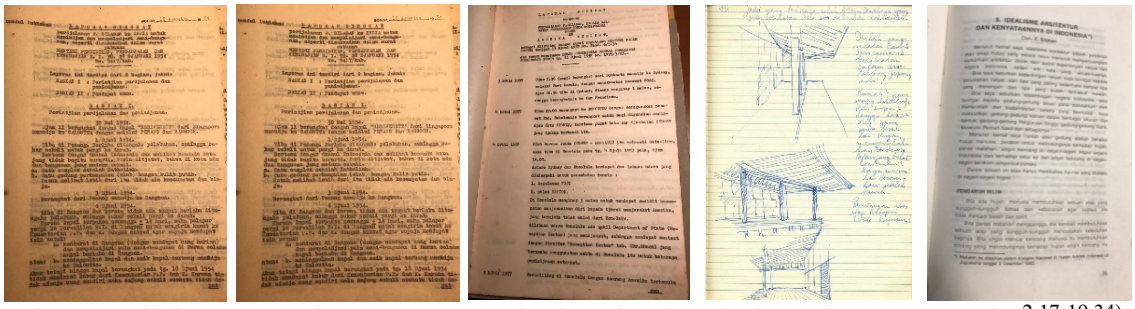

Fig1.15 Silaban's text documents mentioning the description of open verandas[2,17-19,34)]

Even though only about 30% of the archives are digitalized, the collection is in progress,[35,36),*5)] including the residential project archives. Fortunately, the author is permitted to access the undigitalized private house project archives in Silaban's house, so the author digitalizes the documents and arranges the materials that can clarify the development of Silaban's open veranda design for this dissertation.

The author examines the original plans for the eleven private house projects designed from 1930s to 1970s including the Residence of Lie A Hong (1968-1969). The author also reviews the published literatures regarding these private houses and Silaban's house photographs from the online archives.

Fig1.16 Simple digitization processes of Silaban's residential project documents at Silaban's house (May 6, 2017)[37)]

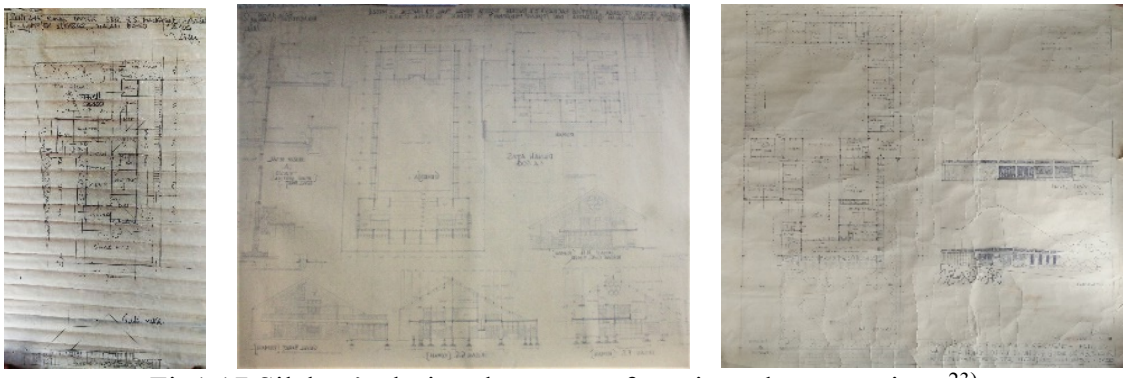

Fig1.17 Silaban's design documents for private house projects[23)]

### 1.4.2. Methodology

Analyzing the first research topic, the author extracted the open veranda descriptions from the texts and grouped them into three chronological periods: 1954-1957, 1950s-1960s, and 1970s-1980s. The author compared these descriptions to discuss the differences among the texts as well as analyzing the process through which Silaban's notion of open veranda (*emper terbuka)* was formed.

For the second research topic, the author examines the original plans of Silaban's private house projects. The discussion is divided into two chapters analyzing the formation of open veranda in the private house projects from 1930s until 1968 and the late house project: the Residence of Lie A Hong (1968-1969). Among Silaban's private house projects, the Residence of Lie A Hong is noted as the last realized design project. Later, the Residence of Sutjipto (1978) is only the preliminary design that consists of both a plan and a front elevation.

The author classifies the private house projects of 1930s-1968 into three periods: 1930s-1940s, 1950s, and 1960s based on the drawing's publication years. In the design

analyses for the development of open veranda, the author focuses on the planning composition of open veranda and roof eaves. Throughout the development of open veranda, the author examines the formation processes of Silaban's design methods to create an open veranda.

In the design analyses of the realization for Lie A Hong;s Residence (1968-1969), the author focuses on the transformation of open veranda classified into four terms based on the order in which the seven original drawings of this residence sre created. Through the transformation, the author examines the formation processes of Silaban's design methods to create the open veranda in Lie A Hong's Residence. As an additional analysis, the author compares Silaban's method before and after designing the residence. Then, the author examines the completed formation of open veranda (*emper terbuka)* in Silaban's private house projects (1930s-1970s).

### 1.5. Structure of the Dissertation

Based on the two main objectives, the structure of this dissertation is divided into six chapters:

**Chapter 1: Introduction and Outline of the Dissertation**

This chapter will provide the overview of Friedrich Silaban's background and his idea for modern Indonesian architecture including the open veranda (*emper terbuka*) that becomes the background of this study that is later exposed in this dissertation.

**Chapter 2: Profile of Friedrich Silaban (1912-1984)**

This chapter is an independent discussion that serves as a literature review overviewing Friedrich Silaban's background, including his family and education as well as his professional career. Furthermore, the author will explore Silaban's concepts of modern Indonesian architecture connected to his notion of open veranda (*emper terbuka*).

**Chapter 3: The Formation of the Notion on the "Open Veranda" (*"Emper Terbuka"*) by Friedrich Silaban**

This chapter will discuss the formation of Friedrich Silaban's notion of open veranda (*emper terbuka*) by examining his textual documents. The author selects five texts in the period of 1950s-1980s mentioning the description of open veranda (*emper terbuka*).

**Chapter 4: The Formation of the "Open Veranda" (*"Emper Terbuka"*) in Friedrich Silaban's Private House Projects (1930s-1968)**

This chapter will discuss the application of Friedrich Silaban's notion of open veranda (*emper terbuka*) by examining Silaban's architectural design documents. The author will focus on Silaban's private house projects, particularly the nine private house projects from 1930s until 1968. The analyses will refer to the findings in chapter 3 focusing on the spatial composition and the design of roof's eaves. After the analyses, the author will discuss the findings comprehensively to explain the development processes of Silaban's design methods to create the open veranda (*emper terbuka*) in private house projects.

**Chapter 5: Formation Process of the "Open Veranda" (*"Emper Terbuka"*) in the Realization of Residence of Lie A Hong (1968-1969) by Friedrich Silaban**

This chapter will discuss the application of Friedrich Silaban's notion of open veranda (*emper terbuka*) by examining his architectural design documents for Residence of Lie A Hong as Silaban's late realized private house project. The analyses will be compared with the findings in chapter 4 clarifying the influence of Silaban's design methods in the residence. After the analyses, the author will discuss the findings comprehensively to complete the analyses for the formation of open veranda (*emper terbuka*) in Silaban's private house projects throughout his career.

**Chapter 6: Discussion and Conclusion**

This final section will provide a comprehensive discussion of Friedrich Silaban's idea of open veranda (*emper terbuka*) based on each chapter's findings. Further, the author will present the conclusion and determine the future research direction for this study.

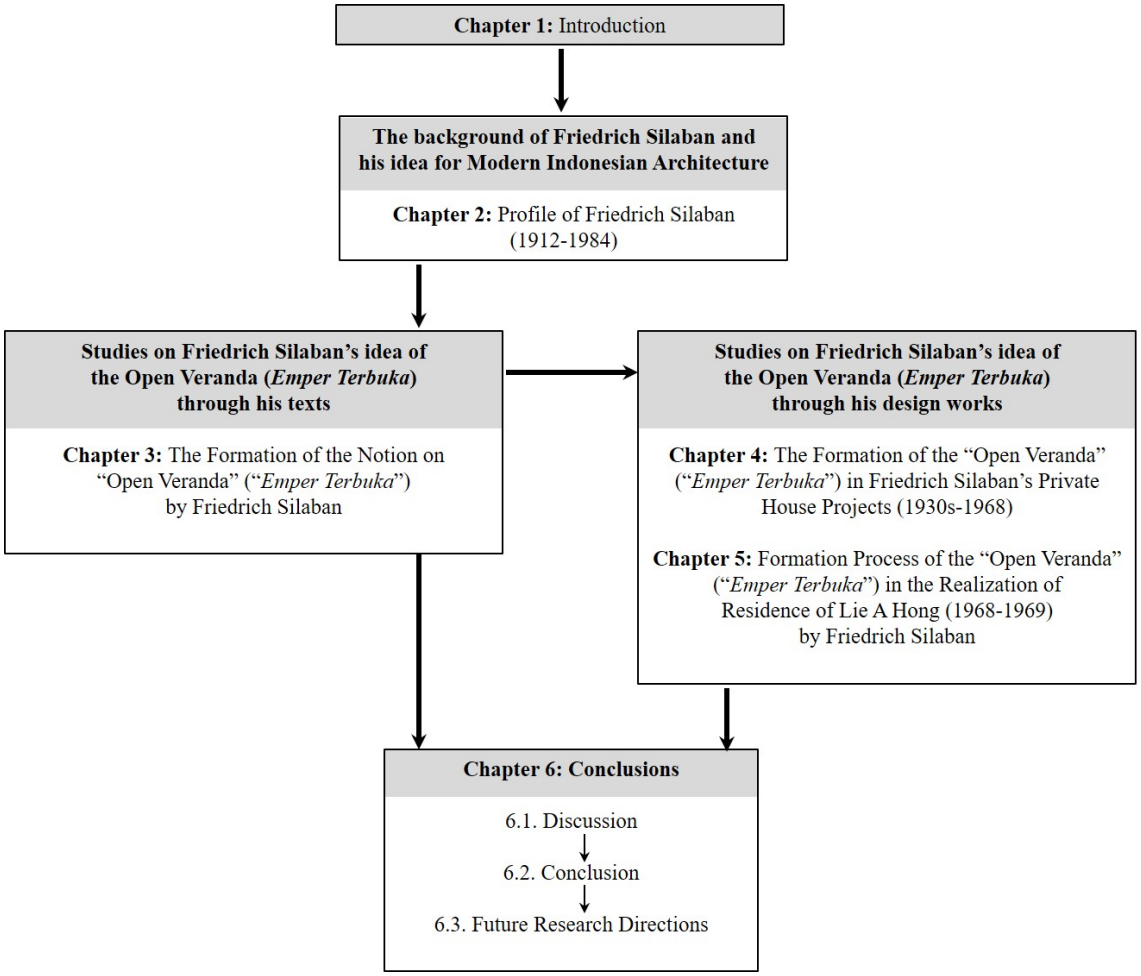

Fig1.18 Dissertation flowchart scheme

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**Notes**

*1) Europeans came to Indonesia to obtain spice ingredients. Portuguese arrived in Malacca in 1509 and conquered it in 1511. They expanded their power to Moluccas (1512), Ternate (1522), and Tidore (1578). In 1596 The Dutch arrived in Banten and was followed by the British in Ternate, Tidore, Ambon, Banda, and Banten in 1604-1682, and Spain came to Ternate and Tidore in 1606. French landed in West Sumatra in 1530 and came back to Aceh in 1612 (Ricklefs, 2001, Vickers, 2005, and Tjahjono, 2009).

*2) Led by Cornelis de Houtman, the Dutch landed in Banten in 1596 to trade and established the Vereenigde Oost-Indische Compagnie (VOC) in 1602. It controlled the Dutch East Indies (the name for Indonesia now) until it was taken over by the Dutch government in 1799. The Dutch colonial period ended when the Japanese invaded Indonesia during the World War II in 1942. Indonesia proclaimed its independence on August 17, 1945 (Tjahjono, 2009).

*3) Silaban won the *Netherlandsch-Indisch Architecten Kring* (NIAK) competition in 1936 (Sopandi, 2017).

*4) This refers to modern architectural works by Le Corbusier's in Chandigarh and Lucio Costa and Oscar Niemeyer's Brasilia (1956).

*5) In an interview with Prihandoko (the journalist of Tempo magazine), Setiadi Sopandi mentions that all archives have not yet been digitized. From 1500s Silaban's archives, there are about 500 archieves only that have been digitized.

# Chapter 2
# Profile of Friedrich Silaban (1912-1984)

## 2.1. Introduction

Friedrich Silaban is an Indonesian architect who emphasizes the need to create a modern tropical architecture for Indonesia. He is acquainted with building science (*bouwkunde*) when studying at Koningin Wilhelmina School (KWS), Batavia.[1-6] In 1950, he received an architect profession certificate from *Academie voor Bouwkunst* Amsterdam. [1-4]

Fig2.1 Friedrich Silaban in his studio office[7]

In this chapter, the author will examine Silaban's background and professional career. The overview of his background will include the family and his academic background. Regarding the professional career, the author will discuss his career during the Dutch colonial period (1930s-1940s), the Old Order period (1950s-1960s), and the New Order period (1970s-1980s). In this discussion, the author will mention Silaban's architectural works and his contribution to Indonesian architectural education and profession. Furthermore, the discussion will expand to his general concept for modern Indonesian architecture.

## 2.2. Friedrich Silaban's Family and Education

Friedrich Silaban was born in Bonandolok, Tapanuli, North Sumatera, on December 16, 1912.[1-4)] He spent his childhood in his hometown Bonandolok.[4)] Silaban's parents, Sintua Jonas Silaban and Boru Simamora, were the honorary members of Batak Christian Protestant community (Huria Kristen Batak Protestan (HKBP)) in Tapanuli.[1,2)]

Silaban went to Dutch East Indies schools during the Dutch colonial period[*1)]. He went to a boarding primary school called *Hollandsche Inlandsche* School (HIS), in Narumonda, Tapanuli.[1-2)] In 1927, he was successfully admitted to *Koningin Wilhelmina* School (KWS), Batavia (now Jakarta).[1-4)] KWS was one of the reputable secondary technical schools in Dutch East Indies. Silaban studied building science (*bouwkunde*) preparing the students to be skilled labors for design and supervision tasks in the construction projects.[1)] He studied for four years and graduated in 1931.[1-6), *2)]. During his study in Batavia, he also developed his hobby for drawing buildings.[8)]

In 1950, Silaban took his final year courses in *Academie voor Bouwkunst* Amsterdam for the architectural practitioners and the alumnus of a technical secondary school. He passed the final examination and got an architect profession certificate.[1-4), *3)] Silaban also enhanced his architectural knowledge by participating in design competitions, studying foreign architecture when visiting some countries, and collecting architectural books written by famous architects.[3-5,9)]

Silaban married Letty Keivits on October 18, 1946, and they had ten children.[1-4)] One of his sons, Panogu Silaban, was also an architect who graduated from Bandung Institute of Technology.[4)]

## 2.3. Friedrich Silaban's Architectural Career

After graduating from KWS in 1931, Silaban ran his professional career for five decades between the late colonial period and the Indonesian independence during the president Soekarno and Soeharto's era.

### 2.3.1. Period of 1930s-1940s: Friedrich Silaban's Early Career

2.3.1.1. Historical Context: The Late Colonial Period

Since 1901, the Dutch had controlled Dutch East Indies under the Ethical Policy and introduced the Decentralization Law in 1903. It marked a reformation of the administration as well as the decentralization to local and regional.[10-12)] This condition

allowed the Dutch professional architects to work in the city government or practice their private architecture firms in the area. They designed buildings to develop the cities of Dutch East Indies [5,11,12), *4)]

These architects established the *Netherlandsch-Indisch Architecten Kring* (NIAK) as their association in 1923. They generally graduated from *Technische Hoogeschool* in the Netherland and divided themselves into two groups depending on their styles. The first group followed the modern European architecture (Art Deco and De Stijl) adjusting the local climate such as Charles Prosper Wolff Schoemaker. On the other hand, the second group applied the modern Indo-European Style combining the architecture with the Dutch East Indies style considering the local craftsmanship, materials, and climate. The second group architects were Henri Maclaine Pont, Herman Thomas Karsten, and J.H. Antonisse.[6,9,13,14,15)] Both groups created a new identity from the Dutch East Indies architecture to the modern Dutch colonial style to replace the Indisch Empire Style that was popular before 1900.[15)]

Providing technical science resources, *Technische Hoogeschool* (now Bandung Institute of Technology) was established in 1920. This institute followed *Technische Hoogeschool* Delft's curriculum with building sciences (*bouwkunde*) as one of the courses.[11)] Henri Maclaine Pont designed the institue's building.[13,15,16)]

Fig2.2 The *Technische Hoogeschool* Bandung by Henri Macline Pont (KITLV 65004, 1920)[17)]

Fig2.3 Sobokarti Theatre, Semarang by Thomas Karsten (1930)[11)]

Fig2.5 Pasar Gambir by J.H. Antonisse (KITLV 151881, 1931)[17)]

Fig2.4 Governor office of Surabaya by W. Lemei (1931)[11)]

Fig2.7 Villa Isola by Charles P. Wolff Schoemaker (KITLV 1400247, 1932)[17)]

Fig2.6 Puhsarang church, Kediri by Henri Maclaine Pont (1936)[18)]

Fig2.8 Batavian Petroleum Company office by Thomas Nix (1937)[11)]

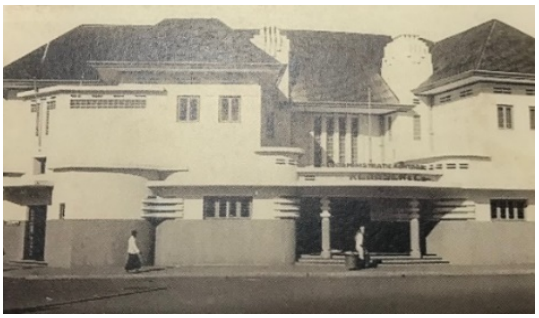

Fig2.9 Post office Tjikini, Batavia by J.M. Vernac (1941)[11)]

The decentralization also allowed for the Europeans to start their private business and stayed in Dutch East Indies.[6)] Providing the residential areas for Europeans, P.A.J Moojen planned *Nieuw-Gondangdia* (Menteng) in 1912 as the first modern settlement and garden city in Dutch East Indies. The detached houses in a large garden were smaller, applying the modern spatial composition and well ventilated. In 1918 F.J. Kubatz continued to develop Menteng, and it became an example of new residential area for other cities.[19)]

Fig2.11 Houses at *Nieuw-Gondangdia* (Menteng), Batavia

Fig2.10 Two story houses at *Nieuw-Gondangdia* (Menteng), Batavia (circa 1940)[12)]

The houses' characteristics from 1920s to 1930s were simple with a small front terrace, sloping hipped roof, tiled roof materials, plastered walls, teak windows, and stone materials.[6)] The early houses with one story were developed into the two-story houses at the end of 1930s.[11,19)] Apart from this style, some architects designed houses and villas using the art-deco architecture style such as A.F. Aalbers in Bandung.[6,11)]

Fig2.13 House in Besar Ijen street, Malang (circa 1930s)[11)]

Fig2.12 House in Makassar (circa 1930s)[11)]

Fig2.14 Villa in Dago, Bandung by A.F. Aalbers (1936)[20)]

Fig2.15 Villa on Jalan Gunung Pager, Bandung by A.F. Aalbers (1939)[20)]

The Dutch colonialization ended when the Japanese invaded Dutch East Indies during the Second World War in 1942.[9-11)] The Japanese focused on the improvement of the war damage and *kampung*s. A few Dutch architects worked for the Japanese such as Thomas Nix who worked for the Imperial Railways (Rikyu Kyoku) and designed Tjilatjap railway station.[11)]

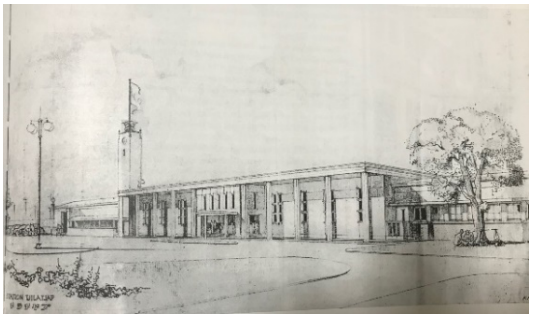

Fig2.16 Tjilatjap railway station by Thomas Nix (1943)[12)]

Following the Japan's surrendered in the Second World War on August 15, 1945, Soekarno and Moh Hatta proclaimed Indonesia's independence on August 17, 1945. The Indonesian National Revolution period from 1945 to 1949 was marked by the Dutch military forces and the diplomatic agreements between the United States of Indonesia and the Dutch Empire. As a result of the Dutch-Indonesian Round Table Conference on August 23-November 2, 1949, the Dutch side signed a recognition of the United States of Indonesia's independence on December 27, 1949.[10)]

The construction of new buildings was limited in this period. In addition to some government buildings and Menteng Cinema in Jakarta by Han Groenewegen (1949), Mohammad Susilo planned the new town of Kebajoran Baru consisting of housings for government and private employees. This new town plan began in 1948 and was constructed under the Dutch government in 1949, and the project continued to be developed in 1955 under the Indonesian government.[1,6,9,11,21)]


Fig2.17 Menteng Cinema, Jakarta by J.M. (Han) Groenewegen (1949)[12)]

2.3.1.2. The development of Friedrich Silaban's early career

When studying at KWS, Silaban visited Pasar Gambir annual festival[*5)] in 1929. He was impressed by the building design implementing a modern concept.[3)] J.H.

Antonisse*6) designed Pasar Gambir in 1923-1935.[1,3-5)] He was a Dutch architect who worked in Batavia since 1914 and served as the Head of Batavia Engineering Department[1,13)] Antonisse was one of the Indo-European Style (*Indo-Europische Stijl*) architects.[4)] He applied the local architecture and bamboo construction to design and accentuate the unique roof shape for Pasar Gambir's pavilions.[4,13)]


Fig2.18 J.H. Antonisse and his wife[7)]

Fig2.19 The 1929 Pasar Gambir by J.H. Antonisse (1929)[17)]
(KITLV 18198, 18195, and 17199)

At the end of Silaban's study at KWS, he got an opportunity to display his drawings, which impressed Antonisse, at Pasar Gambir annual festival.[1)] Later, Silaban became close to Antonisse and lived in his house prior to Silaban's graduation.

Under Antonisse's recommendation, Silaban began his career as an official staff for the Dutch East Indies government.[3)] He worked as a drafter staff in Public Works Department (*Burgerlijke Openbare Werken* (BOW)) from May to July 1931. He then worked for the Dutch Army's Engineering Corps from 1931 to 1939 and was promoted to be a building supervisor in Pontianak from 1937 to 1939. [1,2,6)]

In addition to his official work, Silaban developed his career in architecture and helped Antonisse's projects from 1931 to 1935.[1,5)] He respected Antonisse as his tutor in

architecture and as his foster father.[1,3-4)] Antonisse influenced Silaban's professional attitude in dealing with architectural problems.[8)]

In 1935, Silaban designed an official residence for the Mayor of Bogor. He then participated in two design competitions for the hotel and the official Mayor's residence held by the Dutch East Indies architect's association (*Netherlandsch-Indisch Architecten Kring* (NIAK)) in 1936. He won the third place for both competitions published by I.B.T. Locale Techniek in March 1936. The achievements made him as one of the reputable Dutch East Indies young architects.[1)]

Fig2.20 Mayor's official residence of Bogor[23)]

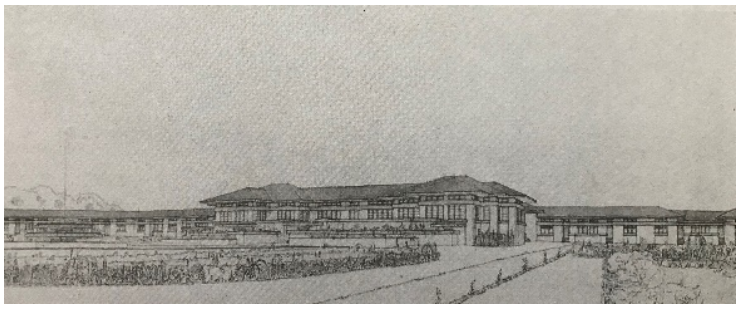

Fig2.21 Silaban's design for NIAK competition: the hotel (1936)[1,24)]

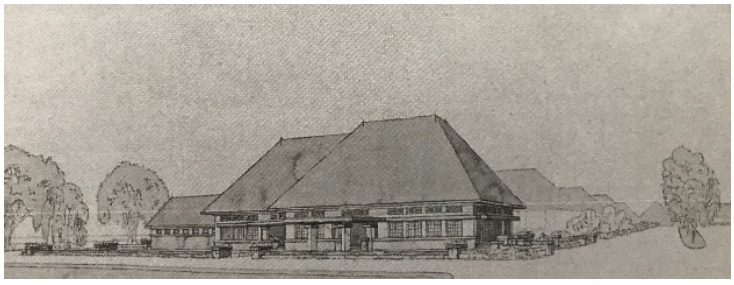

Fig2.22 Silaban's design for NIAK competition: the mayor's official residence (1936)[1,24)]

Silaban was transferred to the municipal government of *Buitenzorg* (now Bogor) as a drafter from 1939 to 1942. During the Japan's occupation, he replaced the Dutch official position and was appointed to the Director of Public Works Department of *Buitenzorg* in 1942. Later, he became the Director of Public Works Department of Bogor from 1947 to 1949, and he was finally taken the office and appointed to the Head of Public Works Department of Bogor in 1949. He filled the position until he retired in 1965.[1,2,6)]

From 1948 to 1951 Silaban also participated in a design competition for the Agriculture Faculty of University of Indonesia (*Landbouwkundige Hoogeschool*) in *Buitenzorg* (Bogor) as the third winner.[1,22)] At the same time, he designed the Agriculture High School (Sekolah Pertanian Menengah Atas (SPMA)) in Bogor.[1,4,5,22)]


Fig2.23 Silaban's design for *Landbouwkundige Hoogeschool* in *Buitenzorg*[1,7)]

Fig2.24 Agricultural High School (SPMA) in Bogor[1,7)]

Silaban's early designs are mostly influenced by the modern Dutch colonial style that is popular in that period.[5,6,9,13)] Silaban applies symmetrical mass, geometric plane, steep hipped roof with a slope up to 45 degrees, extended eaves, elevated ceiling, and natural stone decoration.[1,5,13)] Silaban applies the tower as a roof's accentuation that directs the main entrance in his design for Agriculture High School (SPMA) and *Landbouwkundige Hoogeschool* in Bogor. Antonisse's principle, which emphasizes the roof shape, influenced Silaban to design the roof as its main element.[4), *7)]

### 2.3.2. Period 1950s-1960s: Friedrich Silaban's Peak of Career

2.3.2.1. Historical context: The Old Order Period (1949-1967)

The beginning of a new nation's reign was marked by converting the United States of Indonesia to the Republic of Indonesia on August 17, 1950. Soekarno was the first president with the liberal democracy system (1950-1959).[10)]

In 1950, Jacob Thijsse, Susilo, and Friedrich Silaban initiated the Department of Building (*bouwkunde*) as its primary architectural higher education at Engineering Science Faculty of University of Indonesia in Bandung (formerly *Technische Hoogeschool* Bandung).[12)] From 1953 to 1955, the national design competitions, which began the development of Medan Merdeka square: the National Mosque (1953-1955) and the National Monument (1955-1960), were held.[1,26)]

Since the negotiation of 1949 Round Table Confernce to return Papua from the Dutch to the Republic of Indonesia came to deadlock, Soekarno implemented the nationalization program in December 1957. He expropriated all the Dutch assets including companies, businesses, properties, and residences. Most of the Dutch must go back to the Netherlands including professionals, lecturers, and architects, while only a few converted their nationalities to live in Indonesia.[1,6,10,11)] It generated the first generation of Indonesian architects who used to work during the Dutch reign in 1930s, and they were Mohammad Susilo, Friedrich Silaban, Suhamir, Sudarsono, R. Abikusno, and Liem Bwan Tjie.[4,6)]

Soekarno promoted the Guided Democracy System in 1957 and formally applied it by publishing the presidential decree on July 9, 1959. He established the "Nation and Character Building" policy to create a new image for Indonesia as a newly independent nation, and the country had to be free from colonialization. Besides the foreign political policies, one of Soekarno's programs was to develop Jakarta as Indonesia's imgae and capital city by applying the International modern architecture style to symbolize the Indonesian national unity.[1,3,5,25-27)]

Soekarno was impressed by Brasilia, Brazil's new capital city to symbolize the modern Brazil. Instead of continuing the new capital city plan in Palangkaraya, Soekarno decided to keep developing Jakarta. Jakarta's development was realized by some national projects such as National Monument and National Mosque (Istiqlal), Hotel Indonesia, Wisma Nusantara, Pola Building, and Sarinah Department Store as well as Thamrin-

Sudirman Street corridor. Soekarno also initiated some projects to support the Asian Games (1962), the New Emerging Force (1963), and the conference of Asia-Africa Journalist (1963) in Jakarta. These events were prepared to be parallel with the development of Senayan stadium complex (now Gelora Bung Karno), the Athlete's Housing Complex, the Conference of New Emerging Force (Conefo) Complex (now MPR/DPR building), and Wisma Warta as well as the welcoming monument and Semanggi Bridge.[1,3,5,25-27)] With his background as a former engineer-architect who graduated from the department of civil engineering in *Technisce Hoogeschool* Bandung,[*8)] Soekarno was a judge in the design competitions and a reviewer in the project development.[1,3,5,25,26)]

Fig2.25 Soekarno in National Monument Competition (1955)[7)]

Fig2.26 National Monument, Jakarta (Agustus 14, 1965)[28)]

Fig2.27 Semanggi bridge and Senayan stadium complex (1962)[28)]

Fig2.28 Thamrin-Sudirman corridor and National monument (circa 1965)[28)]

Fig2.29 Hotel Indonesia by Abel Sorensen (1962)[28)]

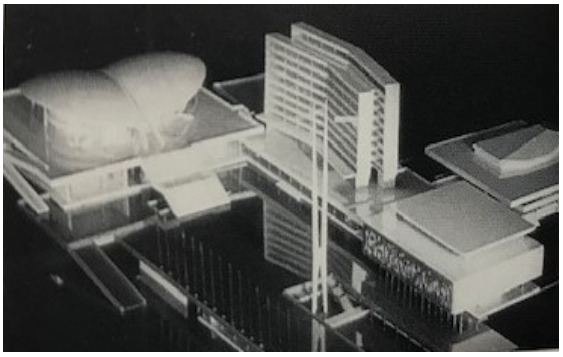

Fig2.30 Conefo Complex by Soejoedi Wiryoatmodjo (1965-1966)[29)]

The independence spirit also generated the *jengki* architecture that used sloping walls and columns. From 1950s to 1970s, this style was popular for houses and some public buildings including Kebajoran Baru (now Kebayoran Baru).[6,9,14)] Some architects designed houses and flats in this new garden city using various modern styles. Soekarno supported the development of Kebajoran Baru master plan and enhanced the public facilities such as schools, public meeting halls, and worship facilities.[9)]

Fig2.32 The *Jengki* style house in Surabaya[11)]

Fig2.31 The BPM Shell employee houses, Kebajoran Baru, Jakarta[11)]

Fig2.33 Main street of Kebajoran baru, Jakarta (circa 1950s)[30)]

Fig2.34 A House in Kebajoran baru, Jakarta (circa 1950s)[31)]

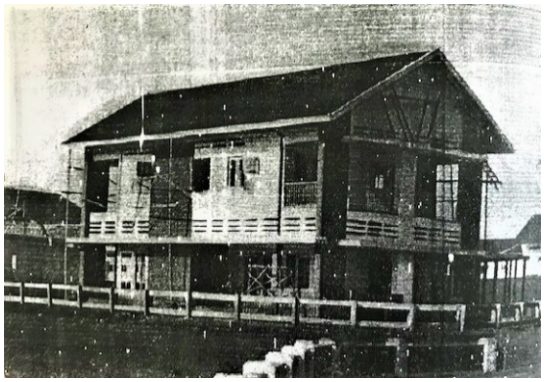

Fig2.35 A House in Kebajoran baru, Jakarta (circa 1950s)[21)]

Fig2.36 An apartment in Kebajoran baru, Jakarta (circa 1950s)[21)]

This period was also marked by the development of architectural education and profession in Indonesia. The Engineering Science Faculty of University of Indonesia was transformed into Bandung Institute of Technology (ITB) on March 2, 1959. Eighteen young architects[*9)] graduated from this institution from 1958 to 1959 and increased the number of the first generation of Indonesian architects.[6,12,25)]

In the same year, Friedrich Silaban, Mohammad Susilo, Liem Bwan Tjie, and ITB's young architects established Indonesian Institute of Architects (IAI) on September 17, 1959. A year later, Architecture Department, Engineering Faculty of Parahyangan Catholic University was founded. In 1960s, the new generation of Indonesian architects who studied in the Netherlands, Germany, the UK, and the United States of America returned to Indonesia. They became professional architects and lecturers at universities.[9,12,26), *10)] They brought the European and American modern architecture into Indonesian education and architecture.[9,14)]

Soekarno's authority weakened in 1965 when the 30th September movement broke out [*11)]. The movement causes the political and financial crisis that impacts the national development projetcs. Soekarno ended his reign on March 12, 1967, and he was replaced by Soeharto as Indonesia's second president.[1,10)]

2.3.2.2. The Development of Friedrich Silaban's peak of career

In 1950s Silaban began to design Bogor's Inland Fishery Office and Laboratory (1951-1953) and Kalibata's Hero Cemetery Monument (1953-1957).[1,22)]

Fig2.38 Inland Fishery Office and Laboratory, Bogor[23)]

Fig2.37 Hero Cemetery Monument Kalibata, Jakarta (1957)[7)]

On February 22, 1953, he joined a national competition to design the National Mosque (Istiqlal). The competition result was announced in July 1955, and Silaban's design was the first winner, but the design was executed from 1961 to 1980. In 1954, he won a competition to design the Bank of Indonesia building that was executed from 1958 to 1962. In February 1955, he also joined a national competition to design the National Monument. On April 20, 1956, the result was released, and Silaban's deisgn won the second place [1,2)] Since the competition had no first winner, the competition reopened on May 10, 1960, and Silaban served as one of the judges. Soekarno was not satisfied with the result, and he appointed Soedarsono to continue the monument design under his direction.[1)]

Fig2.40 Silaban's model for the National Mosque, Jakarta (1955)[7)]

Fig2.39 Bank of Indonesia, Jakarta (circa 1963)[7)]

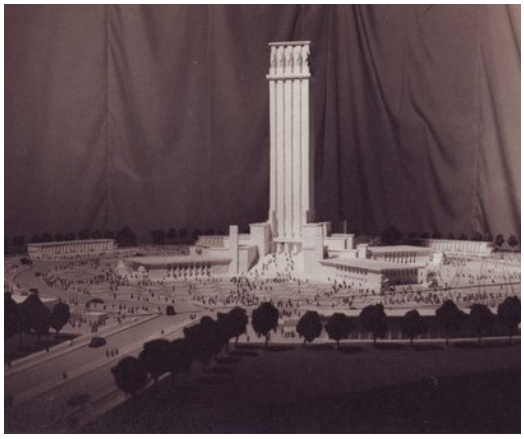

Fig2.42 Silaban's model for the competition of National Monument, Jakarta (1956)[7)]

Fig2.41 Silaban's second design for National Monument, Jakarta (1961)[7)]

After winning three national design competitions, Silaban came to the peak of his career as a reputable national architect and successfully designed many buildings in this period.[1)] He was noted as Soekarno's favorite architect as they shared the same vision to present a new Indonesian image with their modern architecture to promote the country's identity.[10,25,26)] As Soekarno's trusted person, Silaban was often asked to give his advice on architectural projects either personally or officially.[1)] Because of his perspective and attitude, Silaban was capable of criticizing Soekarno's ideas.[25)] Silaban and Soekarno frequently go to the project location and even visited several foreign countries together, and they both reviewed their architectural visions based on Silaban's viewpoint.[1,2)]

Fig2.43 Soekarno congratulated Silaban in National Monument competition (1956)[7)]

Fig2.44 Soekarno and Silaban (circa the 1950s-1960s)[7)]

Silaban was involved in some Soekarno's national project schemes namely Pola Building (1960-1961) now Perintis Kemerdekaan Building, West Papua Liberation Monument (1962-1963), National Theatre (1962), Hotel Banteng (1962-1965), and Bung Karno Tower (1965). He also designed the renovation for Presidential Palace facilities such as the mosque of Merdeka Palace (1958), the basement (1962) and some statues in Bogor Palace complex (1964).[1,22)]

Fig2.46 Pola Building, Jakarta (circa 1961)[7)]

Fig2.45 Silaban's model for the National Theatre, Jakarta (1962, not realized)[7)]

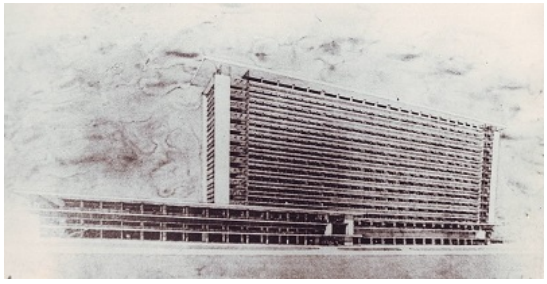

Fig2.47 Silaban's design for Hotel Banteng, Jakarta (1962-1965)[7)]

Fig2. 49 The West Papua Liberation Monument, Jakarta[23)]

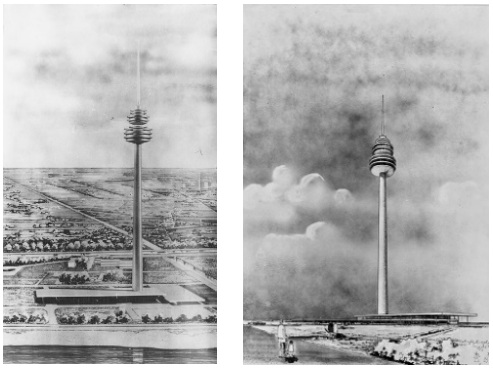

Fig2.48 Silaban's design for Bung Karno Tower, Jakarta (1965, not realized)[7)]

Once, Silaban also proposed a design for the Embassy of Republic of Indonesia in Tokyo. According to Silaban's archive catalog, he designed a proposal to change the original design for the front building at the Embassy of Republic of Indonesia in Tokyo planned by Taisei Co. Ltd.[22)]

In 1957 Silaban established his architectural firm F. Silaban N.V where his house in Bogor became the headquarter. He actively worked after his official working hours at Public Works Department of Bogor. From 1956 to 1966, he collaborated with Johannes Martinus (Han) Groenewegen (1888-1980), a Dutch architect who chose to live in Indonesia during the nationalization program policy. Silaban opened his branch office at Jalan Jambu no. 38 Jakarta.[1,32), *12)] Groenewegen also assisted Silaban in some projects[32)] like Gedung Pemusatan Jawatan Kementerian Keuangan Medan (1957).[1,22)]

Fig2.50 Silaban sat beside Groenewegen in the meeting of the Jakarta Beautification Project Advisory Board[32)]

Silaban has designed a lot of buildings in terms of government's institutional projects in Jakarta. He has also designed public buildings, office buildings, military buildings, banks, and some monuments in other areas. Silaban's projects for the government's institutional offices are Department of Finance office (1958), Department of Public Works in Jakarta (1959-1974), Department of Information in Bogor (1959), the office of Department of Attorney (1960), and National Research Center (1963). His projects for the offices of Air Force and Airport Service consist of the Headquarter of Air Force of Republic of Indonesia (1962), the Department of Air Force in Jakarta (1964), the Restaurant of Kemayoran Airport (1959), and the Service Area of Department of Air Transportation. The bank office projects are Bank of Indonesia in Surabaya (1958) and Palembang, BLLD building and flat (1958-1960), the extension of Bank of Indonesia

(1959-1965), and National Bank of Indonesia (BNI) in Jakarta and Medan (1959). Some projects are located outside Jakarta such as Herbarium and Bibliotheca in Bogor (1963-1968), Finance Superintendent Board in Bogor, Sports Facility of Indonesian Navy in Surabaya (1957-1958), and Armed Forces Academy of Indonesia in Sukabumi.[1,22)]

Fig2.51 National Bank of Indonesia, Jakarta (1963)[7)]

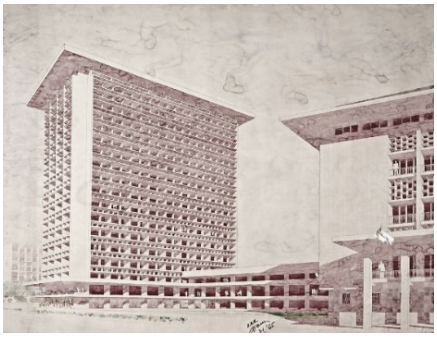

Fig2. 52 The extension of Bank of Indonesia, Jakarta (1958)[7)]

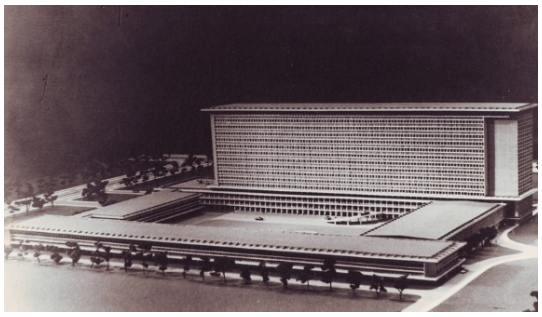

Fig2.53 Silaban's model for Headquarter the Air Force RI, Jakarta (1962)[7)]

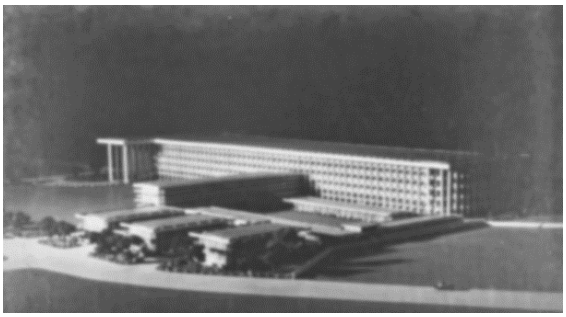

Fig2.54 Silaban's model for General Ofice of the Attorney RI, Jakarta[7)]

Besides the governmental projects, Silaban also did many projects from the private clients like offices, worship facilities, monuments, and cemeteries. The office projects are Gambir's office, Djakarta Llyod office, T.D, Pardede office, Pertambun office, and Bogor National Building. The projects for worship facilities include T.D. Pardede Family's Church (1960), the interior of Bogor Catholic Church (1962), and Santo Jusuf Church in Bogor.[1,22)]

In addition to designing the private clients' residential projects and the government's institutions, Silaban designs the houses for government's institution employees such as Department of Attorney's official house and Department of National Research's flat. Among his private house projects, there is a house for welcoming Soekarno that belongs to Silaban in that Soekarno himself wishes to visit the house

(1958). Silaban also designs some Indonesian public figures's houses such as the residences for Soekarno's wife Ratna Sari Dewi (1963-1964), and the North Sumatra businessman, T.D. Pardede (1960).[1,22)]

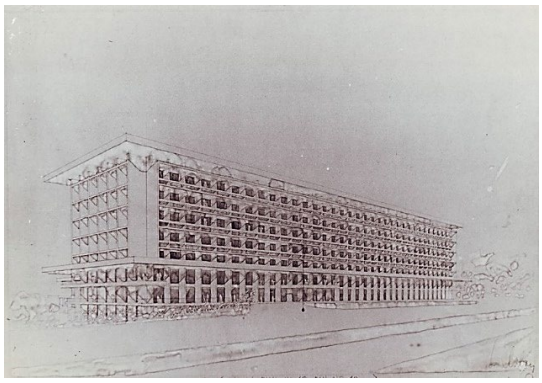

Fig2.55 National Building, Bogor (1964-1965)[7)]

Fig2.56 Office at the junction of Gambir, Jakarta[7)]

Fig2.58 Silaban's House, Bogor[7)]

Fig2.57 Soekarno visited Silaban's house (1961)[7)]

Fig2.59 House of T.D. Pardede, Medan[33)]

Moreover, Silaban did some organization projects such as the Head of Architects Board for Indonesian Institute of Architects (1959), a member of the National Advisory Board, the Committee for National Monument Construction, Jakarta Beautification Project Advisory Board (1950-1965), National Planning Board (DEPERNAS, 1959-

1962), and the Head of Asian Games Development Affairs (KUPAG) to develop Senayan Stadium Complex (1960), and the technical supervisor of Istiqlal Mosque construction project (1962).[1,2)] He was awarded "Satya Lencana Pembangunan" from the government in 1962.[2)]

As a result of the 1965 incident, many of the Indonesian projects in Indonesia were delayed and cancelled including Silaban's large-scale designs that were changed or not even built. He retired from the Head of Bogor Public Works Department in May 1965, stopped his projects, and closed his architectural firm office in 1966.[1,2)] At the same time, Soekarno instructed to continue some national projects including National Monument, Istiqlal Mosque, and Pola Building.[*13)] Eventually he dedicated his time to work as a technical supervisor for the construction of Istiqlal Mosque.[1)]

### 2.3.3. Period of 1970s-1980s: Friedrich Silaban's Role in the Istiqlal Mosque Projects

2.3.3.1. Historical context: The New Order Period (1967-1998)

During the new order period, Soeharto emphasized the national stability and implemented the national development strategies.[10,12,26)] The new government continued some of the previous national projects namely the Istiqlal Mosque, the National Monument, the Conefo Complex (now the National Parliament Building), and Hotel Banteng (now Hotel Borobudur).[1)]

Unlike the Old Order period that used modern international style architecture, the new order preferred the Indonesian regionalism architecture to identify the nationality.[1,6,12,13,27)] In the early 1970s, Ms. Tien Soeharto pioneered the development of Indonesian Miniature Theme Park. Taman Mini Indonesia Indah in East Jakarta was built in 1972 and inaugurated in 1975.[1,6,27,34)] The theme park comprised some museums and regional pavilions represented by each Indonesian province to show a diversity of Indonesia's traditional cultures.[13)]

Next, the local governments in Indonesia continued building the governmental and public buildings such as offices and airports, and they used the local architectural elements especially the traditional roof shapes. The private sectors also applied this style to some commercial buildings.[1,6,12,27)] In 1982, Soeharto initiated the prototype of

Pancasila Mosque adopting the traditional Javanese Mosque Style built in all Indonesia areas.[12)]

Fig2.60 Taman Mini Indonesia Indah, East Jakarta[34)]

Fig2.61 The West Sumatra Pavilion in Taman Mini Indonesia Indah[34)]

Fig2.63 House of Representatives of East Java, Surabaya[14)]

Fig2.62 Jakarta International Airport Soekarno-Hatta by Paul Andreu[35)]

Fig2. 64 Pancasila Mosque style, Kediri, East Java[33)]

The foreign investments increased during the decade of 1980s - 1990s. Consequently, the high-rise buildings and shopping malls in Jakarta's business district developed rapidly. This development was followed by the appearance of new towns and real estates outside the city center. Subsequently, Indonesian and foreign architects could freely design buildings using various styles.[6,12,27)]

Fig2.67 Emporium Tower, Kuningan, Jakarta[6)]

Fig2.65 Wisma Dharmala Tower, Jakarta

Fig2.66 Batavia Tower, Central Jakarta[6)]

2.3.3.2. Friedrich Silaban's role in the Istiqlal Mosque Project

Silaban marked this period to take part in the project of Istiqlal Mosque until the end of his career. As an architect who won some important competitions and designed the plans of Istiqlal Mosque, Silaban's duty was the vice chief, whereas Soedarto was the project chief. Since January 18, 1968, the Istiqlal Mosque plans were under Soeharto's new government project.

Fig2.68 The meeting between Soeharto, Soedarto, and Silaban (circa the 1970s)[7)]

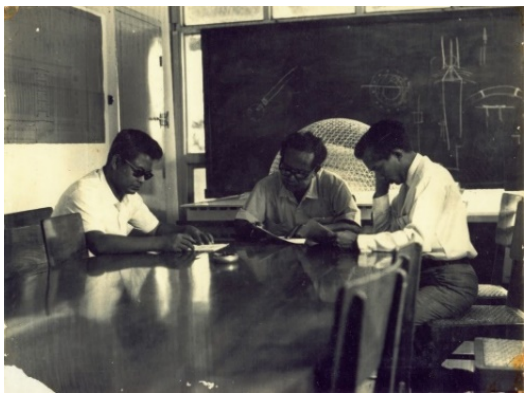

Fig2.69 Silaban and his colleagues in project office of Istiqlal Mosque (circa the 1970s)[7)]

Silaban coordinated the project officers with the Seecretary of State office and other stakeholders. He supervised and decided the technical issues such as the production of drawing plans, design processes, and construction and interior designs of the mosque. He also involved the consultants in West Germany for the design, fabrication, construction of polyhedron dome, and installation of dome ceiling. The dome was designed by Walther Mann and Helmut Emde and fabricated by MERO company.[1)]

During his duty, Silaban traveled to West Germany in 1971, 1973, 1975, and 1981 to check the Istiqlal Mosque's polyhedron dome. He also made a comparative study with the mosque interiors in Iran, Lebanon, Mesir, and Malaysia. Soeharto inaugurated the Istiqlal Mosque on February 22, 1978 and continued the remaining project until the early 1980s.[1,2)]


Fig2.71 Istiqlal Mosque's construction project (1973)[7)]

Fig2.70 Istiqlal Mosque's open veranda (circa the 1980s)[7)]

Fig2.73 Istiqlal Mosque's mihrab, Jakarta (circa the 1980s)[7)]

Fig2.72 Istiqlal Mosque's interior, Jakarta (circa the 1980s)[7)]

Although there were not as many jobs as the previous periods, Silaban did some institutional and private projects such as offices, universities, worship facilities, and houses. These projects were, of course, approved by the Istiqlal Mosque's project chief.[1)]

Silaban redesigned his plan for Bogor Herbarium and Bibliotheca in 1968 and realized the plan in 1971. In the same year, he was also assigned to supervise the construction of Bank of Indonesia's office building complex, which he had designed before, on Jl. Kebon Sirih, Jakarta. Afterwards, he designed a proposal for Great Mosque of Palu, Central Sulawesi in 1977.[1,22), *14)] Approaching his 70s of age, Silaban lessened his activities and only did his projects at weekends.[1)] He designed the HKBP Nommensen

University Medan (1982) and some HKBP churches in Kebayoran Baru Jakarta (1980-1983), Cijantung Jakarta, Bogor, and Palembang.[1,22)]

Silaban also taught the Architect Profession and Ethics subject at Architecture Department, University of Indonesia in 1980. In the second National Congress of Indonesian Institute of Architects on December 3, 1982, he presented his article about Indonesian architecture, and the article was published in 1983.[1)]

Since 1983 Silaban suffered from some health problems affecting his activities. He passed away on May 14, 1984 and was buried in Cipaku Cemetery, Bogor. Indonesian Institute of Architects awarded Silaban a certificate of merit as an architect in 1975.[1,2)] He was awarded "Satya Lencana Kebudayaan" from the Republic of Indonesia government in 1985.[1)]

Fig2.75 Herbarium and Bibliotheca Bogor[36)]

Fig2.74 HKBP Nommensen University, Medan[4)]

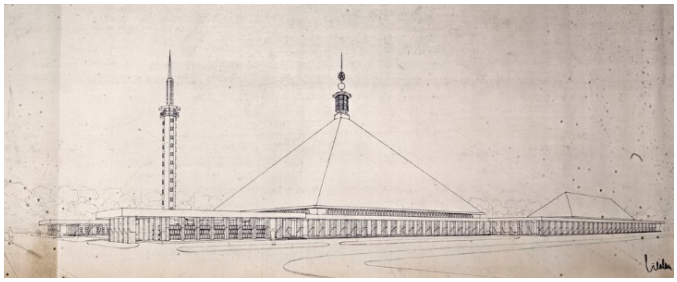

Fig2.77 Silaban's design for the Great Mosque of Palu (1977)[7)]

Fig2.76 HKBP Church Kebayoran Baru, Jakarta[33)]

Fig2.78 Small House of Abdullah Albawahab, Bogor[23)]

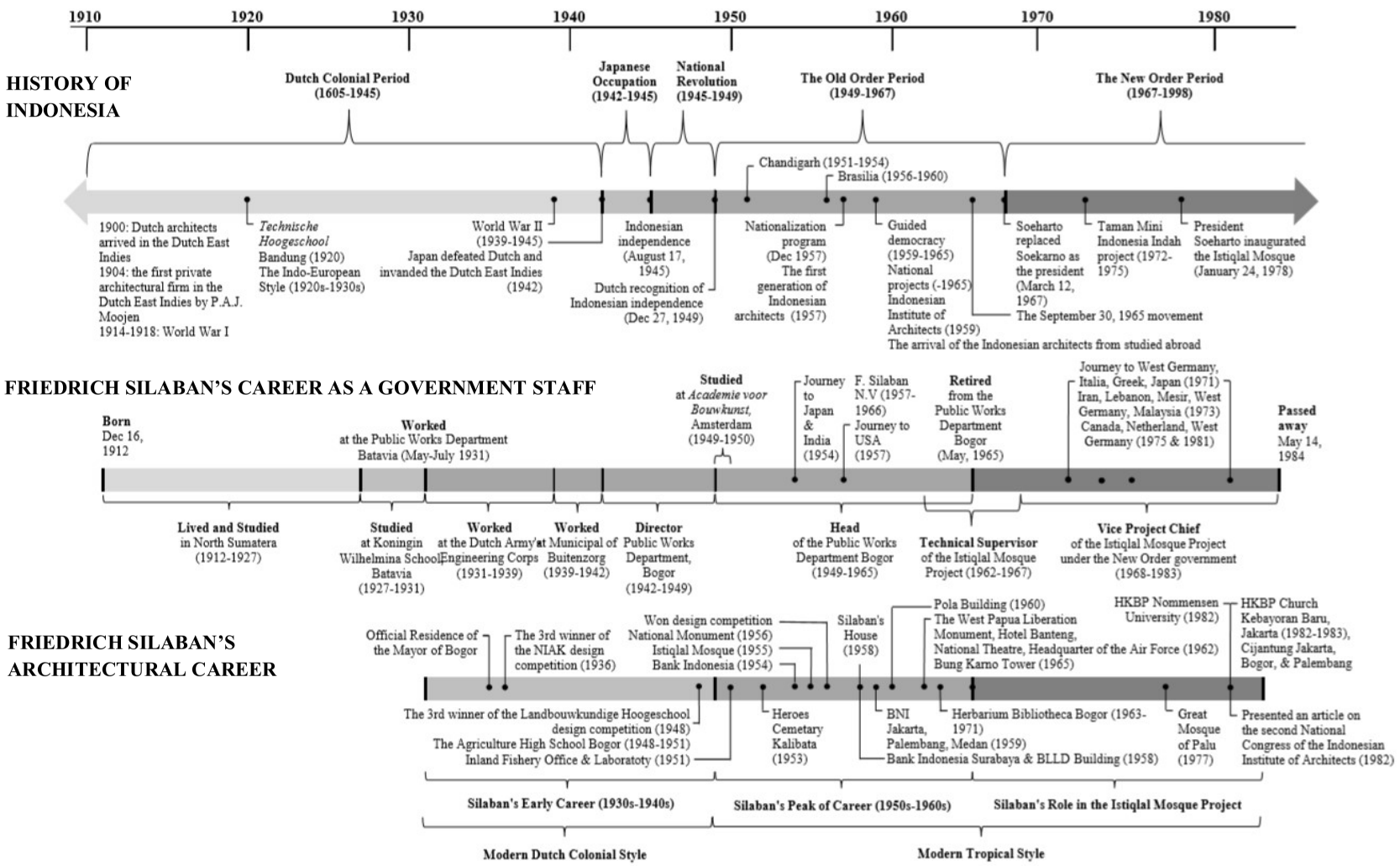


Fig2.79 The scheme of Friedrich Silaban' s career

### 2.4. Friedrich Silaban's Concept for Modern Indonesian Architecture

In 1950s, Soekarno implemented the concept of modern architecture to identify the nationality and to develop Jakarta. He supported the Indonesian architects let them develop their concept.[9)] Silaban, who was an architect in this period, was familiar with Soekarno's concept to design tropical buildings in terms of Indonesian context. He wrote to describe the modern Indonesian architecture in his textual documents such as the journey reports to Japan and India (1954) and the article for the second National Congress of Indonesian Institute of Architects (1982).

Silaban traveled to Japan from April 2 to May 3, 1954 under the assignment of Minister of Education, Teaching, and Culture of Republic of Indonesia to study Japanese architecture.[37)] He visited Osaka, Kobe, Nagoya, Tokyo, Kamakura, Hiroshima, Kyoto, and Nara. In Tokyo, he observed the Japanese heritage such as the Imperial Palace and Tokyo Station. He also explored some modern buildings such as the Imperial Hotel, Ueno Park and Museum, Teishin Hospital, the National Gallery of Modern Art, and Daichi Hotel in Tokyo as well as the Peace Memorial Park and the Memorial Cathedral for World Peace in Hiroshima. In Tokyo, Silaban briefly studied the Japanese architectural education and building research while visiting the Department of Architecture of Waseda University, Tokyo University of the Arts Ueno, and the Research Center for Materials and Construction. He also got an opportunity to observe the development of Kajima's corporation flat project.[1)]

Silaban was impressed by the Japanese who regarded aesthetics to be applied in their architecture. They traditionally utilized their natural resources of wooden materials from the mountainous regions. They considered their four-season climates to develop their architecture.[1,37)] He then defines architecture as follows:

> "After observing all the fields of Japanese architecture, the reporter gets the impression that architecture is the society's outcome and the country's life pattern, no matter what the country is. The life pattern is an outcome of the country's climate and geographical condition. In other words, architecture essentially depends on the country's climate and geographical condition."[37)]

During his journey, Silaban observed the Japan's architecture and architectural education, and he reviewed their modern lifestyles. His conclusion was that modern Japanese architecture was supported by a strong architecture foundation and material

industry. The Japanese had a strong tradition and nationalism, accepting the modernity in their lives. Therefore, modernization was universal and limitless to the western and eastern countries.[1,37)] Based on this impression, he states that the national architecture:

> "After observing Japan's society development, I believe that architecture is in line with the global development of industry and modern engineering, so that national architecture cannot be explained to narrow its meaning, but it must be explained into:
> 1) Architecture for cold-climate countries
> 2) Architecture for moderate climate countries
> 3) Architecture for hot and less-rain countries
> 4) Architecture for hot and rainy countries
> If both natural resources techniques and aesthetic factors are correctly used and calculated, the first and second countries' architectures will have the same outlines, however the third and fourth countries' architectures will also have the same outlines.
> The national motives can only be given in terms of ornaments, colors, and details. Some distinctive public buildings can be excluded such as the parliament building, the president palace, religious buildings, and museums. Other buildings automatically use the architecture that considers the country's climate and geographical condition as well as the modern techniques.
> Therefore, Indonesia needs to create one style that is suitable with its hot and rainy climate. Meanwhile, the mountainous area has a chance to create another architectural style in terms of the climate."[37)]

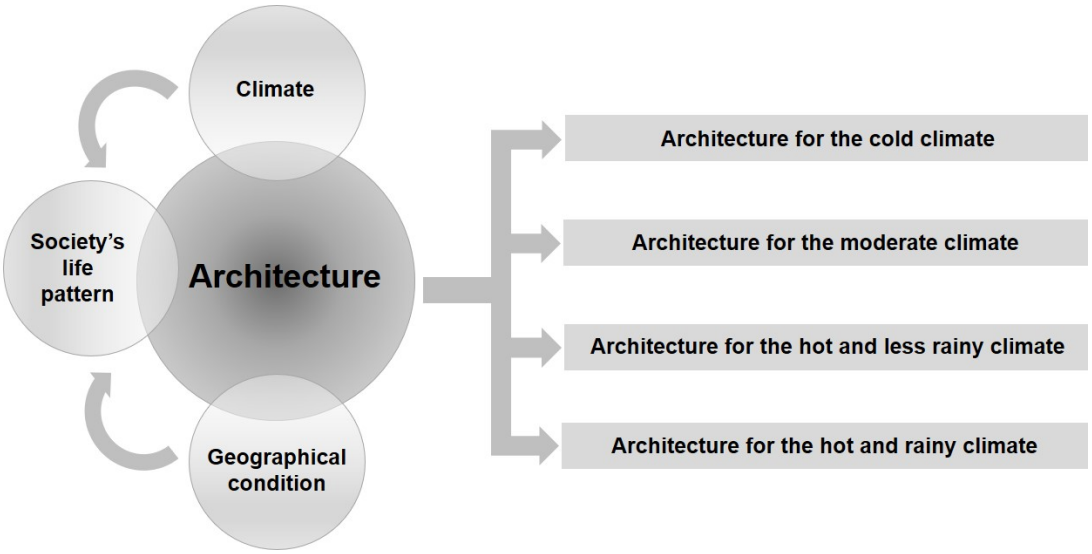


Fig2.80 Silaban's definition of architecture based on his Journey Report to Japan (1954)[37)]

Silaban emphasizes the architecture's inter-connection with climate, geographical location, and society's life pattern. He believes that these factors are consistently

correlated with modern architecture era with the support from modern techniques and material industries.

After visiting Japan, Silaban continued his journey to India from June 27 to July 10, 1954. He visited Delhi, New Delhi, Agra, Chandigarh, and Jaipur. He explored Indian heritage buildings such as the Viceroys Palace, Jami Mosque of Delhi, Red Fort, Qutb Mosque, Hamayun Mausoleum, Birla Temple, and the Taj Mahal. He also observed some modern buildings in Chandigarh designed by Le Corbusier and Indonesian Embassy in Delhi designed by Suhamir.[1)]

Silaban saw the similar connection among architecture, climate, and geographical location in North India. The Indians traditionally utilized such material resources as stone, brick, and clay. They developed their stone architecture with thick walls, perforated windows, and horizontal roofs to modify hot weather. They also sleep outside their bedrooms in the summer. Silaban understood that Le Corbusier used these basic principles to design his modern buildings using different materials in Chandigarh.[1,38)]

> "After writing my general opinion on Japan's architecture, it is unnecessary to elaborate the reporter's opinion to review the Indian architecture because it is firmly clear in India that the country's climate and geography to primarily create its architecture all the era corresponding to its inhabitant's daily life."[38)]

Silaban underlined that Indians produced their building materials and developed the material industries. Indian architects might also build their new modern buildings after the Second World War.[1,37)] He then gave his opinion on the development of modern Indonesian architecture:

> "To create a modern Indonesian architecture that uses modern construction and shows Indonesian-ness, it is necessary to rebuild and develop all the society's sectors that contribute to the development processes for both houses and buildings like offices, companies, schools, hospitals, museums, theatres, etc. It needs the skilled laborers, the production of natural and manufactory materials, the exploitation of natural resources to produce building materials, and the education for draftsman and architects.
> To solely follow these factors, the modern and original Indonesian architecture that is appropriate with the modern Indonesian soul and way of life can be created. The architecture style be difficult to predict. At first, we must form the craftsmanship from top to bottom and develop the whole communities that interfere in the development processes, and then the new result will be seen. To overcome a transitional era, Indonesian architects must try to form an architecture that does not contradict the Indonesian

aesthetics, climatic conditions, and ways of life. It must be at least strong, durable, and easy to maintain."[38)]

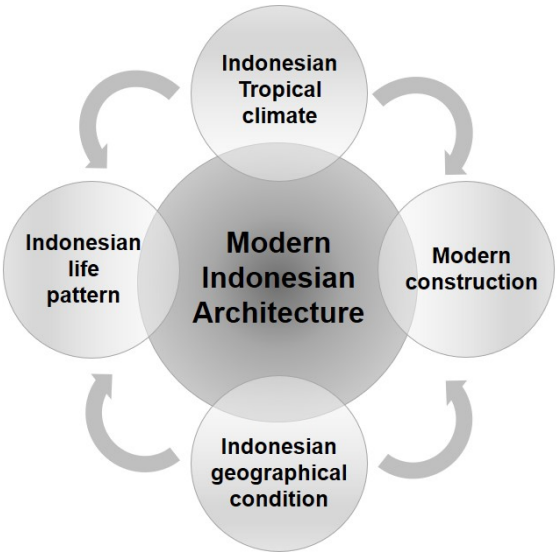


Fig2.81 Silaban's ideas for modern Indonesian architecture based on his Journey Report to India (1954)[38)]

Silaban proposes a holistic approach to improve the two factors (the industry of building materials and the education of architects, draftsman, and skilled laborers). According to Silaban, these two factors can develop the modern Indonesian architecture by emphasizing the aesthetic values, climates, life patterns, and durable construction.

Silaban in his career keeps consistently applying the modern architecture in terms of the tropical climates. His idea of modern architecture is parallel with Soekarno's vision to identify Indonesian nationality spirit of 1950s-1960s.

Silaban's idea of modern Indonesian architecture was written in the second National Congress of Indonesian Institute of Architects in Yogyakarta on December 3, 1982. This congress discussed the concept to develop Indonesian architecture. In his article entitled "Architectural Idealism and the Reality in Indonesia," Silaban explained his idealism regarding the purity of Indonesian architecture. He considered seven points to design the architecture in tropical countries:

1). The importance of the roof for "climatic effects" mitigation,

2). "Open veranda (*emper terbuka*)" as a required space in Indonesian houses,

3). The "ideal architectural form" is simple, concise, and clear,

4). Leak-free "roof material," shape, and construction,

5). Good quality of "materials,"

6). Harmony of modern "architecture forms" with tropical characteristics,

7). Inessential use of "Air Conditioning" for buildings in Indonesia.[39)]

From 1970s to 1980s, Indonesia implemented the regionalism architecture to identify the nationality and used some various styles to build the commercial buildings. Silaban's opinion was in line with this condition to create a modern tropical architecture stated in the sixth point above (Harmony of modern "architecture forms" with tropical characteristics):

> "In my opinion, we do not need to search the form of Indonesian architecture since Indonesian people themselves are still in a formative process. Indonesian architecture must be modern and tropical.
> Why must it be modern? Because we live in a modern era, and every era has its right to express its cultural era.
> We do not need to copy the specific forms of Toraja, Minangkabau, Bali, Batak, etc. to create Indonesian architecture. We do not need to take their forms, but their souls that show a lot of tropical characteristics are necessary. The elements considering heavy tropical rain, sun heat, and tradition that is not always static, but it is evolve from periods to periods."[39)]

Silaban concerns on adapting the tropical characteristics to show the essential soul of traditional Indonesian architecture rather than promoting their imitation forms. He would rather affirm the principles of tropical architecture to create a new form of modern architecture style. He also emphasizes to consider the development of the tradition in the modern era for adapting Indonesian life patterns to develop a modern architecture design.

Silaban's idea to translate the modern Indonesian architecture is by means of open veranda (*emper terbuka*) as it has become one of his notions and design characteristics. The open veranda represents Silaban's interpretation of tropical climate, geographical condition, and Indonesian life pattern. Silaban's mechanism to devise the open veranda (*emper terbuka*) in his notions and designs is one crucial question in this research, and it has become the main theme in the following chapters.

### 2.5. Conclusion of Chapter 2

In his life and career, Silaban passed through three periods of Indonesian history. In the first period (1930s-1940s) or the last colonial period of Dutch East Indies, Silaban

ran his educational phase and early career. He experienced the Dutch education and graduated from *Koningin Wilhelmina* School (KWS), Batavia in 1931. He also worked for the Dutch East Indies government. He began his career as an architect and designed some building projects. He participated in some design competitions that later promoted him as one of the reputable Dutch East Indies young architects. In this period, Silaban followed the modern colonial architecture style for his first designs.

The second period (1949-1967) called the Old Order period was marked by Indonesia's first president: Soekarno. Silaban came to the top of his career in this period. He began studying at *Academie voor Bouwkunst* Amsterdam for one year and received an architect profession certificate in 1950. From 1953 to 1956, he won three national design competitions: National Mosque (Istiqlal), Bank of Indonesia, and National Monument. Winning the three competitions made Silaban a reputable national architect in Indonesia. He turned his designs into the modern tropical architecture style that was in line with Soekarno's vision to create a new Indonesian architecture that identifying the nationality. He started his architectural firm office where he and his staff did various jobs from Soekarno's national projects, presidential palace's facilities renovation, government institutional buildings, private projects, cemeteries, and houses.When September 30$^{th}$ movement broke out, it caused an unstable situation and ended Soekarno's presidency. This incident automatically affected Silaban's projects. He then focused on his duty as a project vice chief in the construction of Istiqlal Mosque.

In the third period (1967-1984) called the New Order period was marked by Indonesia's second president: Soeharto. Silaban played an important role to construct the project of Istiqlal Mosque as the project was also his masterpiece design. He did the project until the end of his career. As an architect of Istiqlal Mosque project, he synchronized the technical issues to realize the project until the construction finished. He kept using his modern tropical architecture style to handle some institutional and private projects. Silaban passed away on May 14, 1984.

Between the second and third periods, Silaban wrote his opinions on general architecture, national architecture, and Indonesian architecture. His opinions especially came from the journey reports to Japan and India (1954) and from the article at the second National Congress of Indonesian Institute of Architects (1982). Silaban finds out that there is an inter-connection of architecture, climate, geographical location, and society's

life pattern. These factors are consistently correlated with a modern architecture: new materials, modern techniques, and material industries. Therefore, he promotes his idea of modern Indonesian architecture based on the climate, the geographical condition, and the society's life pattern. The open veranda (*emper terbuka*) can literally represent these factors.

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**Notes**

*1) Led by Cornelis de Houtman in 1596, the Dutch landed in Banten for trading and establishing the *Vereenigde Oost-Indische Compagnie* (VOC) in 1602. The VOC ruled Dutch East Indies (now Indonesia) until it was taken over by the Dutch government in 1799. The Dutch colonial period ended when the Japanese invaded Indonesia during the Second World War in 1942 (Tjahjono, 2009).

*2) The Dutch East Indies colonial government established *Koningin Wilhelmina School* (KWS) Batavia (now Jakarta) in 1906. This technical secondary school opened for the Dutch and the selected local students to provide skilled employees for the development program of Dutch East Indies. Building Science (*bouwkunde*) is one of the major subjects explaining the method of structure, construction, and materials (Sopandi, 2017:30-38).

*3) Amsterdam Architects′ Association (*Architectura et Amicitia*) began evening courses for the participants of Secondary and Higher Architectural Training held at *Academie voor Bouwkunst* in 1908. *Academie voor Bouwkunst* Amsterdam was established in 1918. This academy provided courses for the students who already worked and practiced in architecture or construction or alumni of a secondary school majoring in construction. The students were trained to be certified architects to meet the need for professional architects that would be placed in Amsterdam (Sopandi, 2017:101 and Academy of Architecture Amsterdam University of the Arts, 2020)

*4) After 1900, many Dutch professional and educated architects arrived in Dutch East Indies. P.A.J Moojen established the first private architectural firm in 1904 called

*Technisch Bureau Biezeveld and Moojen*. Due to the shipping transportation development, the modern Dutch architecture magazines were readable by the architects in Dutch East Indies. Meanwhile, the Nieuew Kunst style was popular in the Netherlands in 1900. This style was divided into Amsterdam School's style and De Stijl's style in 1915. Both styles dominated the Dutch architecture until1950s. From 1920s to 1930s, the Indo-European architecture style (*Indo Europeesche Stijl*) emerged in Dutch East Indies. This style was popularized by Henri Macline Pont and Thomas Karsten (Handinoto, 2010 and Widodo, 2007).

*5) Pasar Gambir was an annual fair event in Koningsplein, Batavia (now Merdeka Square, Jakarta) held from the late August to early September. This fair celebrated the birthday and enthronement of the Dutch Queen: Wilhelmina. It exhibited the European products and performed music, theatre, and circus. The event was firstly held in 1906, and it was regularly held every year from 1921 to 1939. Pasar Gambir buildings displayed different building designs every year to attract visitors. J.H. Antonisse designed Pasar Gambir from 1923 to 1935, and Robert Deppe continued to design Pasar Gambir in 1936 (Lukito, 2016:20-29 and Sopandi:66-72).

*6) J.H. Antonisse came to Batavia in 1914 and worked as a supervisor and draftsman in Public Works Department (*Burgerlijke Openbare Werken* (BOW)) of Batavia. He was appointed the Head of Engineering Department in 1920. He was an autodidact architect who developed his design creativity by learning local architecture and construction. He applied the Minangkabau architecture at his first design to Pasar Gambir in 1923. He continued using the theme of local architecture to his next designs for Pasar Gambir (Lukito, 2016:29-31 and Sopandi, 2017:67).

*7) Professor Hasan Poerbo was the one who critisized Antonisse's and Silaban's design giving his opinion: "Based on Ir. Antonisse's design, it revealed that Antonisse emphasized his design on the role of roof like the design of Pasar Gambir. I think this has much influence on Mr. Silaban because Mr. Silaban's design also emphasizes the role of roof. In 1930s, Ir. Antonisse's design was a new shape, and Pasar Gambir had its own style." (Odang, S.A., et al, 1992:65)

*8) Soekarno entered the Department of Civil Engineering of *Technische Hoogeschool* Bandung (now Bandung Institute of Technology) in 1920. During his study, he did his internship as a drafter at Charles Prosper Wolff Schoemaker's architectural firm. Schoemaker was a professor who taught him at *Technische Hoogeschool* Bandung. After graduating in 1926, Soekarno and Anwari established an architectural firm that operated from 1926 to 1929. In 1932 Soekarno and Rooseno re-established another architectural firm. Soekarno designed some houses in Bandung and Bengkulu, a mosque in Bandung, and Jami Mosque in Bengkulu. Bandung Institute of Technology awarded an honorary degree, Doctorate Honoris Causa, to Soekarno in 1962 bacause of his successful role as an engineer-architect and the development of Jakarta (Ardhiati, 2005 and Pusat Dokumentasi Arsitektur, 2012).

*9) The first alumni of Architecture Department of Bandung Institute of Technology were Suhartono Susilo, Hasan Poerbo, Achmad Noe'man (Tjahjono, 1998:129).

*10) In 1960s, the architects who graduated from foreign universities and returned to Indonesia were Soejodi Wirjoatmodjo, Han Awal, Suwondo B. Sutedjo, Bianpoen, and Mustafa Pamuntjak. Soejodi Wirjoatmodjo became a lecturer at Bandung Institute of Technology, and Suwondo B. Sutedjo became a professor at University of Indonesia. (Pusat Dokumentasi Arsitektur, 2012)

*11) The September 30th movement was actually the abduction and assasination of seven army generals by a rebellion troop supported by the Communist Party of Indonesia (PKI) (Ricklefs, 2005 and Kementerian Pendidikan dan Kebudayaan, 2015).

*12) Between 1956 and 1966, Silaban and Groenewegen shared a house on Jalan Jambu No. 38, Menteng, Jakarta. Groenewegen and his family stayed in the rooms of the main house at the front until he passed away in 1980. Meanwhile, Silaban used the rear part as his office, and Dr. Meyer stayed in a small area in the back corner. The Silaban drew their agreement to use this house on a drawing archive. Later, Silaban gained the ownership of this property in 1974. After Silaban passed away, his family sold this property (Sopandi, 2017).

*13) At the end of the old order period, many big project plans were not realized because client's status and other factors changed. Some of Silaban's national and institutional projects were not realized, but only half of them were realized. Such projects as National Theatre (Fig.2-46) and Soekarno's Tower (Fig.2-49) were not realized. Pola Building (now Perintis Kemerdekaan building) and Bank of Indonesia in Surabaya did not finish yet according the completed design plan. Hotel Banteng (now Hotel Borobudur) and Bank National Indonesia in Medan were completed, but there were more modifications than Silaban's design. Hotel Banteng construction was terminated in 1965, but it was reconstructed in 1970 without Silaban who designed the initial plan. The Air Force Headquarter of Republic of Indonesia in Jakarta (now Wisma Aldiron Dirgantara Building) was only completed 10% out of Silaban's design. (Silaban, 1981-1982 and Sopandi, 2017).

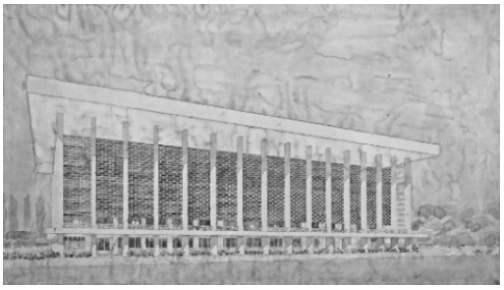

Fig2.83 Silaban's design for Pola Building (1960-1961)[7)]

Fig2.82 The realization of Pola Building (1962)[7)]

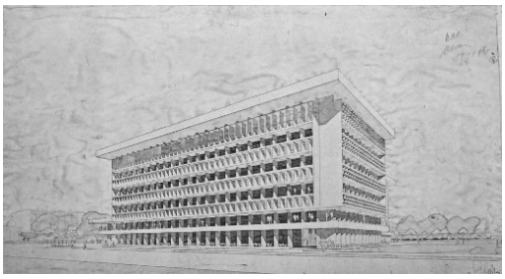

Fig2.85 Silaban's design for Bank of Indonesia in Surabaya (1961)[7)]

Fig2.84 The realization of Bank of Indonesia in Surabaya[32)]

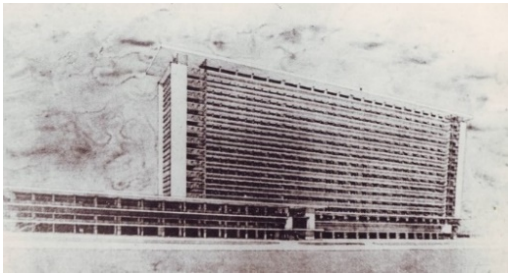

Fig2.86 Silaban's design for Hotel Banteng (1962-1965)[7)]

Fig2.87 The realization of Hotel Banteng (now Hotel

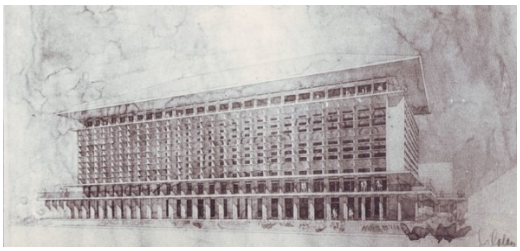

Fig2.89 Bank National Indonesia in Medan (1959)[7)]

Fig2.88 The realization of Bank National Indonesia in Medan[32)]

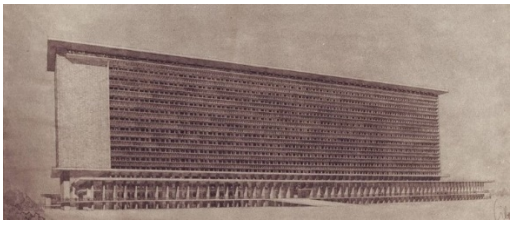

Fig2.90 Silaban's design for the Headquarter of the Air Force of Republic of Indonesia Jakarta (1962)[7)]

Fig2.91 The realization of the Headquarter of the Air Force of Republic of Indonesia Jakarta (now Wisma Aldiron Dirgantara)[32)]

*14) This plan was not realized since a different mosque design from Silaban's proposal stood on the site where the mosque plan had to be built (Sopandi, 2017).

# Chapter 3
# The Formation of the Notion on "Open Veranda" ("*Emper Terbuka*") by Friedrich Silaban

## 3.1. Introduction

Friedrich Silaban was an Indonesian architect who had an essential influence to develop the modern Indonesian architecture. He studied basic knowledge of building science in the Dutch East Indies school and architecture in the Netherlands and from his journeys to foreign countries.

This chapter focuses on Friedrich Silaban's notion of open veranda (*emper terbuka*) as a required space for Indonesian houses. It aims to analyze the formation of Silaban's notion of open veranda (*emper terbuka*) by analyzing his textual documents. The author's emphasis is on the differences between the descriptions of open veranda in Silaban's texts and the process analyses through which his notion of open veranda (*emper terbuka*) is formed.

Using the catalog of Silaban's archives,[1)] his digital archives,[2)] and his biography references,[3)] the author is able to list Silaban's texts by their years of publication (Table3.1). Among the texts, the author analyzes five texts that include a description of open veranda (*emper terbuka*). These texts consist of the journey reports to Japan and India (1954), to the United States of America (1957)), an unpublished article draft (1950s-1960s), and an article for the second National Congress of Indonesian Institute of Architects (1982). As additional resources, the author reviews Silaban's biography dealing with these texts and his photograph archives regarding the journey reports. The author cannot examine the text of "Gelora Senayan" (1969-1970) [*1)] because this archive has not yet been digitalized and published.

The author extractes the open veranda descriptions from the texts, groups them into three chronological periods, and compared the descriptions:

1) Period of 1954-1957: Various forms of veranda (*emper*) were observed on the journeys to other countries (chapter 3.2).

2) Period of 1950s-1960s: Discussions of the open veranda (*emper terbuka*) expression (chapter 3.3).
3) Period 1970s-1980s: Adaptation of the previous theories about open veranda (*emper terbuka*) in Indonesia (chapter 3.4).
4) Finally, the author discusses the differences among the texts and analyzes the process through which Silaban's notion of open veranda (*emper terbuka)* is formed (chapter 3.5).

Table3.1 List of Friedrich Silaban's Textual Documents[1,2,3)]

| Period | Year | Friedrich Silaban's texts | Description of open veranda | | Relevant chapter | Remarks |
|---|---|---|---|---|---|---|
| 1954-1957 | 1954 | Short Report of F. Silaban's Journey to Japan to study and review the art of building as intended by decree of the Minister of Education, Teaching, and Culture of the Republic of Indonesia; Date January 28, 1954. No. 9417/Kab.; August 19, 1954 | X | - | 3.2 | Not mention description of verandas, but connected with the journey report to India |
| | | Short Report of F. Silaban's Journey to India to study and review the art of building as intended by decree of the Minister of Education, Teaching, and Culture of the Republic of Indonesia; Date January 28, 1954. No. 9417/Kab.; August 19, 1954 | O | p.9, 10, 12 | 3.2 | Includes description of verandas |
| | 1957 | Short Report of F. Silaban's Journey, the Head of Public Works Department of Bogor Municipality, to the United States of America as intended by decree of the Minister of Home Affair of the Republic of Indonesia; Date June 11, 1957. No. Pend. 6/5/34 and the Decree of Government Council of Bogor Regency; Date June 11, 1957. No. 1795/3/57. | O | p.2 | 3.2 | Includes description of verandas |
| 1950s-1960s | 1950s-1960s | Unpublished Article Draft (Personal Lecture Notes) | O | p.19, 20, 45, 46, 47 | 3.3 | Includes description of verandas |
| | 1965 | Report of F. Silaban in the first pile erection ceremony of "*Bung Karno* Tower" at Antjol, Jakarta; October 8, 1965 | X | - | - | No mention description of verandas |
| 1970s-1980s | 1969-1970 | F. Silaban's diary regarding the task of helping Director/Secretary General of "*Gelora Senayan*" Djakarta[*4)] | - | - | - | Document not yet digitized or published |
| | 1970 | F. Silaban's Notes on "*Gelora Senayan*" [*4)] | - | - | - | Document not yet digitized or published |
| | | Report of F. Silaban's journey to West Germany (The last check of the polyhedron dome of the Istiqlal Mosque); August 5, 1970. | X | - | - | No mention description of verandas |
| | 1975-1976 | Architecture and Architect Profession (edited by Anton de Sumartana, published by Spektra Almamater magazine, p. 4-5) | X | - | - | No mention description of verandas |
| | 1982 | Architecture Idealism and Its Reality in Indonesia (presented on the Second National Congress of the Institute of Indonesian Architects (IAI) at Yogyakarta, December 3, 1982); published in Budihardjo (ed), 1996 | O | p.76, 77, 78, 79, 85, 86, 89 | 3.4 | Includes description of verandas |

▭ The object of the research

### 3.2. Period 1954-1957: Diverse Forms of Veranda (*Emper*) Observed on Journeys to Other Countries

#### 3.2.1. Journey to Japan (1954)

In January 1954, Silaban was assigned by the Minister of Education, Teaching, and Culture of the Republic Indonesia to study Japanese and Indian building arts.[4)] He departed from Tanjung Priok port on March 14 and arrived in Kobe on April 2. As is stated in his biography, he traveled to Osaka, Kobe, Nagoya, Tokyo, Kamakura, Hiroshima, Kyoto, and Nara. He visited the Imperial Palace, Tokyo Station, the Imperial Hotel (designed by F.L. Wright), Ueno Park and Museum, Teishin Hospital, the National Gallery of Modern Art, and Daichi Hotel in Tokyo. In Hiroshima, he explored Peace Memorial Park and the Memorial Cathedral for World Peace. He observed traditional buildings such as Tsurugaoka Hachiman-guin Kamakura, Ginkaku-ji, Kinkaku-ji, Sanjusangen-do, Kyomizu-dera, Higashi Hoganji, Nishi Hoganji, the Imperial Palace, Heian-jingu, and the Kabuki Theatre in Kyoto, and also Todai-ji, Kokufu-ji, Horyu-ji, and Kasuga Taisha in Nara. He went to Tokyo University of the Arts Ueno, the Department of Architecture of Waseda University, the Research Center for Materials and Construction, and a flat developed by Kajima corporation.[3)]

Silaban found that Japanese modern buildings were inspired by modern Western architecture, using white or red terracotta facades and fabrication materials.[3)] He was impressed by Japanese aesthetic constructions that made of natural wooden materials from mountainous areas, and noted that the houses were well-created and managed. He described the buildings as big and tall yet elegant and aesthetically pleasing and reported that the temple constructions were heavy, but their appearance was light and elegant. He found that temples had wide eaves reaching five to eight meters, as exemplified by a temple between Kamakura and Tokyo that extended to five meters.[4)]

He believed that aesthetic Japanese wooden construction was the result of a culture that respected life and aimed to design structures considering the local climate.[4)] He also concluded that Japanese perspectives on architecture were closely related to climatic and geographic conditions. He proposed that Indonesians should create the architectural styles considering their dry and rainy climates.[3,4,5)] He did not provide any description of verandas (*emper*) in this report, although he included a description of wide eaves attached to temple roofs[4)] that particularly for shelter.[6)] He also did not include

photographic archives related to the above impressions, but his conclusions concerning the connection of architecture, climate, and geographical location were also mentioned in his next visit to India (1954).

### 3.2.2. Journey to India (1954)

Departing from Okinawa, Silaban arrived in Calcutta on June 27, 1954 and visited Delhi, New Delhi, Agra, Chandigarh, and Jaipur. His biography states that he explored Viceroys Palace, Jami Mosque of Delhi, Red Fort, Qutb Mosque, Hamayun Mausoleum, Indonesian Embassy, Birla Temple, the Taj Mahal, Chandigarh, and Jaipur. He visited the Indian Public Works Department, Chandigarh architect's office, and met some architects, namely H.L. Gehlote, T.J. Manickam, Habib Rahman, Achyut P. Kanvinde, and D.N. Gupta. He then visited Manickam's and Kavinde's projects.[3)] He mentioned the verandas (*emper*) of the Jami Mosque in Delhi and Chandigarh in his report.

#### 3.2.2.1. Silaban's Journey to Jami Mosque, Delhi

The Mughal emperor, Shah Jahan, built Jami Mosque in Delhi (known as Jami Masjid of Shahjahanabad) in 1664-1658[7-9)] for communal worship and royal ceremonies.[7)] Silaban was impressed by the mosque complex's monumentality with its spacious courtyard surrounded by three gates paired with verandas (*emper* (*zuilengalerij*)). Three domes and two towers decorated the mosque.[3,10)]

Silaban used the word *"emper*" (veranda) to refer the part of *iwan*[7)] with a colonnaded construction supporting the roof in Mughal architecture adopted from the Central Asian veranda or loggia.[8)] Four-*iwan* opening onto a central courtyard (*sahn*) is a mosque plan that is often used in Islamic architecture.[11),*2)] Silaban defined *iwan* as facade elements from the Indian stone building tradition that express monumentality. The flat-roofed verandas with rows of columns and arches on three courtyard sides were mediated by each gate.[7)] These verandas are open both to the courtyard and the city view below the mosque complex.[9)] He did not take any photographs at Jami Mosque in Delhi, but he took photographs at Jami Mosque in Fatehpur Sikri (Photo3.1 and Photo3.2), which has a similar plan to that of Delhi.

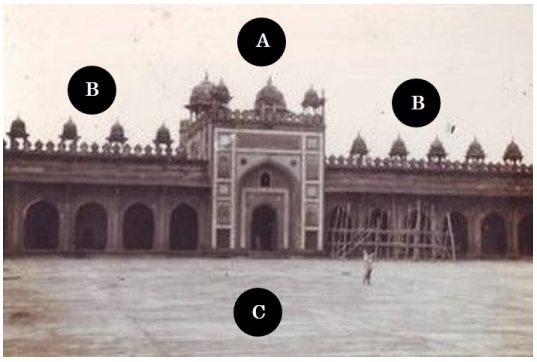


Photo3.1 Silaban's photographs of the Eastern Gate, Jami Mosque in Fatehpur Sikri, 1954[2)]

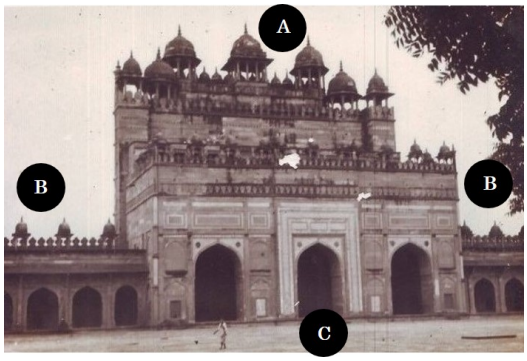


Photo3.2 Silaban's photographs of the Southern Gate (*Buland Diwarsa*), Jami Mosque in Fatehpur Sikri, 1954[2)]

Legend: A. Gate, B. Colonnaded veranda, C. Courtyard (*sahn*)

### 3.2.2.2. Silaban's Journey to Chandigarh

Silaban visited Chandigarh on July 7-8, 1954. He was impressed by Le Corbusier and related architects (Pierre Jeanneret, Jane Drew, and Maxwell Frey) that designed Chandigarh. In his report, he analyzed Chandigarh buildings in consideration of the North Indian climates,[3,5,10), *3)] modern materials and constructions, and the typical activities conducted by Indian during the summer.[10)]

> "All the roofs are made of concrete but use no eaves. All the windows, doors, and verandas (*emper* (*zuilengalerij*)) affected directly by the sunlight are protected by "sun breakers" made of concrete or perforated bricks, due to wind flow and sunlight avoidance."[10)]

In this description, he pointed to a combination of the veranda (*emper*) and *brise soleil* (sun breaker) in Chandigarh buildings to mitigate sunlight and wind factors. Le Corbusier himself mentioned the sun and rain as the two controlling factors in his design,[12)] especially concerning the High Court buildings that Silaban appreciated as brave architectural projects.[10)]

He also described the Mount View hotel where he stayed in Chandigarh concerning the bedroom design that included a veranda (*emper*).

> "The hotel consists of:
> a. A big two-story block of bedrooms and stairs
> b. A small block for the office, manager room, restaurant, and sitting terraces
> c. A small block for the kitchen and storages
> d. A small one-story block for servants and the garages
> e. A spacious yard.
> (Note: building a and b are connected by concrete verandas (*emper*)).

> The materials are concrete, brick, natural stone, tile, terrazzo, and wood.
> All bedrooms have a bathroom and water closet.
> The bedroom blocks face the wind (important for ventilation) and get hot because they also face the sun (the bedrooms face the sunrise in the morning, and the bathrooms face the afternoon sunset).
> Sun breakers in the form of balconies and awnings are built in front of the bedrooms for protection, while nothing is built at the back because verandas (*emper* (corridor)) are attached to the block (13 bedrooms)."[10)]

Silaban noted two functions of verandas in this hotel. Concrete veranda (*emper*) are used as connectors between buildings (Photo3.3) and bedroom verandas (*emper*) form narrow corridors alongside the rooms as protection from direct sunlight in the afternoon (Photo3.4).

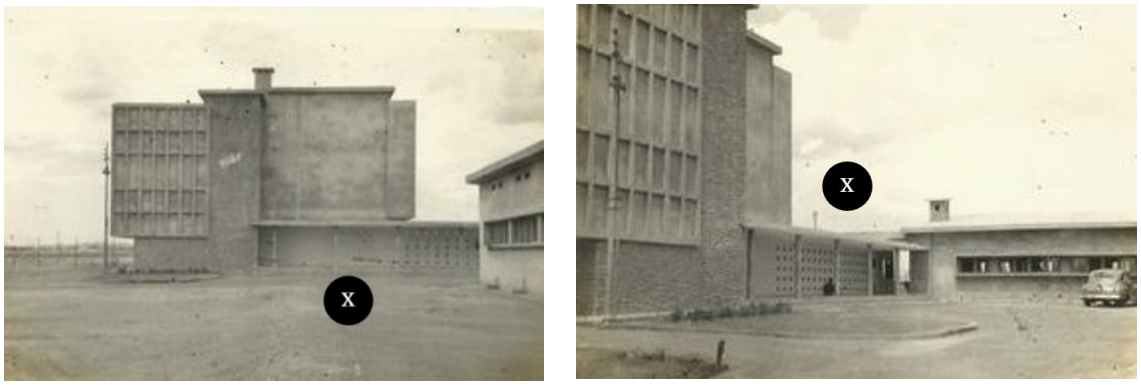


Photo3.3 Silaban's photographs from Chandigarh, India of concrete verandas (*emper*) (X) that connects buildings, 1954[2)]

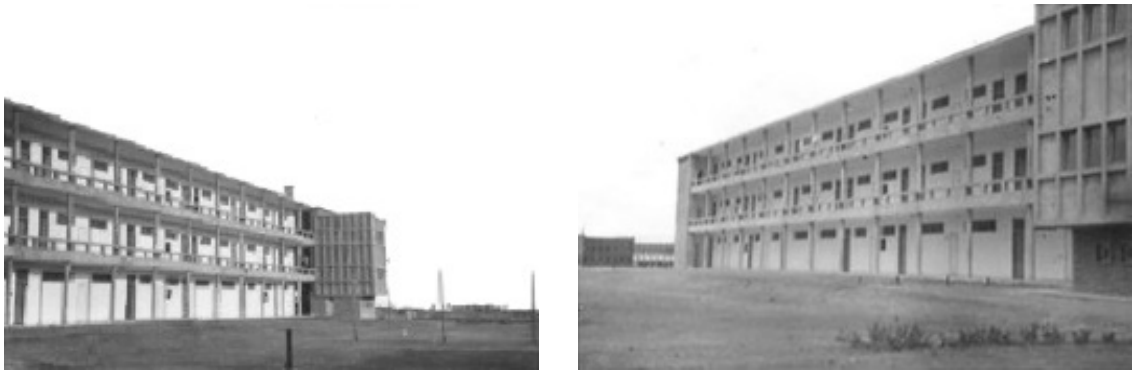

Photo3.4 Silaban's photographs from Chandigarh, India of verandas (*emper*) that form a corridor along bedrooms, 1954[2)]

### 3.2.3. Journey to the United States of America (1957)

In June 1957, Silaban was assigned to visit the United States of America by the Minister of Home Affairs of the Republic Indonesia. He departed from Djakarta on July 3 and arrived in Honolulu on July 4, then he observed a milk factory, a school complex,

the Governor's house, museums, and housing complexes.[13] According to his biography, he visited many cities such as Honolulu, San Francisco, Washington DC, Philadelphia, New York, Boston, Detroit, Taliesin, Chicago, Phoenix, and Charlottesville. He visited Washington International Center, the Capitol Complex, the United Nations Secretariat Building, the Guggenheim Museum, the Laver House, Massachusetts Institute of Technology, the Ford Rotunda, Cranbrook Campus, Taliesin East and West, Lake Shore Apartments, the Johnson Wax Building, V.C. Morris Gift Shop, Maimonides Hospital, the Price Tower, Boston Avenue Methodist Church, and various factories. He visited architectural associations and architect offices and met the architects, Louis Khan, Eero Saarinen, Aaron G. Green, and Frank Lloyd Wright. He also visited Boston Architectural Center and the Department of Architecture at Pennsylvania University and Harvard University.[3]

Silaban mentioned verandas (*emper*) in his visit to a school complex in Honolulu without took any photographs. His reports states that:

> "The plan uses a pragmatic modern style with romantic modern features in some parts. The materials are concrete, local coral reef, wood, and glass. Compared to the Honolulu office building's architects, this school's architect considers the issues of Honolulu's climate that has similarity to mild tropical climate. The existence of verandas (*emper*) and roofs that serves as eaves protecting the walls justifies the above assertion."[13]

In this modern school building, he noted the combination of veranda and eaves as climatic adaptation elements. The above descriptions of veranda in two different countries demonstrate the diverse forms that verandas can take. Each country has a building tradition that resolves the issues related to its climates. The Jami Mosque in Delhi and Chandigarh buildings have verandas without eaves in adaptation to the Indian climates, while the school building in Honolulu has verandas with eaves adjusted to its mild tropical climate.

### 3.4. Period 1950s-1970s: Consideration of the Open Veranda (*Emper Terbuka*) Expression

Silaban wrote an unpublished article draft, the date of which is not mentioned, discussing architectural design principles related to building expressions.[14] He cited some sketches of building orientations and roof shapes from the *Bouwkunde* textbook[3,5] that

he collected in 1949 and 1952.[1)] Sopandi inferred that it was written around 1959-1961, as it uses paper and ink similar to the minutes of the "Tugu Nasional" meeting in 1960.*[4)] The authors have inferred that his sketch of Japanese house verandas was made around the 1950s-1960s after he traveled to Japan in 1954 and 1962.[15)] Over a series of visits to West Germany, he traveled to Japan on July 26-29, 1970. He visited the Osaka Expo, new buildings in Tokyo, and the Imperial Hotel Tokyo, but he did not mention any visits to traditional buildings.[16)]

This text touches on four topics: building shape, building height, origin, and roof. He includes a sketch description of veranda in the building shape section and three sketch descriptions in the roof section. The first sketch description focuses on veranda on the second floor:

> "The shape of the main block should be clear and concise, and the façade planes should be clear and plain from the bottom to the roof, which is from the floor to the gutter line.
> As an example, it is not a good idea to build friction on a story-floor height at the back façade only to include a veranda. Light and transparent balconies should be provided to maintain the façade's integrity."[14)]

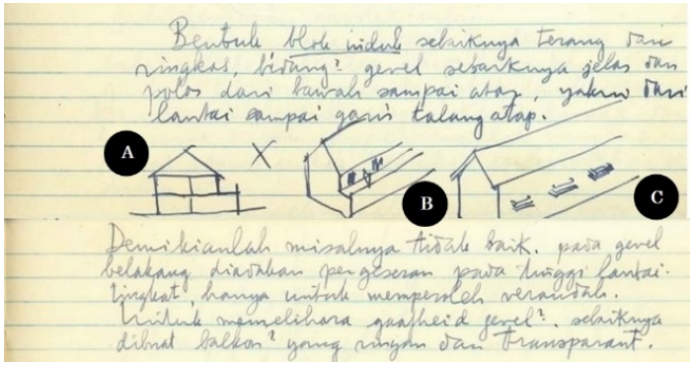

Fig3.1 Silaban′s sketches of the back veranda and back balcony[14)]

Three sketches are provided in addition to this first sketch description as the design cases (Fig.3.1). The first and second sketches (A and B) with a cross mark show his suggestion to avoid back veranda design on the second floor located above an additional room, while the third sketch (C) shows his suggestions for a better design using a balcony without any room below it, so that the façade plane is clear from the floor to the roof. Through these design cases, he emphasizes the importance of considering façade clarity when designing verandas.

Furthermore, the second, third, and fourth sketch descriptions of the open veranda

are in three sequence pages connected to each other. In the second sketch description, Silaban describes the small angle roof expression.

> "The roof with a small roof angle becomes a flat roof that is always less visible than the substructure. This roof type will not dominate the substructure. It also cannot be a prominent crown.
> The flat roof is more obviously seen as a roof with the function of providing protection from the top (a lack of space forming) especially when given eaves.
> The eaves on a flat roof, in fact, are an aesthetic necessity since the above roof plane is slightly invisible and plays an obsolete role."[14)]

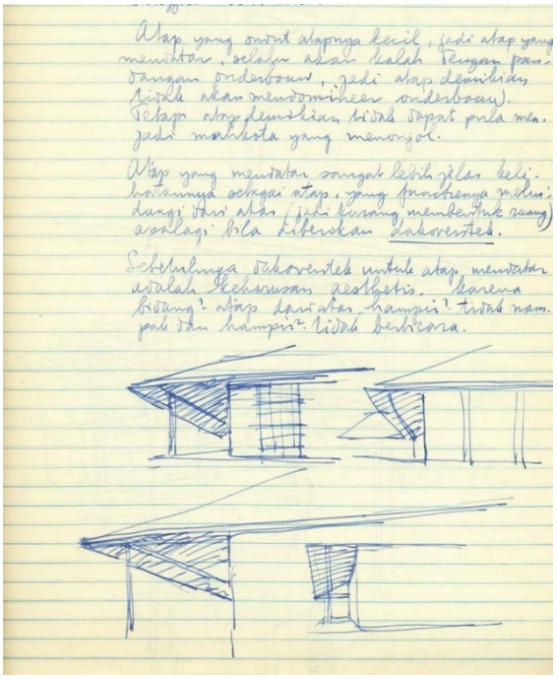

Fig3.2 Silaban's sketches of the space below the roof and eaves[14)]

Silaban describes the weakness of a small angle roof that is less dominant than its substructure. Here, the term "substructure", refers to the space below the roof, which is known as the space below the eaves in Japanese design theory.[17),*5)] Silaban suggests that eaves are an aesthetical element that makes this roof type more visible. He drew three sketches showing wide eaves forming a space below the roof (Fig.3.2). The third sketch description shows the Japanese verandas as an excellent example of the use of wide eaves (Fig.3.3).

> "So, the part playing a role is the plane below the roof that is more visible when eaves are used.
> This is a beautiful and interesting element of Japanese indigenous architecture! Houses are often surrounded by verandas (*emper*) with large eaves and pure wooden constructions that are plainly and bravely exposed

from below.
A vision over the roof is not playing a role!"[14)]

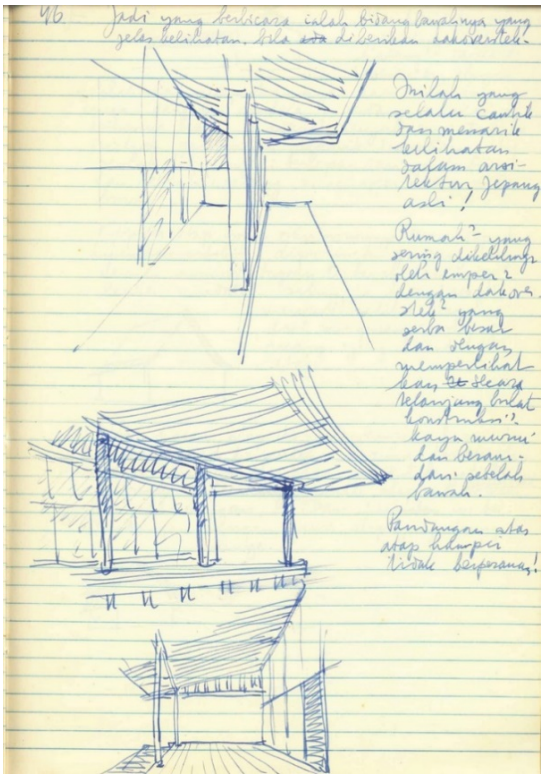

Fig3.3 Silaban′s sketches of Japanese verandas[14)]

The veranda (*engawa*) is an important space in Japanese houses connecting the indoors and outdoors.[18,19)] The space is located below the eaves[18,19)] that protects the room from the rain, blocks the sunlight, and provides shade in the summer.[18)] In the winter, the veranda allows sunlight to enter the room, creating a warm and comfortable atmosphere.[18)] It can be enclosed by the rain-door (*amado*) during storms or night.[19)] Silaban's sketches (Fig.3.3) show Japanese verandas below wide eaves opening onto gardens supported by a row of wooden columns and beams upon a rising floor platform. He underlines the wooden construction characteristics that are pure and bold.[14)] Japanese verandas are supported by natural wooden columns and beams forming an elegant construction expressing honesty, simplicity, clarity, and purity.[19,20)] This supports Silaban's impressions of Japanese wooden architecture from his journey to Japan (1954) in Chapter 2.1. He portrays Japanese verandas and their eaves as an ideal veranda façade showing clarity, as he emphasizes in the first sketch description.

Unlike previous descriptions in which Silaban uses the term *"emper"* (veranda),

he uses the term *"emper terbuka"* (open veranda) to describe the roof accentuation in the fourth sketch description and provides a solution for the visual problem of the small angle roof.

> "The use of the roof as a protector from above can sometimes be accentuated by apparently removing it from the substructure with a barrage of windows. If the building is large, an open veranda (*emper terbuka*) may sometimes be used. This technique allows the roof to be released from the substructure and makes it appear to dominate above the substructure."[14)]

He suggests adding windows in a small building (Fig.3.4) or an open veranda (*emper terbuka*) in the larger buildings (Fig.3.5) to make the roof more dominant and visible. These solutions clearly show the façade division: the roof, the space below the roof and eaves, and the floor.

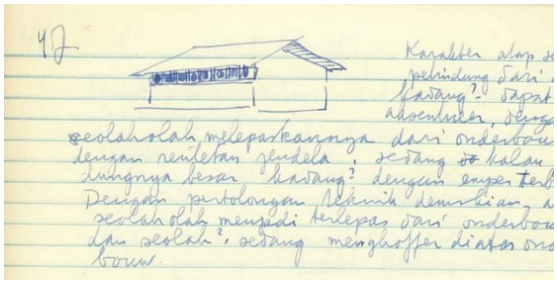

Fig3.4 Silaban′s sketches of roof accentuation in small buildings[14)]

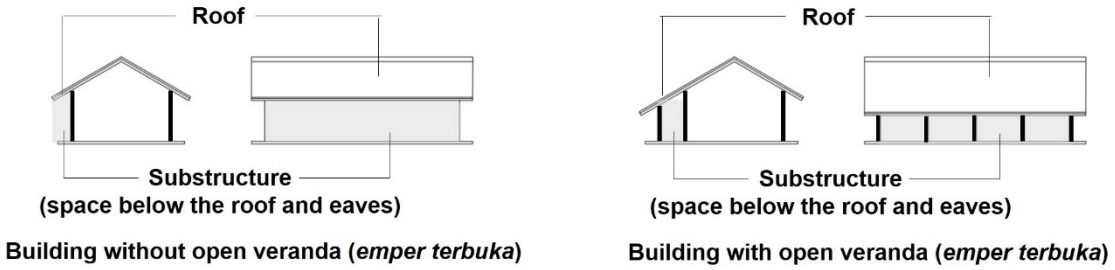


Fig3.5 Roof accentuation in larger buildings according to the fourth sketch description

### 3.5. Period 1970s-1980s: Adaptation of the Previous Theories about Open Veranda (*Emper Terbuka*) in Indonesia

Silaban presented an article at the second National Congress of the Indonesian Institute of Architects titled "Architectural Idealism and the Reality in Indonesia" on December 3, 1982 in which he explained his idealism regarding the purity of Indonesian

architecture. He considered seven points for designs in tropical countries: 1). The importance of the roof for "climatic effects" mitigation; 2). "Open veranda (*emper terbuka*)" as required spaces in Indonesian houses; 3). The "ideal architectural form" is simple, concise, and clear; 4). Leak-free "roof material," shape, and construction; 5). Good quality of "materials"; 6). Harmony of modern "architecture shapes" with tropical characteristics; and 7). Inessential use of "Air Conditioning" for buildings in Indonesia. He concluded his criteria for ideal houses in the final part of the text.[21)]

In this congress article, the second considered point primarily concerns the description of open verandas. The other two points, the first and sixth, were also mentioned in the paragraph related to the open verandas. The conclusion mentioned the open veranda as a criterion for ideal houses.[21)] This text was presented before Silaban fell ill in 1983 and died on May 14th, 1984.[3)]

### 3.4.1. Function of the Open Veranda as a Social Space

The first description in this congress article shows Silaban's unique interest in open verandas (*emper terbuka*) of Indonesian houses.

> "When we drive a car from one town to another, passing through farming areas and seeing most people's houses on the roadside with front verandas (*emper*) opposite the roads.
> We will find the occupants sitting in these front verandas (*emper*) all day. They will enter the walled parts inside the houses at night. Therefore, I dare to say that *a house without a sufficiently large open veranda (emper terbuka)* (instead of a narrow veranda (*emper*) with an additional platonic *eave*) *is not an authentic Indonesian house*. This is a sign for me that *the open part of such houses is the most pleasant place for sitting while chatting and resting*."[21)]

Silaban identified open verandas as required spaces in Indonesian houses according to his observations of Indonesian vernacular houses built by local people in countryside and their occupants' daily activities. In Indonesian vernacular tradition, the outer space of houses is an essential site in which occupants spend most of their time engaging in daily social activities. They use inside parts of the house for domestic purposes such as sleeping, cooking, and storing family heirlooms. Outer spaces in such houses differ according to various ethnicities, cultures, and house shapes from a sheltered area under the house, a platform under a rice barn, an open-walled pavilion, or a simple roofed platform (veranda).[22)] For instance, a traditional Javanese house (*omah*)[*6)] is divided into inner (*dalem*) and outer spaces (*emperan*) forming a roofed open veranda for

public activities with a raised bamboo platform (*amben*) for receiving guests, napping or sleeping in the daytime, and on which adults' sleep at night.[23,24)] Silaban emphasizes the important functions of open verandas as social spaces in this tradition.

### 3.4.2. Adaptation to the Hot-Humid Tropical Climate in Indonesia through Open Verandas

Silaban also explained the influence of traditional verandas in Indonesian houses on Dutch Colonial architecture in his description of the importance of roofs for "climate effects" mitigation.

> "It was not astonishing that many Dutch people (before World War II) built their houses with large rooms and high ceilings. In addition to building verandas (*emper*) that surround houses or at least one large front veranda (*voorgalery*) and one back veranda (*achtergalery*) with a comparable size. Having come from a cold country to a tropical country such as Indonesia, the Dutch quickly understood the importance of verandas (*emper*), *voor* (front) and *achtergalery* (back veranda) as well as large rooms and high ceilings. They considered these fundamental elements for houses in tropical countries.
> Remember the Residen houses, the Residen assistants' houses, the Regent's houses and their pendopo,[*9)] the houses and pendopo of the Wedanas, and the Administrateurs' houses on big farms in the past that we can still admire the remaining constructions today. Indeed, these designs are the results of their observations of local indigenous houses. Both small and big houses are built following the same principles."[21)]

Silaban explains that the Dutch observed Indonesian indigenous houses and adapted verandas as an essential element for their own houses. Verandas were commonly used in 1790-1820 for *landhuizen* or *thuyen*, also known as Indies Style Country Houses.[23),*7)] Dutch aristocrats build these houses in the countryside in search of a better environment than that of Batavia.[23,25)] Adapting to the hot-humid tropical climate[*8)] and environment, they built houses similar to Javanese *joglo* houses[*6)] with verandas surrounding or located in the front and at the back of houses. The pitched roof that expands above the veranda protects it from direct sunlight and pouring rain.[23-26)] The style shifted to the Indische Empire Style[*9)] in the 19$^{th}$ century which involved a neoclassical style adjusted to the hot-humid tropical climate. Buildings in this style have symmetric plans with large front verandas (*voorgalery* and back verandas (*achtergalery*) applying a row of Greek or Roman columns.[26,27)] The Governor-General building was renovated in this style followed by subdivision positions, such as *residen*, etc,[*10)] with a smaller size.[24)]

In early 1920s-1930s, modern Dutch colonial houses replaced this style using smaller front and back verandas.[23)] Although the style changed, the veranda was preserved since it had been proven as useful for climatic adaptation.

Maintaining veranda's function as a social space, he emphasized the importance of considering hot-humid tropical climate of Indonesia.

> "The most important thing is to avoid a single ray of sunlight reaching the floor, instead of building a wall. However, to hold the sunlight, a widened roof can be built beyond the wall outline. By doing this, the sunlight will not reach the wall."[21)]

Silaban suggested resolutions for the problem of torrid sunlight in the hot-humid tropical climate. In his open veranda design, he included wide eaves as shade to prevent sun rays from reaching the floor. He explained the first step of his design processes in following excerpt:

> "Hence, I personally always make a solar *shadowgraph* first for the site where a building will stand before thinking over the building design.
> Because of *noorderkeerkring* (June 21st) and *zuiderkreeding* (December 21st), the "*solar shadowgraphs"* will be different in every place.
> Since Java island is located almost parallel to KHATULISTIWA, one "*solar shadowgraph*" can be applied to all places in Java. Another "*solar shadowgraph*" can be used for areas located near KHATULISTIWA and another for areas such as Medan, Sibolga, etc.
> Northern areas like Aceh, etc. should use a different "*solar shadowgraph*".
> The sun will be at the northernmost position on June 21st, while it will be at its southernmost position on December 21st, so the *awning*'s shade on a *facade* will move throughout the year.[21)]

In order to get a maximum shade from wide eaves, Silaban first employed a solar shadowgraph (sun chart) considering the geographical location. He considered the distance from the site to the equator (*khatulistiwa*) and the relative sun position in the site concerning the seasonal solstice in June and December. This method defines Silaban's conception for tropical architecture:

> "Based on the above principles, I personally believe that tropical architecture is mainly a balanced and harmonious play of lights and shadows. The darker the building is (direct sunlight cannot reach it), the more tropical the building's architecture will look."[21)]

He defines dark interiors as ideal characteristics of tropical architecture. Furthermore, he identifies five criteria for the ideal house:

> "After understanding my viewpoints described above, as a conclusion, it is easy for me to present an image of ideal houses:
> 1). The houses should be surrounded by *a veranda (emper) producing shade* and covered by a high ceiling of a minimum of *four meters*.
> 2). If it is not feasible, the houses should have *wide eaves*, so *there is no part of the floor affected by direct sunlight and should have a limited-sized voorgallery (front veranda)*.
> 3). If this is still too costly, the houses should have *sufficiently eaves* and *a limited-sized voorgallery (front veranda)*.
> 4). The house should have *a concise roof shape* and *durable roof material*.
> 5). The houses should be *free from roof leakage*, except for broken tiles on roofs that are easy to replace."[21)]

The first three criteria concern verandas as an ideal element in houses that are three alternatives for veranda attachments according to financial considerations. Silaban adapted his architecture to Indonesian hot-humid tropical climate by prioritizing the open veranda as a climate modifier to prevent direct sunlight from affecting the interior. He thus emphasized a combination of open veranda and wide eaves.

### 3.4.3. Balance between Façade Shape and Open Veranda

Silaban also described his opinion about the relationship between open verandas and building façades with a row of columns in his description of the harmony of modern "architecture shapes" with tropical characteristics.

> "Many buildings use free column sequences. I think these column sequences suggest that they surround an open space or stand in front of it. The distance between the column row and the room border should be large and equal to the column size and the spacing between the columns, so the free columns stand in front of a large *voorgalery* (*front veranda*) (as seen in Merdeka Palace, State Palace of Jakarta, and Bogor Palace)."[21)]

In Silaban's definition, the large open veranda balances the façade with the row of columns facing the open space. He suggested three significant factors to achieve a harmonious façade shape: open veranda width, column size, and column spacing. He mentioned three official presidential palaces using Indische Empire Style[*9)] as examples. The State Palace of Jakarta was a Dutch merchant residence in the 18$^{th}$ century that became the Dutch Governor-General residence in Batavia. This building located in front of the Merdeka Palace (1873-1879) and was used as a place to hold ceremonies, while Bogor Palace (1834) was the former primary official residence of the Dutch Governor-General.[24)] These buildings had front verandas with big neo-classic columns above rising floors and stairs facing a spacious yard.

Table3. 2 The development of Friedrich Silaban's description of open veranda (emper terbuka) in his textual documents[4,10,13,14,21)]

| Period | Friedrich Silaban's texts | The description of the open veranda (*emper terbuka*) | Silaban's recognition on the open veranda |
|---|---|---|---|
| 1954-1957 | Journey Report to Japan (1954) | There is no veranda (*emper*) description, only a description of wide eaves in the temple building. | Silaban got a foundational understanding of the relationship between the climatic and geographical conditions and architecture. |
| | Journey Report to India (1954) | 1. Veranda (*emper*) as façade elements that express monumentality in the Jami Mosque, Delhi.<br>2. A combination of the veranda (*emper*) and *brise soleil* (sun breaker) in Chandigarh building to mitigate sunlight and wind factors.<br>3. Concrete veranda (*emper*) acts as a connector between buildings and protector from direct afternoon sunlight in the Mount View hotel of Chandigarh. | ▪ Silaban identified the diverse forms of verandas (*emper*) on his journey to other countries.<br>▪ Veranda forms have a connection with the regional climate that acts as a climate modifier in modern buildings.<br>▪ Veranda influences building expression. |
| | Journey Report to the United States of America (1954) | A modern school in Honolulu, Hawaii was combined veranda (*emper*) and eaves as climatic adaptation elements. | |
| 1950s-1960s | Unpublished article draft | 1. The importance of considering façade clarity when designing veranda.<br>2. Japanese verandas as an excellent example of the use of wide eaves.<br>3. The open veranda (*emper terbuka*) as an element that makes the roof more dominant and visible. | The open veranda combines with the roof eaves as the façade element that influences building expression. |
| 1970s-1980s | The second National Congress of the Institute of Indonesian Architects article (1982) | 1. The function of the open veranda as a social space observed from Indonesian vernacular house tradition and people's daily life activities.<br>2. Adaptation of the Hot-Humid Tropical Climate in Indonesia through open verandas.<br>a. The Dutch colonial adapted veranda (*emper*) as an essential element in their house before the Second World War that observed from the Indonesian vernacular house.<br>b. The combination of the open veranda (*emper terbuka*) and wide eaves to prevent direct sunlight from affecting the interior that set as the ideal house criteria.<br>3. The balance between façade and open veranda through the balance of the open veranda width, column size, and columns spacing. | The open veranda (*emper terbuka*) as a social space, climate modifier, and façade balancer. |

### 3.6. Formation of the Notion on "Open Veranda" ("*Emper Terbuka*")[28)]

From the five texts written by Friedrich Silaban including description of open veranda in over three periods, Silaban gradually developed his notion of the open veranda. The authors will next summarize the formation processes of Silaban's notion of the open veranda.

In the first period (1954-1957), Silaban discovered the diverse forms of verandas (*emper*) on his journeys to other countries. He gained a foundational understanding of the relationship between climatic and geographical conditions and architecture on his journey to Japan (1954). On his next journey to India (1954), he observed a monumental *iwan* with a colonnaded veranda at Jami Mosque in Delhi. In Chandigarh, he learned about the use of traditional building techniques such as verandas to solve climate problems using modern forms, materials, and constructions. He then identified another veranda form adapted to the mild tropical climate at a modern school building in Honolulu, Hawaii (1957). In this stage, Silaban identified the connection of the regional climate with the

veranda form in modern buildings as a climate modifier, while in Indian building tradition, he identified the influence of the Mughal veranda on building expression.

In the second period (1950s-1960s) through his unpublished draft article, he connected verandas (*emper*) and eaves with simplicity and clarity expressions as well as roof's accentuation. He emphasized simple and clear façade when designing verandas. He pointed to verandas in Japanese houses as an ideal form of verandas below the eaves with simple columns and beam construction. He first mentioned the term "open veranda" ("*emper terbuka"*) to describe the roof's accentuation. The combination of the roof's eaves and open verandas not only differentiates façade areas (roof, space below the roof and eaves, and floor) but also makes the small angle roof more dominant. In this stage, Silaban recognized the form of open veranda and its roof's eaves as an aesthetic element creating a simple, concise, and clear façade.

In the last period (1970s-1980s), he adapted previous theories into Indonesian contexts explained in his article for the second National Congress of the Institute of Indonesian Architects (1982). Silaban specifically used the term "open veranda" ("*emper terbuka"*) as his notion to address the ideal veranda for Indonesian houses. He emphasized this as a required space for Indonesian houses where social interaction take place and tropical characteristics are accommodated. The open veranda must be large enough for its social function and open (without wall barrier) to people and the environment. Such verandas are not only physically open, they are also socially open to allow people to interact in this space; this is the uniqueness of veranda in Indonesian houses. He also confirmed that the open verandas in Indonesian indigenous houses could become climate modifiers.[29)] This is proven through its application in Dutch colonial houses. Concerning the hot-humid tropical climate, he suggested that an ideal house should have an open veranda and a wide eave that provides shade to prevent direct sunlight entering the open veranda and the interior. The balance of the veranda's width and the columns achieves a harmonious façade. In this stage, Silaban recognized open verandas as a social space, climate modifier, and façade balancer.

Over these three periods, the formation of Silaban's notion of the open veranda (*emper terbuka*) turns back to the Indonesian indigenous houses and the periods of colonial buildings through experiences he underwent on journeys to foreign countries. At the final stage, Silaban summarizes the subject of the "open veranda" in connection with

its functions as social space, climate adaptation, and harmony with a facade. He determined the essence of the function of open verandas and the tropical features of Indonesian indigenous houses, although the facade problem is not directly related to Indonesian indigenous houses. For Silaban, the façade expressions must be concise and clear regarding the principles of modern international styles. In other words, Silaban's notion of the open veranda (*emper terbuka*) clearly expresses the special social problems of space function and climate in Indonesia through simple, clear, balance and universal forms.

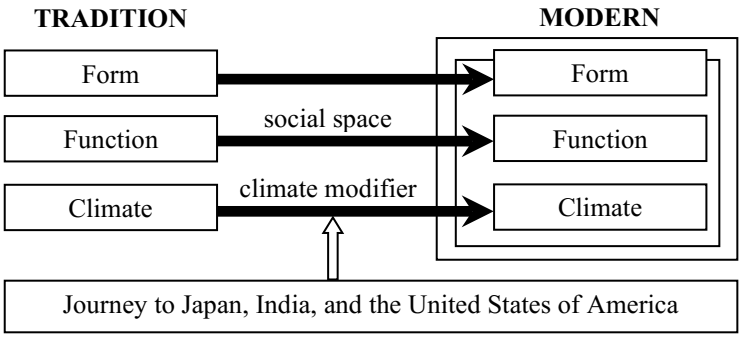


Fig3.6 The formation of Friedrich Silaban's notion of the "open veranda" (*"emper terbuka"*) through his textual descriptions[28)]

### 3.7. Conclusion of Chapter 3

The analysis of Silaban's textual documents shows that Silaban passes through three periods that affect him to form the notion processes of open veranda (*emper terbuka*). In the first period (1954-1957), he learned from his experiences when travelling to foreign countries (Japan, India, and the United States of America). He could identify the relation between the various veranda forms with the local climate and the influence building expressions. On his journeys to foreign countries, he discovered the domestic traditions were mixed with the modernism and regional climates. In the second period (1950s-1960s), he studied the combination of open veranda and the roof eaves that would influence the building expressions and the importance of veranda design clarity that would affect the building façade expressions. In the third period (1970s-1980s), he discovered the essence of open veranda in Indonesian vernacular houses. Afterwards he identified the open veranda as a traditional Indonesian building technique that was suitable with the modern tropical architecture. In addition to its function as a social space

in Indonesian tradition, the open veranda adopts the tropical climate characteristics to create a modern form.[28)]

In conclusion, Silaban's notion of "open veranda" (*"emper terbuka*") is a re-organization of the subject in traditional Indonesian houses and modern architecture. However, the notion formation consists of Indonesian indigenous architecture, other countries' architecture, historical buildings, and modern building references. Therefore, Silaban's notion of "open veranda" ("*emper terbuka*") has a dual character that reflects the unique subject of Indonesia and the universality simultaneously.[28)]

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Fig.3.3 ibid, pp. 46

Fig.3.4 ibid, pp. 47

Fig.3.5 Created by the authors based on Silaban's description of roof accentuation for large buildings in his unpublished article draft, 2018
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Fig.3.6 Created by the authors based on the analysis of chapter 2, chapter 3, and chapter 4, 2018
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**References for Photographs**

Photo3.1~4 Silaban, F.: Friedrich Silaban's digital achieves collection, digitized by Pusat Dokumentasi Arsitektur, modified by the author, April 2018

**Notes**

*1) The Gelora Senayan complex (now Gelora Bung Karno) in Jakarta was built as the venue for the Asian Games IV, which was held from August 24 to September 4, 1962. The main stadium is known as Senayan stadium. Silaban lead the Asian Games Construction Command (KUPAG) (Sopandi, 2017).

*2) *Iwan* refers to a vaulted hall that is walled on three sides, with one end entirely open. *Iwan* has been a basic unit of Islamic architecture since the Seljuk era ($10^{th}$ century). Four *iwan* opening to a central courtyard is the most typical *iwan* arrangements for mosques, madrassas, and palaces. This basic plan was also established in Mughal mosques with a pillared *iwan* (Peterson, 1996:130, 203). Mughal architecture combined Timurid, Indian, Transoxanian, Persian, and European elements. In Mughal architecture vocabulary, *iwan* specifically refers to a pillared construction of any dimension and plan that was adopted from the roofed veranda or loggia supported by slender wooden columns in vernacular Transoxanian architecture. Transoxania was the Mughal's ancestral land located in Central Asia between Amu Darya (Oxus) and Syr Darya (Jaxartes) (Koch, 1991:14, 42, 55, 140).

*3) In Silaban's report of his journey to India (1954), he broadly analyzed Chandigarh's architectural form, considering several factors: 1). The climate was sweltering in summer and cold in the winter; 2). The rain is not too strong or heavy and the climate is generally arid; 3). The wind blows in one direction that can be used for bedroom ventilation to prevent hot temperatures during summer, 4). In the summer, Indian people sleep outside on flat roofs, balconies, or terraces. Architects scientifically, technically, and aesthetically considered these factors to create architectural designs for Chandigarh. Silaban cited the High Court as an example of a building corresponding to the hot and dry climate. He noted this building as one of Le Corbusier's bold designs dominated by large eaves, sun breakers made from concrete, main columns, beams, floor constructions, and large walls (Silaban, 1954:9, 12).

*4) The author interviewed Setiadi Sopandi on November 3, 2017.

*5) For the Japanese, it was necessary for roofs to stick out buildings and have eaves. The space below eaves is endowed with meaning signifying design and life. The wide eaves not only protect the outer wall and prevent the decay of the building, they also connect the building with nature. The space under the eaves was categorized as a transitional space or pivot space that connects the inner space with the outer space (Ito, T, 2012).

*6) The traditional Javanese houses have three types based on roof shapes and the owner's socio-economic status: 1). The *kampung*-style houses are for the common man; 2). The *limasan*-style houses are for higher status; 3). The *joglo*-style houses are for the nobles. The *kampung* and *limasan*-style include the *omah* as a basic house, while the *joglo* house has three divisions: the *omah*, a *peringgitan*, and a *pendapa* (*pendopo*). The *peringgitan* is a connector for *omah* as the inner space of family and *pendapa* (front pavilion) as the public space for social gatherings and ritual performances (Tjahjono, 1998, 2009).

Fig3.7 Front veranda (*emperan*) in traditional Javanese houses[24)]
(A. *Kampung*-style house, B. *Limasan*-style house, C. *Joglo*-style house)

*7) The Indies Country Houses were the result of the Indische lifestyle, a combination of Dutch and Indonesian culture (Tjahjono, 2009 and Soekiman, 2011).

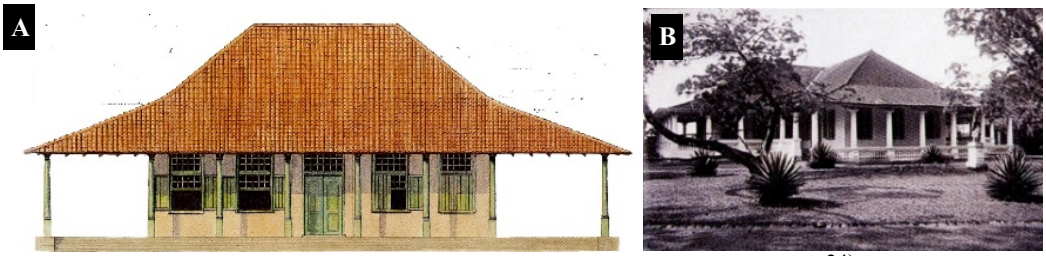


Fig3.8 The Indies Country Houses (l*andhuizen*)[24)]
(A. The *Japan*s house, B. The *Tjitrap* house, Bogor)

*8) Indonesia lies along the equator and has a hot-humid tropical climate with only a rainy and a dry season. The characteristics of climate are: 1). High air temperature, 2). High relative humidity, 3). Heavy rainfall, 4). Relatively low wind speed, and 5). Strong sun heat (Karyono, 2016).

*9) The Indies Empire style was popularized by Governor General H.W. Daendels (1808-1811) with the following characteristics: 1). A symmetrical plan; 2). A "central room" that consists of a master bedroom and other bedrooms located in the middle of the house; 3). A central room connects to a large front and back veranda (*voorgalerij* and *achtergalerij*) with Greek or Roman columns (Doric, Ionic, Corinthian); 4). A kitchen, bathroom, and service area that are separated in the back of the main house; and 5). A pavilion added at the side of the house that serves the guest bedrooms (Handinoto, 2008.7).

Fig3.9 The Official Presidential Palaces of the Republic of Indonesia[32)]
(A. Merdeka Palace, Jakarta, B. State Palace of Jakarta, C. Bogor Palace)

*10) The Dutch East Indies government was formed by: 1). The Dutch lead by the Governor-General assisted by *residen*, assistant-*residen*, and inspectors; 2). Native nobles appointed by the Governor-General: regents, *wedana* (the head of district), and assistant-*wedana* (the head of sub-district)) (Anrooij, 2014).

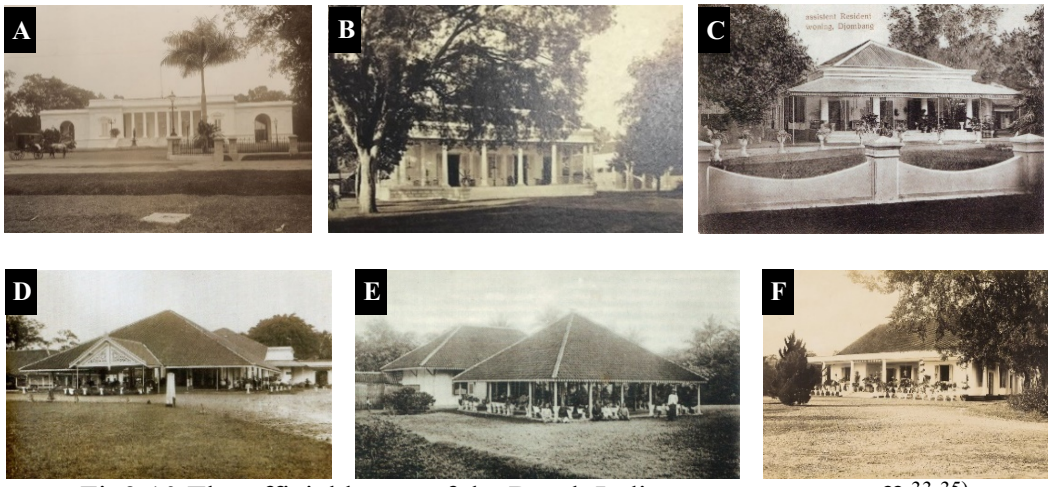



Fig3.10 The official house of the Dutch Indies government staffs[33-35)]
(A. Palace of the Governor-General at Batavia (1895, KITLV 81596),[35)]
B. House of the resident of Batavia,[33)] C. House of the assistant resident of Djombang (1916),[34)] D. House and pendopo of the regents of Wonosobo (1925),[34)] E. House and pendopo of the wedana of Cheribon (1910),[34)]
F. House of the administrateur of the sugar factory of Paroengdjaja, Madjelengka (circa 1890-1895, KITLV 55912)[35)])

# Chapter 4
# The Formation of the "Open Veranda" ("*Emper Terbuka*") in Friedrich Silaban's Private House Projects (1930s -1968)

## 4.1. Introduction

Friedrich Silaban was an architect who had design activities in the modern architecture era of Indonesia. He studied in both Dutch East Indies and the Netherlands and got architectural experiences from his overseas visits at that time.

Based on Friedrich Silaban's discourses, the author has clarified them in chapter 3 that the open veranda (*emper terbuka*) is one of the most important keywords in his architectural philosophy.[1)] In other words, Silaban's concept of open veranda is composed of references to Indonesian indigenous architecture, other countries' architecture, historical buildings, and modern building references, and it includes the theme of social functions as well as the climate adaptations.[2)] However, Silaban did not explicitly state how he achieved this notionn on his discourses.

The previous studies have revealed that the relationship of Silaban's open veranda with the traditional Indonesian houses[*1-3)] is mainly related to climate[3)] but does not produce a chronological analysis of his design methods.

Through an analysis of Silaban's private house project designs, this chapter will clarify the formation processes of Silaban's design method to create the open veranda (*emper terbuka)*. The author focuses on the planning composition of open veranda and the desugn of roof eaves as the tropical climate modifier mentioned by Silaban in his notion[1), *1)] based on the results of chapter 3. Throughout the development of open verandas, the author examines the formation processes of Silaban's design method to create the open veranda (*emper terbuka*) and the influences on traditional Indonesian verandas.

The author examines 54 original plans from nine private house projects and composed them into two periods: 1) 1930s-1940s Period: Application of terraces (chapter 4.3), 2) 1950s Period: Development of one open veranda composition into two veranda

compositions (chapter 4.4) and 3) 1960s Period: Development of various open veranda compositions (chapter 4.5). Three private house projects were not analyzed since these projects were categorized as renovations and furniture designs.[4] Meanwhile, the author will discuss the design of Residence of Lie Hong's Residence (1968-1969) in chapter 5 as Silaban's late realized private house project.

## 4.2. Overview of Friedrich Silaban's Residential Projects

Silaban used the term *"terras"* (terrace) instead of "veranda," *"voorgalerij*," or *"achtergalerij"* in his design archives, which were written in Dutch in the 1930s-1940s. Before Indonesian independence (1945), Dutch words were common in formal documents. In the 1950s, he started using Indonesian and the term *"emper"* (veranda). He then translated this term into "veranda" or "verandah" for three designs, which were written in English in the 1960s and 1970s[4] (Table4.1).

## 4.3. 1930s-1940s Period: Application of terraces

Silaban designed a residence at the Junction of Koninginneweg–Regentsesseweg,[4] after moving to Buitenzorg (now Bogor) from Pontianak in 1939.[5]

### 4.3.1. Application of two terraces

This residence features the front terrace (16.5m$^2$) and side terrace (27 m$^2$), both of which connect with the living room (Fig.4.1).

### 4.3.2. Application of flat concrete roof with a sufficient eaves

The residence uses a 45° hipped roof — a typical modern Dutch colonial roof in the 1910s-1940s. Flat concrete eaves covered the terraces, but the side terrace is not fully covered (Fig.4.2).

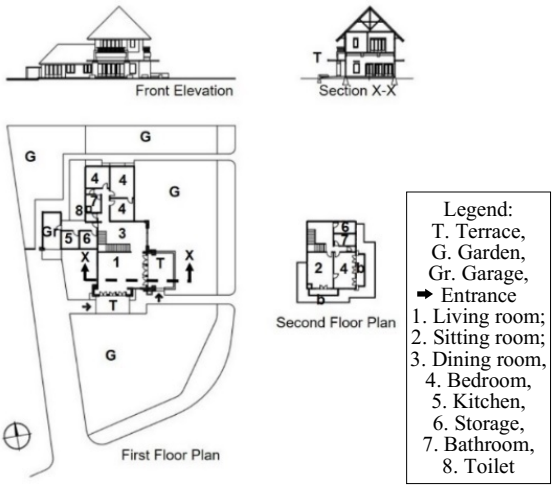



Fig4.1 Residence at the Junction of *Koninginneweg–Regentsesseweg* (1930s-1940s)[4]

Fig4.2 Perspective of the residence at the Junction of *Koninginneweg–Regentsesseweg* (1930s-1940s)[8]

## Table4.1 Friedrich Silaban's Residential Project[4,6,7)]

| Period | Residential Projects | Design publication (date/year) | Private House | House for Institution | Villa House | Shop House | Open Veranda element | Realization of Silaban's design | | | Relevant chapter | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Realized | | Not Realized | | |
| | | | | | | | | Extant | Not Extant | | | |
| 1930s - 1940s | The official residence of the Mayor of Bogor | 1935[3)] | | O | | | - | O | | | | |
| | Design competition plan of Regent's official residence | 1936 | | O | | | - | | | | | Published in I.B.T. Locale Techniek Vol. 5 No 2 1936[3)] |
| | Residence at the junction of *Koninginneweg-Regentesseweg, Buitenzorg* | - | O | | | | Δ | | | | 4.3 | Using term "*terras*" on the plan (Dutch) |
| | The official house of N.V. GEBEO at the junction of Djalan GunungGede–Mandalawangi, Bogor | - | | O | | | Δ | | | | | Using term "*terras*" on the plan (Dutch) |
| 1950s | Bungalow of Mr Rachim at Patjet near Tjipanas | - | | | O | | O | | | | | Using term "*emper*" on the plan (Indonesian) |
| | Residence at Djalan Cawang No. 199, Djakarta | - | O | | | | - | | | | | Renovation project (roof construction) |
| | House of R.S. Mangoensoerana at Sukasari Complex, Djalan Baru, Bogor | - | O | | | | O | | | O | 4.4.1 | Using term "*emper*" on the plan (Indonesian), Preliminary design |
| | The official house of N.V. GEBEO at Djalan Gunung Parang, Sukabumi | - | | O | | | O | | | | | Using term "*emper*" on the plan (Indonesian) |
| | Complex of Djakarta Llyod at Djalan Tangerang, Djakarta | - | | O | | | O | | | | | Using term "*emper*" on the plan (Indonesian) |
| | House extension of Noordin Ibrahim at Tjibuluh, Kedung Halang, Bogor | - | O | | | | O | | | | | Renovation project (Bedroom addition) |
| | House at Kebajoran Baru P/3, Djakarta | February 28,1957 | O | | | | Δ | | | | 4.4.2 | Using term "*terras*" (terrace) on the plan |
| | Silaban's house at Djalan Gedung Sawah II No. 17, Bogor | 1958-1961[3)] | O | | | | O | O | | | 4.4.3 | Using term "*emper*" on the plan (Indonesian) |
| | The official house of N.V. GEBEO at Djalan Bondongan (Dreded), Bogor | July, 1959 | | O | | | O | | | | | Using term "*emper*" on the plan (Indonesian) |
| 1960s | House of Suhirman at Tugu, Bogor | - | | | O | | O | | | | | Using term "*emper*" on the plan (Indonesian) |
| | House of T.D Pardede and family church at the junction of Djalan Sjailendra-Djalan Mojopahit, Medan | March 15, 1960 | O | | | | O | O | | | 4.5.1 | Using term "*emper*" on the plan (Indonesian) |
| | The high official's residence of Attorney Department at Blok CII Kebajoran Baru, Djakarta | - | | O | | | - | | | | | Elevation and perspectives archives |
| | The flat of the National Research Department at Djalan Pedjagalan, Bogor | - | | O | | | O | | | | | Using term "*emper*" on the plan (Indonesian) |
| | Private house of J.M. Minister of Air Force of Republic Indonesia at Kebajoran Baru O/2, Djakarta | - | O | | | | O | | | O | 4.5.2 | Using term "*emper*" on the plan (Indonesian) |
| | Residence on Djalan Djendral Gatot Subroto (Djalan Slipi), Djakarta (Wisma Yaso) | - | O | | | | O | | | O | 4.5.3 | Using term "veranda" on the plan (english) The owner design was realized |
| | House of Rinto Alwi family at Djalan Djakarta No. 22, Bogor | April 27, 1966 | O | | | | O | | | | 4.5.4 | Using term "*emper*" on the plan (Indonesian) |
| | Residence of the Ambassador of Pakistan Ambassador at Djalan Teuku Umar, Djakarta | February 26, 1967 | | O | | | - | | | | | Renovation project (roof construction) |
| | Small house for Abdullah Al Bawahab at Djalan Tjisadane No. 19, Bogor | January 10, 1968 | O | | | | O | O | | | 4.5.5 | Using term "*emper*" on the plan (Indonesian) |
| | Residence of Lie A Hong and Indriawaty at Djalan Gunung Gede No. 33, Bogor | December 31, 1968 | O | | | | O | O | | | | Using term "verandah" on the plan (english) |
| 1970s | Countryhouse of H.E the Minister of Agriculture, Tojib Hadiwidjaja in Tjilandak, Kebajoran Baru, Djakarta | - | | | O | | O | | | | | Using term "verandah" on the plan (english) |
| | House at Jalan Jambu No. 38 Menteng, Jakarta Pusat | November 1, 1974 | O | | | | - | | | | | Furniture design and the house using agreement between Silaban, Groenewegen, and Meyer |
| | Residence of Mr.and Mrs. Sutjipto at Jalan Kedung Halang, Bogor | August 11, 1978 | O | | | | O | | | | | Using term "*emper*" on the plan (Indonesian) Preliminary design |
| 1980s | Shop and house of Ho A Heng family at Jalan Suriakentjana No. 294/296, Bogor | 1982 | | | | O | O | | | | | Using term "*emper*" on the plan (Indonesian) |

The object of research

### 4.4. 1950s Period: Development of One Open Veranda Composition into Two Open Verandas Composition

#### 4.4.1. House of R.S. Mangunsoerana (early 1950s)

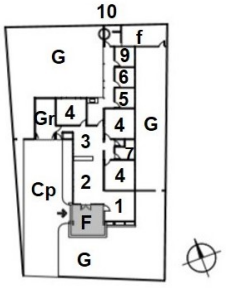
Silaban designed the house's preliminary design without writing the date. The author predicted he drew it before Silaban's dated house design in 1957.

4.4.1.1. Application of a front veranda composition

The house extended rearward on the site facing to the south. A front veranda (21.16 $m^2$) faces a front garden and connects to a living room and a sitting room. It is bordered by the U-shaped permanent sitting element that placed two meters in front of rectangle columns (Fig.4.3).

4.4.1.2. Application of an enough wide eaves

The house is covered by the steep hipped roof (45°) with wide eaves (2 m), which also cover front veranda, however, the front part of the sitting element (30 cm) located outside the line of eaves. Two rectangle columns in the front veranda combined with a flat concrete plat extended from the living room's windows façade, are protected by rectangle columns and horizontal shadings with plant pots below the windows.


Legend: Veranda, F. Front veranda, Cp. Carport, G. Garden, Gr. Garage, ➡ Entrance
1. Living room; 2. Sitting room; 3. Dining room, 4. Bedroom, 5. Kitchen, 6. Storage, 7. Bathroom, 8. Toilet, 9. Servant room, 10. Laundry/ironing room

Fig4. 3 House of R.S. Mangunsoerana (early 1950s)[4)]

Fig4. 4 Front elevation of the house of R.S. Mangunsoerana (early 1950s)[8)]

Fig4. 5 Side elevation of the house of R.S. Mangunsoerana (early 1950s)[8)]

### 4.4.2. House at Kebajoran Baru P/3, Djakarta (1957)

This house located at Kebajoran Baru (now Kebayoran Baru), a garden city neighbourhood in South Jakarta. The house stands on a site located on the corner facing two streets in the north and in the west.

4.4.2.1. Application of terrace

The two-story house has only a terrace (40 $m^2$) facing north toward the front garden and the main street. The terrace connects with a spacious living room as a guest reception area. The I-shaped sitting element extends to the entrance (Fig.4.6).

4.4.2.2. Application of a flat concrete roof

Similar to the residence at the Junction of *Koninginneweg–Regentsesseweg, Buitenzorg* (1930s-1940s), a steep hipped roof (40°) also covers this house. The terrace is covered by a flat concrete roof (3 m wide) that leaves a meter of the terrace area uncovered.

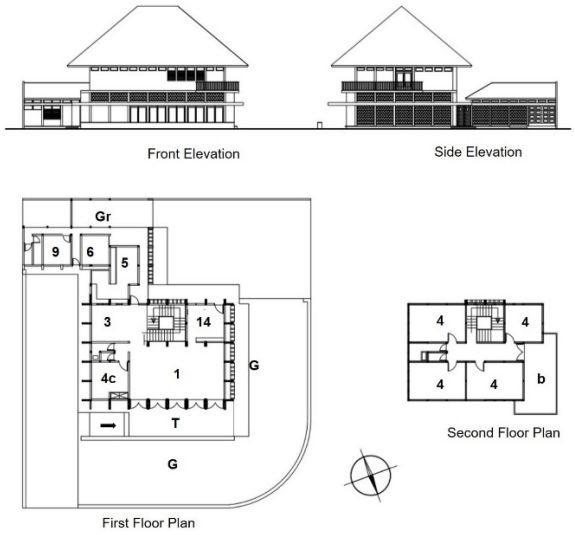



Fig4.6 House at Kebajoran Baru P/3, Djakarta (1957)[4)]

Fig4.7 Facade of House at Kebajoran Baru P/3, Djakarta (1957)[8)]

Fig4.8 Front terrace of House at Kebajoran Baru P/3, Djakarta (1957)[8)]

### 4.3.3. Silaban's House (1958)

Silaban designed his house at Gedong Sawah II street No. 17, Bogor (now architect Silaban street) after Soekarno, the first president of the Republic Indonesia, wished to visit him. He drew three design plans in 1958, realized the last plan in 1959, and accepted Soekarno in 1961.[3,9)]

4.3.3.1. Application of two verandas composition

Silaban designed the first and second plans for maintaining the old house, where he would stay during new house's construction. It would be demolished and changed to a side garden after the construction was finished.[4)] The plan extends along the site's width. facing to the south. A front veranda (22 $m^2$) and back veranda (38 $m^2$) separates each other but have no relation. A sidewalk with a low fence separates carport and the front veranda. The front veranda connects to a foyer towards a drawing room, as well as a spacious area for a living room and a sitting room. It occupied by the U-shaped permanent sitting element in front of two rectangle columns facing to the side garden. Back veranda faces back garden and connects to a dry kitchen, an open wet kitchen, and a corridor to the servant bedroom and carport (Fig.4.9.I).

Both the veranda types and composition are the same in the second plan. The front veranda is narrower (19.25 $m^2$) and is merged with the sidewalk. A rectangle column was added to support the concrete eaves structure. The L-shaped sitting element between the rectangle columns facing a small garden, was extended to the carport. The wider back veranda (40 $m^2$) connects with two walled kitchens (Fig.4.9.II).[10)]

Silaban made a different design for the third plan as the realized plan (Photo 4.1). It should be noted that he stayed in another house during the construction and demolition of the old house.[4)] The house with a mezzanine is parallel with the site's width, providing a spacious front garden and giving friendly and closely expression to environment.[11)] He applied a different composition where front veranda (30.75 $m^2$) and back veranda (16.62 $m^2$) have a closer connection, flanked by a spacious area for the sitting room and dining room forming an axis which intersects with another axis along bedrooms corridor (Fig.4.9.III). Wide glass sliding doors are used between the front veranda, interior, and back veranda (Photo4.5).

The front veranda faces a front garden and connects with a sitting room and a drawing-room. An I-shaped permanent sitting element is placed 2.5 meters in front of

rectangle columns and extended 10 meters to the east terrace (31 $m^2$) (Photo4.2). Two sets of chairs and tables are attached in the front veranda where Silaban received and talked with guests, neighbors or anyone who came, relax, or play chess[4)] (Photo4.3). Back veranda faces a back garden and connects to a dining room, a dry kitchen, and a pathway to an open ironing space (Photo4.4). Silaban's family gathered in the front veranda or back veranda on special family occasion, such as New Year's Eve[*4)].

4.3.3.2. Development of the roof and the wide eave designs

At first, Silaban used the 40° hipped roof with wide eaves above the front veranda (1.8 m) and back veranda (1 m), he then added a flat concrete rectangular shading (2.4 m width, 1.62 m height) above the sitting element area to prevents sun rays from the east. Two rectangle columns of front veranda combine with a flat concrete plat (70 cm) that extended from drawing room's shadings, much like, House of Mangunsoerana façade. In final plan, he applied these elements in a wider dimension (1 m) and added horizontal cantilever beams above column supporting wide eaves (3 m) (Photo4.2). The roof thus changes into a gable roof covered by shingles, with steel frame construction (Photo4.1). Meanwhile, the east terrace is covered by a flat concrete eaves (2 m width) that covered only 55 % of the terrace area (Photo4.6).

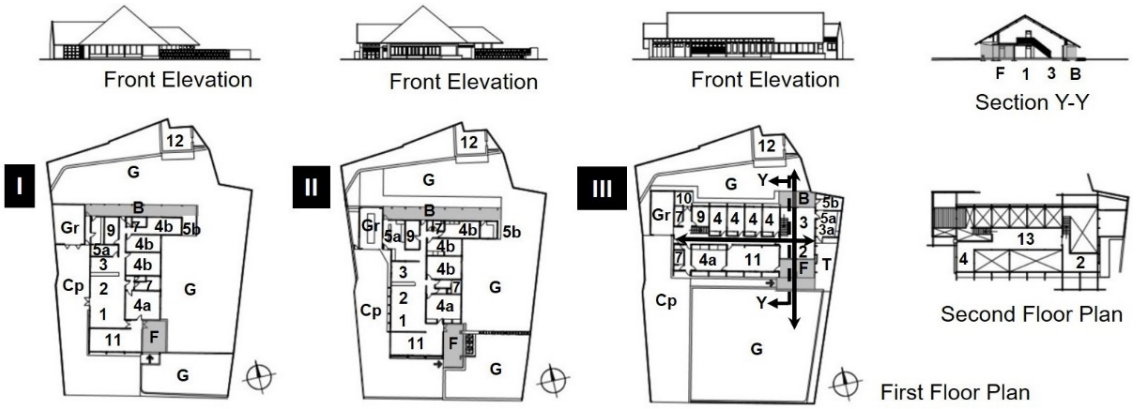



Fig4.9 Design process of Silaban's house (1958)[4)]
(I. The first plan, II. The second plan, III. The third plan (realized plan))


Fig4.11 The development of façade design Silaban’ s house (1958)[3] (I. The first plan, II. The second plan, III. The third plan)[8]


Fig4. 10 The development of the front veranda design in Silaban’ s house (1958) (I. The first plan, II. The second plan, III. The third plan)[8]


Fig4.12 The development of back veranda design Silaban’ s house (1958)[3] (I. The first plan, II. The second plan, III. The third plan)[8]

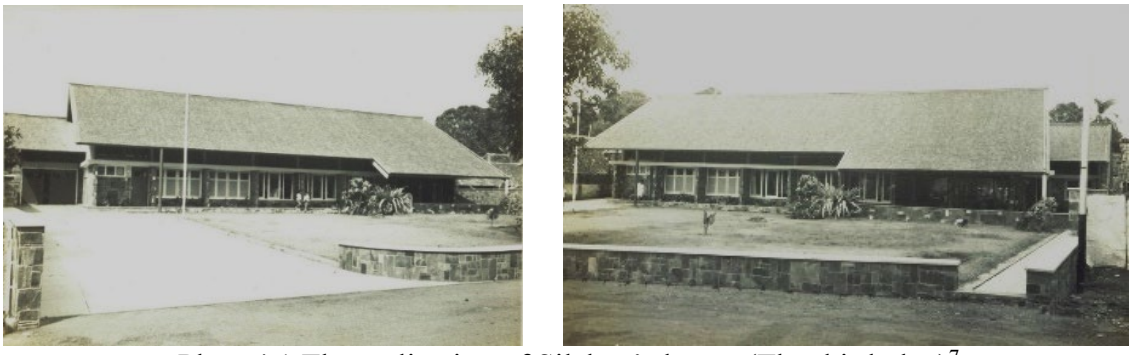


Photo4.1 The realization of Silaban's house (The third plan)[7]

Photo4.2 Silaban's house front veranda[7)]

Photo4. 3 Silaban's social interaction in front veranda[7)]

Photo4. 4 Silaban's house back veranda[7)]

Photo4.3 The integration between front veranda, living room, dining room, back veranda, and gardens[7)]

Photo4.4 Silaban's house terrace[7)]

### 4.5. 1960s Period: Development of Various Open Veranda Compositions

#### 4.5.1. House of T.D. Pardede (1960)

Silaban designed a house for Tumpal Darianus Pardede, a North Sumatran successful entrepreneur, in Mojopahit street, Medan next to his family church. In 1961, Pardede built this house design in his textile factory complex in Binjai, 10,8 km from Medan.[12)]

4.5.1.1. Application of three veranda composition with front and back verandas forming an axis

The two-story house stands parallel with the site facing a spacious garden to the south. This house has a front veranda (70 $m^2$) and a back veranda (36 $m^2$), which form an axis, with a small side veranda for the guest bedroom (9 $m^2$). The front veranda faces a front garden and connects with spacious guest area for living room and dining room as well as a foyer toward the office. The I-shaped sitting element, 1 m in front of the rectangle columns, extends to side veranda. Back veranda faces back garden and connects with an office, guest dining room, and daily dining room. The front veranda, interior, and back veranda are connected by sliding doors (Fig.4.13).

4.5.1.2. Continuity of the wide roof's eaves

This house also covered by a big gable roof with a steel frame construction. Front and side verandas are below the second floor's bedrooms and balconies with the roof's eaves extended 2 m, while the roof of back veranda extends 3.5 m.

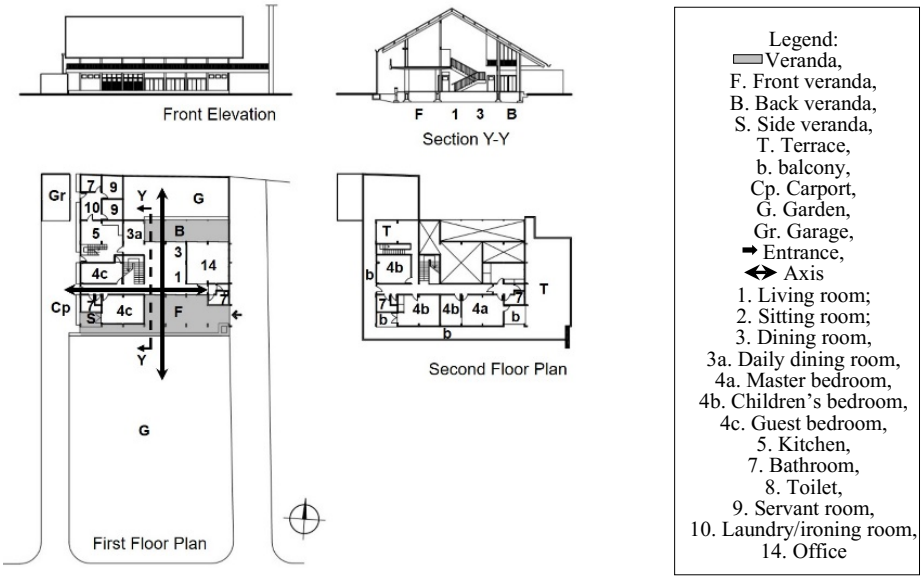



Fig4.13 House of T.D. Pardede (1960)[4)]

Fig4.14 Front veranda (the first floor) and balcony (the second floor) of House of T.D. Pardede (1960)[8)]

Fig4. 15 Side veranda (the first floor) and balcony (the second floor) of House of T.D. Pardede (1960)[8)]

Fig4.16 Back veranda (the first floor) and terrace (the second floor) of House of T.D. Pardede (1960)[8)]

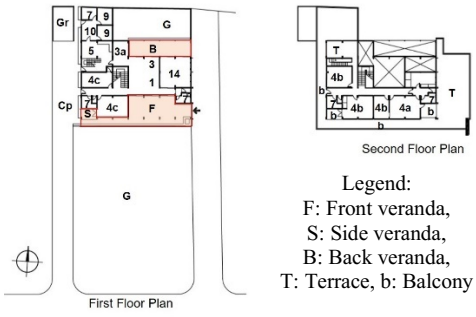



Fig4.17 Plan of House of T.D. Pardede (1960)[4)]

### 4.5.2. Private House of J.M. Minister/Commander of the Air Force of the Republic of Indonesia (around 1962-1967)

Silaban did not mention the design date in this house archive. The author predicted it was designed around June 1962 to October 1967, when President Soekarno applied for the post of Minister/Commander of Air Force for the Dwikora cabinets and the first Ampera cabinets.[13-14), *5)]

4.5.2.1. Development of the L-shaped veranda composition

Considering the site's position in the corner, Silaban applied a connected front veranda (57 $m^2$) and side veranda (45 $m^2$) that formed an L-shape with a sitting element. The verandas connect with a sitting room, while the side veranda also connects with a dining room (Fig.4.18).

4.5.2.2. Combination of the wide roof's eaves and flat concrete roof

Silaban consistently used a big gable roof with a steel frame construction. The front veranda is protected by roof eaves that extended 2.5 m from columns, while side veranda is protected by a flat concrete roof with eaves extended 2 m from the columns.

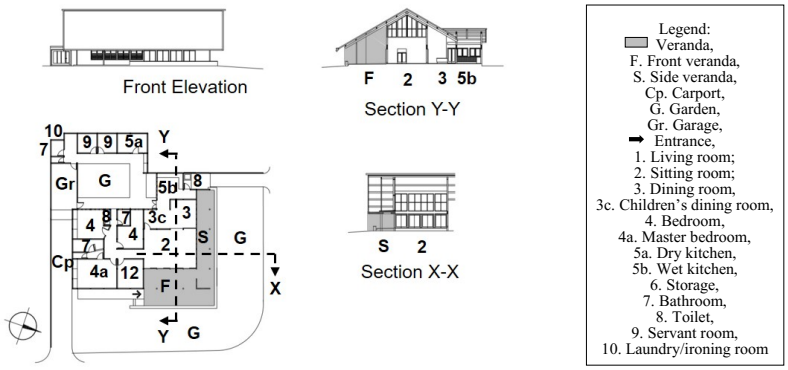



Fig4.18 Private house of J.M. Minister of Air Force of the Republic Indonesia (around 1962-1967)[4)]

Fig4.19 Front veranda of Private house of J.M. Minister of Air Force of the Republic Indonesia (around 1962-1967)[8)]

Fig4.20 Side veranda of Private house of J.M. Minister of Air Force of the Republic Indonesia (around 1962-1967)[8)]

Fig4. 21 Private house of J.M. Minister of Air Force of the Republic Indonesia (around 1962-1967)[8)]

### 4.5.3. Residence on Djalan Djendral Gatot Subroto (Djalan Slipi), Djakarta (Wisma Yaso) (1963-1964)

Silaban designed a residence for Ratna Sari Dewi (Naoko Nemoto), one of Soekarno's wives.[15)] Soekarno gave her the land on February 6, 1963[16)] and asked Silaban to design this residence.[4), *6)] It was completed in 1964 and named Wisma Yaso, as a tribute for her brother, Yosso, who passed away in February 1962. Today, the building serves as the Satria Mandala Museum.[15)] The archives show that Silaban designed four plans (Fig.4.22-4.25) and the owner designed a realized plan (the fifth plan) by modifying Silaban's fourth plan.[4)]

4.5.3.1. Development of three verandas composition into the surrounding veranda composition

The first plan is a two-story floor and a basement.[4)] The first-floor plan consists of a living area and a main sitting hall. The second-floor plan consists of a bedroom area that connects with the living area and the party room connects with the main sitting hall (Fig.4.22).[4)] The main sitting hall connects with a side veranda (108 $m^2$), while the living area connects with the U-shaped veranda (360 $m^2$). The second floor's party room has a front veranda (80 $m^2$), while the master bedroom and its dining room connects with a side veranda (48 $m^2$).[4)]

Silaban drew another plan for a two-story main house and a pavilion to stand alongside the site facing a large garden in the northeast. He set the front veranda for the main house (95.25 $m^2$) and the pavilion (40 $m^2$), the back veranda (147 $m^2$) connecting two buildings, and a small side veranda (4 $m^2$) for driver bedroom (Fig.4.23). The main house's front and back verandas flanked sitting room and study corner, forming an axis that intersects with corridor axis. An upper front veranda (126 $m^2$) and a master bedroom

side veranda (32 $m^2$) form an L-shaped veranda. Only the pavilion's front veranda has a permanent sitting element. Further, he modified this plan without a pavilion.[4)]

In the middle of the design process, Dewi requests Silaban to design the third plan with the veranda and columns surrounding the residence, which is similar to the Presidential Palace of Tampaksiring Bali.[5),*7)] The main house is surrounded by large verandas (818.5 $m^2$) with square columns. The front and back verandas flank the living room forming an axis (Fig.4.24).[4)] The front veranda applied for servant building (64.75 $m^2$) and the pavilion (48 $m^2$). He then modified it into a smaller plan, with a narrower surrounding veranda (324 $m^2$) in the fourth plan. The pavilion has a front veranda (28 $m^2$), while servant building only has balconies (Fig.4.25).[4)]

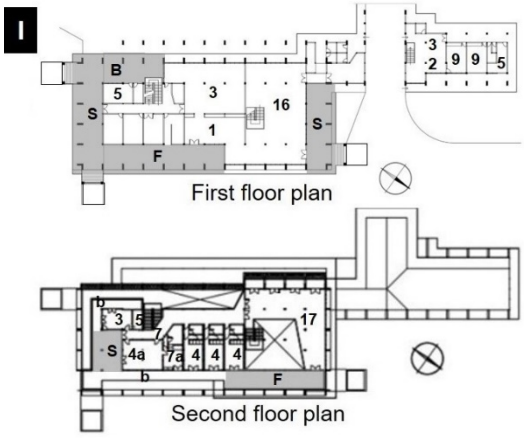



Fig4.23 Wisma Yaso's first plan (1963-1964)[4,5)]

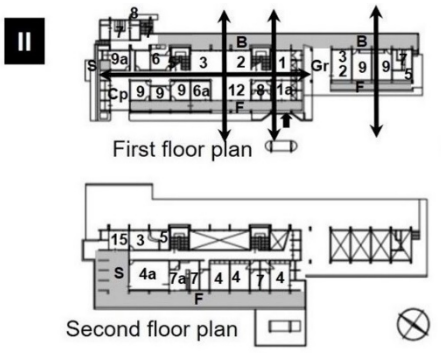



Fig4.25Wisma Yaso's second plan (1963-1964)[4,7)]

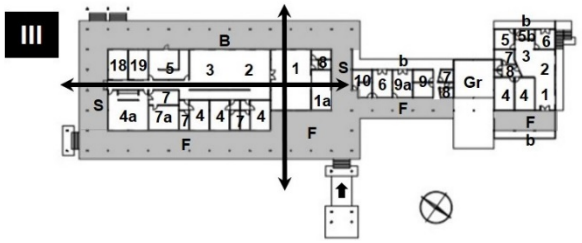



Fig4.22 Wisma Yaso's third plan (1963-1964)[4)]

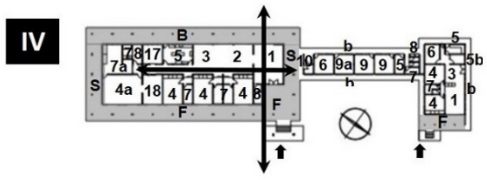



Fig4.24 Wisma Yaso's fourth plan (1963-1964)[4)]

Legend: Veranda, F. Front veranda, B. Back veranda, S. Side veranda,
b. Balcony, Cp. Carport, Gr. Garage, ➡ Entrance, ↔ Axis,
1. Living room, 1a. Guest waiting room, 2. Sitting room, 3. Dining room, 4. Bedroom, 4a. Master bedroom, 5. Kitchen, 6. Storage, 6a. Electrical room, 7. Bathroom, 7a. Dressing room, 8. Toilet, 9. Servant room, 9a. Driver room, 10. Laundry/ironing room, 12. Study room, 15. Spare room, 16. Sitting hall, 17. Party room, 18. Japanese room, 19. Studio,

4.5.3.2. Development of various roof and wide eave designs

The first plan of Wisma Yaso used a concrete roof with 30° extended eaves (4 m) and concrete sun breaker shading (1 m). The main sitting hall's front veranda used flat concrete eaves (2 m) (Fig.4.26). Meanwhile, the second plan also used gable roofs and

steel frame constructions that was similar to Silaban's house third plan design (1958) (Fig.4.27). The front veranda is below cantilever beams of the upper veranda, which are protected by roof's wide eaves (2 m). Back veranda is covered by wider eaves (3 m), while the side veranda façade also formed by a simple concrete sun breaker shading, combining vertical and horizontal planes (2 m width, 2.1 m height).

The third and fourth plans of Wisma Yaso have different designs. Based on Dewi's requests, the building facade was similar to the Presidential Palace of Tampaksiring Bali, especially the columns and its *padma* (lotus) capital.[5), *5-6)] The roof for this plan changed into a hipped roof with a flat concrete roof for covering surrounding veranda (Fig.4.28), then remained a hipped roof with wide eaves (3 m) in the fourth plan (Fig.4.29).

Fig4.26 Wisma Yaso's first plan (1963-1964)[8)]

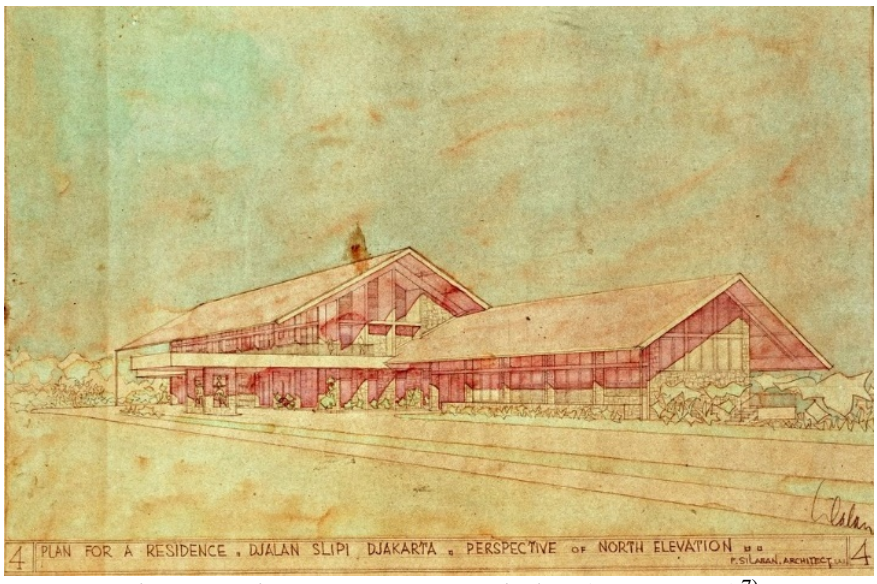



Fig4.27 Wisma Yaso's second plan (1963-1964)[7)]

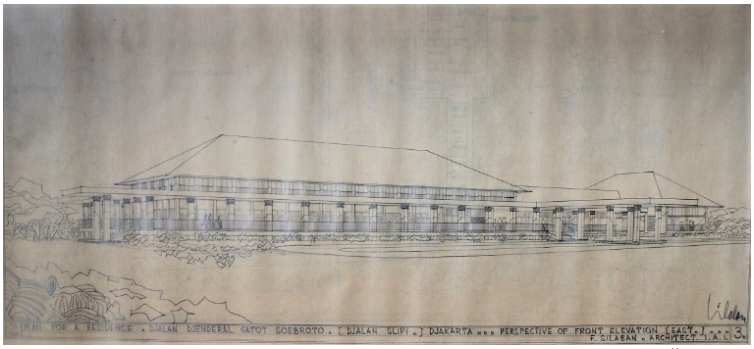


Fig4.28 Wisma Yaso's third plan (1963-1964)[4)]

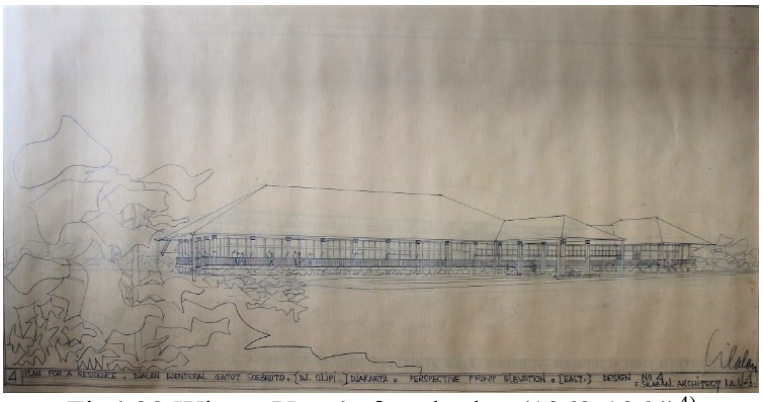


Fig4.29 Wisma Yaso's fourth plan (1963-1964)[4)]

### 4.5.4. House of Rinto Alwi (1966)

Rinto Alwi's house located in the corner facing two streets. The house stands backward to the northeast with a front and a side garden.

4.5.4.1. Development of the three verandas composition with an additional L-shaped veranda

Silaban designed a separated front veranda (15 $m^2$), back veranda on the side (40.5 $m^2$), and small back veranda (10 $m^2$), then added the L-shaped sitting veranda (208,5 $m^2$) along front and east facade as a shading and guest seating area. The front veranda connects with an office, as well as a spacious family sitting room and dining room. Back veranda along the children's bedrooms connects with a dining room and a dry kitchen, while small back veranda with sitting element connects to the wife's office as a working space during hot weather (Fig.4.30).

4.5.4.2. Combination of the wide roof's eaves and simple sun breaker shading

Silaban utilized a big hipped roof with wide eaves (3 m) and a steel frame construction. He added flat concrete eaves (1.5 m width) surrounding the house that were supported by rectangle columns as a simple sun breaker shading and a rainwater drain.

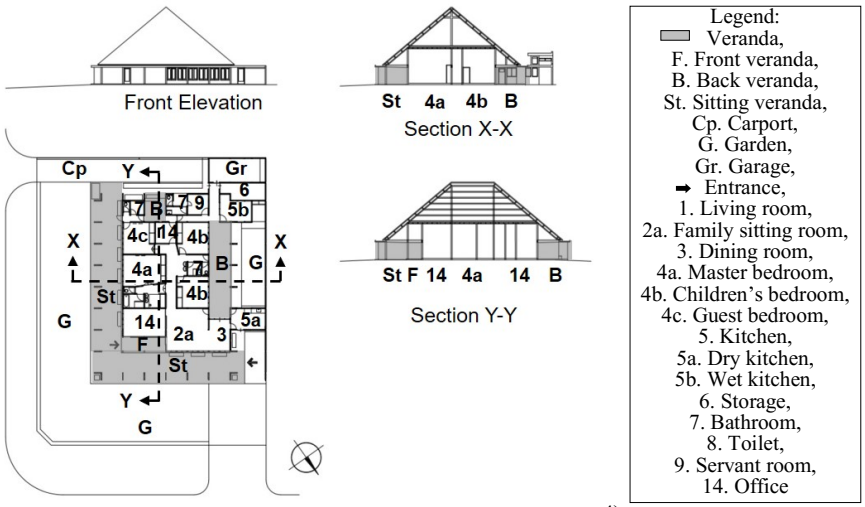



Fig4. 30 House of Rinto Alwi (1966)[4)]

Fig4. 31 Front elevation of House of Rinto Alwi (1966)[7)]

Fig4. 32 Side elevation of House of Rinto Alwi (1966)[7)]

Fig4. 33 Back veranda of House of Rinto Alwi (1966)[7)]

Fig4. 34 Small back veranda of House of Rinto Alwi (1966)[7)]

### 4.5.5. Small House of Abdullah Albawahab (1968)

Silaban designed a two-story small house for Abdullah Al Bawahab at Djalan Tjisedane no. 19, Bogor.[17)] This house is located at a side yard of the old house which will be moved later.[4)]

4.5.5.1. Application of a front veranda composition

The house stands at the backward and faces a front garden to the west. Silaban designed a front veranda (9 $m^2$) with the I-shaped sitting element that faces a front garden

and connects with a foyer beyond a spacious room for the family sitting room and dining room (Fig.4.35).

4.5.5.2. Application of a flat concrete roof

The second floor is covered by a gable roof, while the other areas including front veranda are covered by a flat concrete roof with wide eaves (2 m) forming a triangular shape following the front bedroom's wall.

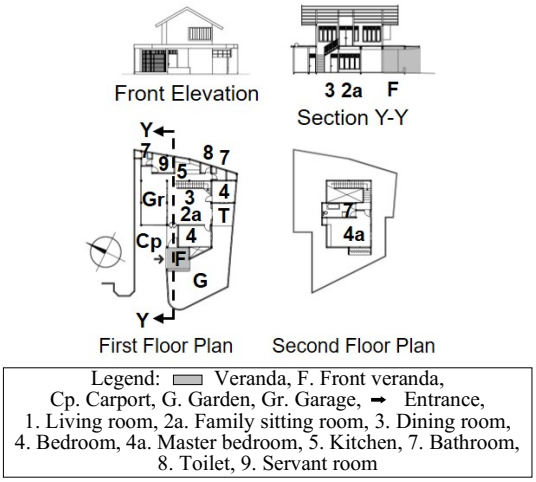



Fig4.35 Small house of Abdullah Albawahab (1968)[4)]

Fig4.36 Front veranda of Small house of Abdullah Albawahab (1968)[8)]

## 4.6. The Formation of the Open Veranda (*Emper Terbuka*) Designs

From the development of the open veranda in above private house projects, the author can summarize Silaban's design method for creating an open veranda, as well as its relation to traditional Indonesian houses (Fig.4.36), as follows:

a. Application of a large front veranda as the main social space

All of Silaban's private house designs (1950s-1970s) have a large front veranda, the smallest of which is 9 $m^2$. Only one house in 1957 has no veranda but has a front terrace. It is a typical veranda that existed in traditional Indonesian houses.[18-21), *8)] The Dutch colonial adapted this traditional space, especially the *pringgitan* and *gadri* of the Javanese *joglo* house,[*9)] into a large front veranda (*voorgalerij*) and back veranda (*achtergalerij*) in the Indies country houses (1790-1820) and Indies Empire houses (the nineteenth century).[18), *10)] In the early 1910s, this style becomes unpopular and is replaced by modern Dutch colonial houses which always have a front terrace.[22),*11)] This terrace is similar to the previous veranda but smaller in size and bordered by a low fence (70-80 cm height).[22)] Silaban transforms this low fence into a permanent sitting element (40 cm

width, 40-45 cm height), which has the same purpose as the traditional raised bamboo platform and long benches[*8)].

2) Combination of the front veranda and back veranda or side veranda forming various open veranda compositions.

Silaban begins with two terraces in 1930s-1940s and reapplies one terrace in 1957. He then applies a front veranda composition in the early 1950s and continues with two verandas with non-parallel front and back verandas in his first and second house plans (1958). He then designs his third/realized house plan (1958) with front and back verandas flanking a spacious room and forming an axis, that similar to the composition of the front veranda (*voorgalerij*) and back veranda (*achtergalerij*) of the Indies Empire houses (the 19th century)[18,23)] and the *pringgitan* and *gadri* of the Javanese *joglo* house.[18),*9-10)] In the 1960s, it became a prototype veranda composition with the addition of the side veranda for House of T.D. Pardede (1960), Wisma Yaso's second plan (1963-1964), and Residence of Lie A Hong (1968-1969). Following the client's intention, Silaban designs surrounding veranda composition for Wisma Yaso's third and fourth plan (1963-1964), which he later mentions as his most ideal veranda.[*12)] He also designed the front and side veranda composition without any axis, forming the U-shaped veranda, L-shaped veranda in the corner, and separated verandas. He then shifted the position of back veranda to the side in House of Rinto Alwi (1968), which continued in House of Sutjipto (1978).

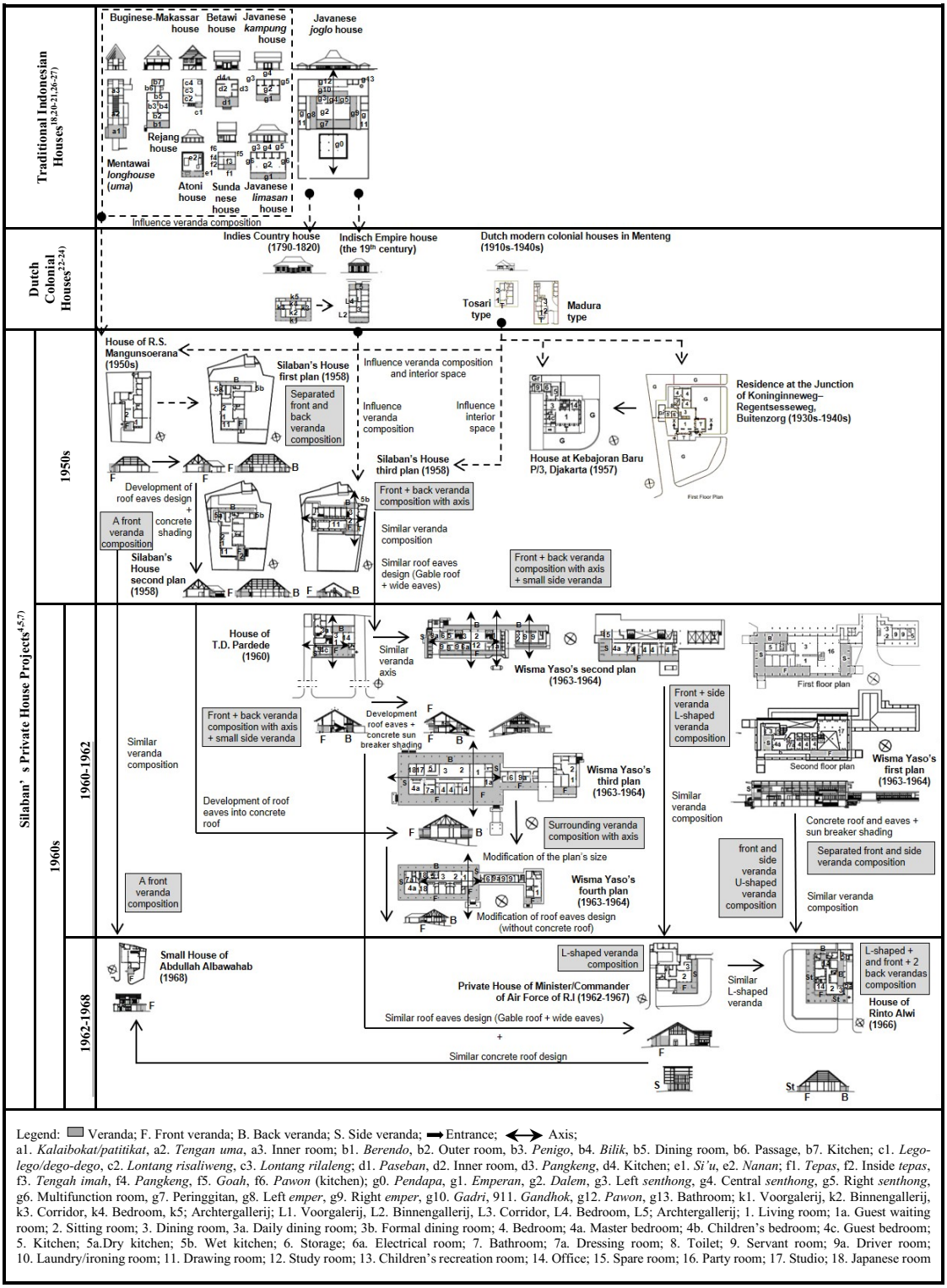
c. Reformation of the spatial composition that integrated the verandas, interior, and exterior.

At first, Silaban connects terraces with the living room; in the early 1950s he connects the front veranda with a living room for the guest reception area and a sitting room.[*13)] He then unified these rooms into a spacious area for a living room and a sitting room separated with dining room in Silaban's first and second house plan (1958). Through Silaban's third house plan (realized plan, 1958), he merged sitting room with a dining room into a spacious area that flanked by front and back verandas. The spatial composition by which the front terrace connects with a space for the living room and dining room can also be found in the small type of modern colonial houses. Meanwhile, the larger type separates living room and family area including dining room by occupying a wall and a door.[22), *11)] Silaban applies the simplest modern spatial composition and reforms it into a public space by connecting it with both front and back verandas, resulting

in an integrated spatial composition open to social activities and the environment. He also transformed enclosed walls and doors into transparent glass sliding doors. This open and integrated spatial composition is also distinguishing feature of the Dutch Indies Empire houses and the Javanese *joglo* house, whereby the inner space includes private areas.[18,23,24),*9-10)] Silaban then consistently integrated the front veranda and back or side veranda with living room or sitting room and dining room. However, the transition of the back veranda to the side in House of Rinto Alwi (1968) and House of Sutjipto (1978) causes it to become more private.

d. Development of roof with wide eaves design.

Daily activities on traditional verandas are conducted below the roof's eaves, which provide shade.[25),*14))] Silaban begins flat concrete eaves to cover terraces (1930s-1940s and 1957), then adopting a typical modern Dutch colonial hipped roof to cover his early front veranda design (early 1950s). However, the eaves are not wide enough to cover all terraces and front veranda areas. In Silaban's first house plan (1958), he improves the position of the sitting element so that all front verandas are covered by the wide eaves of the hipped roof. This wide eaves that covered all veranda's area is distinguished features between veranda and terrace. He started using concrete material, which he noted as the most durable roof,[1),*15)] in the second plan (1958) with additional rectangular concrete shading for the front veranda. He then preferred using a gable roof as the simplest traditional Indonesian roof[*14)] with wide eaves for the third plan, which continued in House of T.D. Pardede (1960). The use of concrete continued in Wisma Yaso (1963-1964) by using a concrete roof (first plan), combining a gable roof and a simple concrete sun breaker shading for the side veranda (second plan), combining a hipped roof and concrete roof for the surrounding veranda (third plan), and finally, using a hipped roof (fourth plan). The combination of a gable roof and concrete roof applied in the Private house of the Minister/Commander of the Air Force (1962-1967) and the Small house of Abdullah Albawahab (1968), then shifted into a hipped roof with a simple concrete sun breaker shading in the House of Rinto Alwi (1966), Residence of Lie A Hong (1968-1969), and House of Sutjipto (1978).




Legend: Veranda; F. Front veranda; B. Back veranda; S. Side veranda; ➡Entrance; ↔ Axis;
a1. *Kalaibokat/patitikat*, a2. *Tengan uma*, a3. Inner room; b1. *Berendo*, b2. Outer room, b3. *Penigo*, b4. *Bilik*, b5. Dining room, b6. Passage, b7. Kitchen; c1. *Lego-lego/dego-dego*, c2. *Lontang risaliweng*, c3. *Lontang rilaleng*; d1. *Paseban*, d2. Inner room, d3. *Pangkeng*, d4. Kitchen; e1. *Si'u*, e2. *Nanan*; f1. *Tepas*, f2. Inside *tepas*, f3. *Tengah imah*, f4. *Pangkeng*, f5. *Goah*, f6. *Pawon* (kitchen); g0. *Pendapa*, g1. *Emperan*, g2. *Dalem*, g3. Left *senthong*, g4. Central *senthong*, g5. Right *senthong*, g6. Multifunction room, g7. Peringgitan, g8. Left *emper*, g9. Right *emper*, g10. *Gadri*, 911. *Gandhok*, g12. *Pawon*, g13. Bathroom; k1. Voorgalerij, k2. Binnengallerij, k3. Corridor, k4. Bedroom, k5; Archtergallerij; L1. Voorgalerij, L2. Binnengallerij, L3. Corridor, L4. Bedroom, L5; Archtergallerij; 1. Living room; 1a. Guest waiting room; 2. Sitting room; 3. Dining room, 3a. Daily dining room; 3b. Formal dining room; 4. Bedroom; 4a. Master bedroom; 4b. Children's bedroom; 4c. Guest bedroom; 5. Kitchen; 5a.Dry kitchen; 5b. Wet kitchen; 6. Storage; 6a. Electrical room; 7. Bathroom; 7a. Dressing room; 8. Toilet; 9. Servant room; 9a. Driver room; 10. Laundry/ironing room; 11. Drawing room; 12. Study room; 13. Children's recreation room; 14. Office; 15. Spare room; 16. Party room; 17. Studio; 18. Japanese room

Fig4.37 The formation processes of the Open Veranda in Silaban's private house project designs (early 1950s - 1968)[4,5,7,18,20,21,22-24,26,27]

## 4.7. Conclusion of Chapter 4

The analysis of Silaban's private house project documents shows that Silaban passes through three periods in the formation processes of his design method to create the open veranda (*emper terbuka*).

In the first period (1930s-1940s), Silaban applied the front and side terraces. In the second period (1950s), Silaban applied a large front veranda to represent the main social space. The composition evolved from a front veranda composition to a combination of a front veranda and a back veranda. It then developed into front and back verandas, forming an axis. At the same time, he reformed the spatial composition by integrating the veranda, interior, and exterior. To provide a shade, he applied a hipped roof shape, combined it with a concrete shading to maximize the sun rays' protection, and evolved it into a simple gable roof. In the third period (1960-1968), Silaban continued to combine the front veranda and back veranda or side veranda, forming various open veranda compositions integrated with interior and exterior. Besides applying the composition of front veranda and back veranda that formed an axis, he also developed a surrounding veranda, U-shaped veranda, L-shaped veranda, and separated the front and side/back verandas. He applied various combinations of the roof and the wide eaves such as a hipped roof, a gable roof, a concrete roof, and a combination of the roof with a concrete roof or concrete shading.

Over these three periods, the formation of open veranda (*emper terbuka*) in Friedrich Silaban's private house projects includes the design methods reformed from traditional and colonial concepts to modern ones. It includes not only the integration of multiple open veranda compositions with interior and exterior but also the combination of the roof's wide eaves and concrete material.

After the period of 1960-1968, Silaban drew three private house projects from the end of 1968 to 1978 (Table 4-1). The projects consisted of the design for Residence of Lie A Hong (1968-1969), the housing agreement plan, the furniture design for a house in Menteng, Jakarta Pusat (1974), and the preliminary design for Sutjipto's Residence (1978). Comparing these three projects, Silaban only provides a completed design plan to realize Residence of Lie A Hong (1968-1969). Silaban's design method to form the open veranda in this residence and its relation to the open veranda design in 1950s-1968 is a crucial question for this research, which is the main theme for the following chapters.

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**Notes**

*1) Silaban's article for the second National Congress of the Indonesian Institute of Architects (1982): "When we drive a car from one town to another, passing through farming areas and seeing most people's houses on the roadside with front verandas (*emper*) opposite the roads. We will find the occupants sitting in these front verandas (*emper*) all day. They will enter the walled parts inside the houses at night. Therefore, I dare to say that *a house without a sufficiently large open veranda (emper terbuka)* (instead of a narrow veranda (*emper*) with an additional platonic *eave*) *is not an authentic Indonesian house*. This is a sign for me that *the open part of such houses is the most pleasant place for sitting while chatting and resting*. The most important thing is to avoid a single ray of sunlight reaching the floor, instead of building a wall. However, to hold the sunlight, a widened roof can be built beyond the wall outline. By doing this, the sunlight will not reach the wall." (Silaban, 1982).

*2) Traditional or vernacular architecture is architecture of rural areas that use local forms, methods, and materials (Davies and Jokiniemi, 2008). The Indonesian archipelago consists 17,500 islands, most of them inhabited by approximately 300 ethnic groups. During the prehistoric period (around 10,000 BCE-200 CE), these ethnic groups formed their vernacular houses in a tradition manner that was maintained over generations (Widodo, 2007).

*3) According to the official Indonesian language dictionary, the term *"emper*" means veranda at the front, side, or back at building or house, while the term "*terbuka*" means open; not closed; revealed (Departemen Pendidikan Nasional, 2007).

*4) The author interviewed Silaban's son, Haposan Silaban, who lives in Silaban's house on May 9, 2017.

*5) In Soekarno's Guided Democracy period, the post of the Minister/Commander of the Air Force was held by Omar Dani (the end of June, 1962-October 15, 1965), Sri Muljono Herlambang (October 15, 1965-March 31, 1966), and Roesmin Nurjadin (March 31, 1966-October 14, 1967) (Surodjo and Soeparno, 2005; Hasibuan, 2004). Silaban designed the Air Force Headquarter of the Republic of Indonesia, Jakarta in the early 1960s (Sopandi, 2017).

*6) Keiko Iwane, Kengo Hayashi, and Ryuichi Tanigawa from the University of Tokyo interviewed Ratna Sari Dewi Sukarno on October 22, 2008, regarding the design of Wisma Yaso. Dewi was interested in the Presidential Palace of Tampaksiring, Bali, and requested Silaban to design Wisma Yaso based on the palace's corridor, columns, and ornaments (Iwane, 2008).

*7) Soekarno built the Presidential Palace of Tampaksiring, Bali as an official palace for resting and receiving guests in 1957-1963. This palace was designed by R.M. Soedarsono that applied modern and Balinese architecture with its relief ornaments.

The complex consists of seven buildings, such as Wisma Merdeka, Wisma Negara, Wisma C, Palace office, Wantilan, Exhibition building, dormitory (Soenaryo et al., 1985). The buildings were influenced by Soekarno's architectural style (1945-1959), such as the hipped roof and square columns with *padma* (lotus) capital ornaments (Ardhiati, 2005). These façade elements also existed in the third and fourth plans and the realized design (the fifth plan) of Wisma Yaso (1963-1964).

Fig4.38 The Official Presidential Palace of Tampaksiring, Bali[32)]

*8) For instance, *emperan* of Javanese houses (*omah*), *emper/tepas* of Sundanese houses, *paseban* of Betawi houses, *berendo* of Rejang houses, *lego-lego/dego-dego* of Buginese-Makassar houses (*bola/balla'*), *kalaibokat/patitikat* of Mentawai longhouses (*uma*), *useh* of Kenyah longhouses (*uma dadoq*), *si'u* of Atoni houses, etc (Tjahjono, 1998, 2009; Schefold, 2004, 2008). Verandas were occupied by floor mats, raised bamboo/wooden platform, benches, chairs, and tables for sitting and relaxing. Kenyah verandas bordered by a long bench for sitting and lean back while chatting and watching children play (Tjahjono, 1998, 2009; Schefold, 2004, 2008).

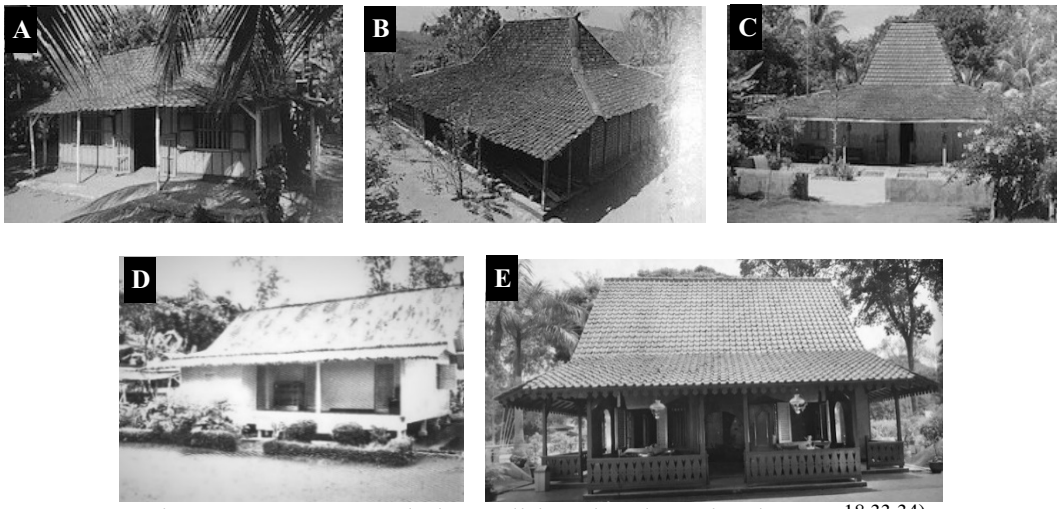



Fig4.39 Front veranda in traditional Indonesian houses[18,33,34)]
(A. Javanese *kampung* house,[18)] B. Javanese *limasan* house,[18)] C. Javanese *joglo* house,[18)] D. Sundanese house,[33)] E. Betawi house[34)]

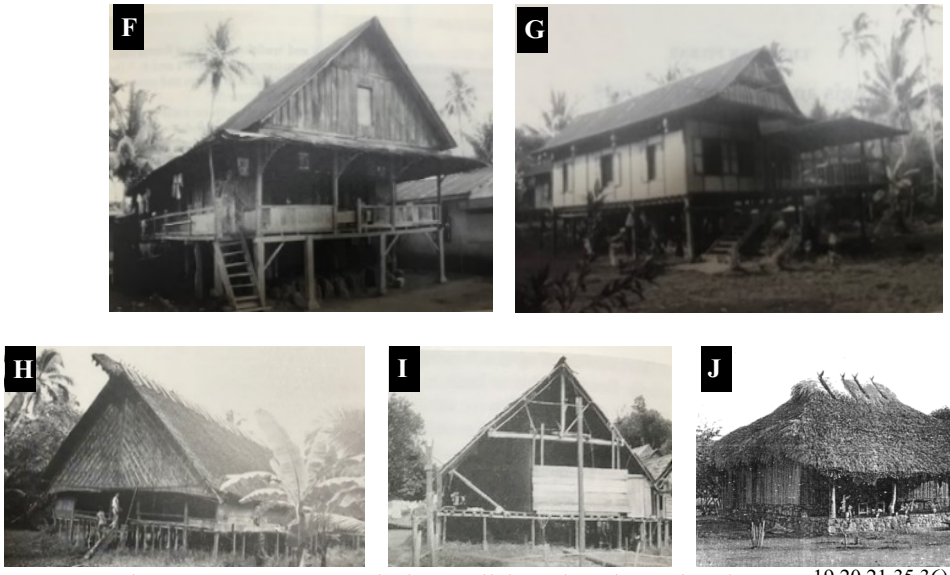



Fig4.40 Front veranda in traditional Indonesian houses[19,20,21,35,36)]
(F. Rejang house,[21)] G. Buginese-Makassar houses (*bola/balla'*),[20)] H. Mentawai longhouses (*uma*),[35)] I. Kenyah longhouses (*uma dadoq*),[36)] J. Atoni house[19)])

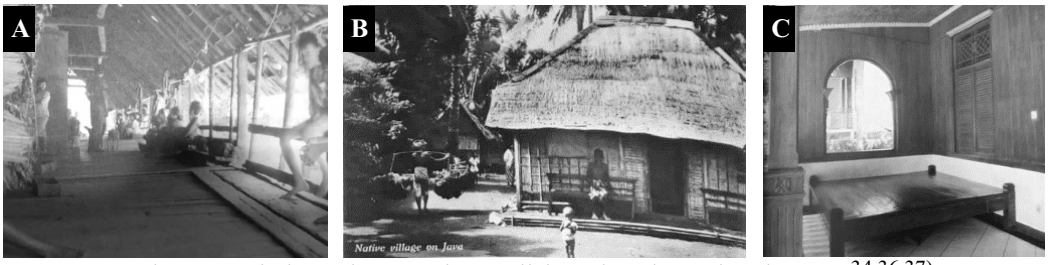
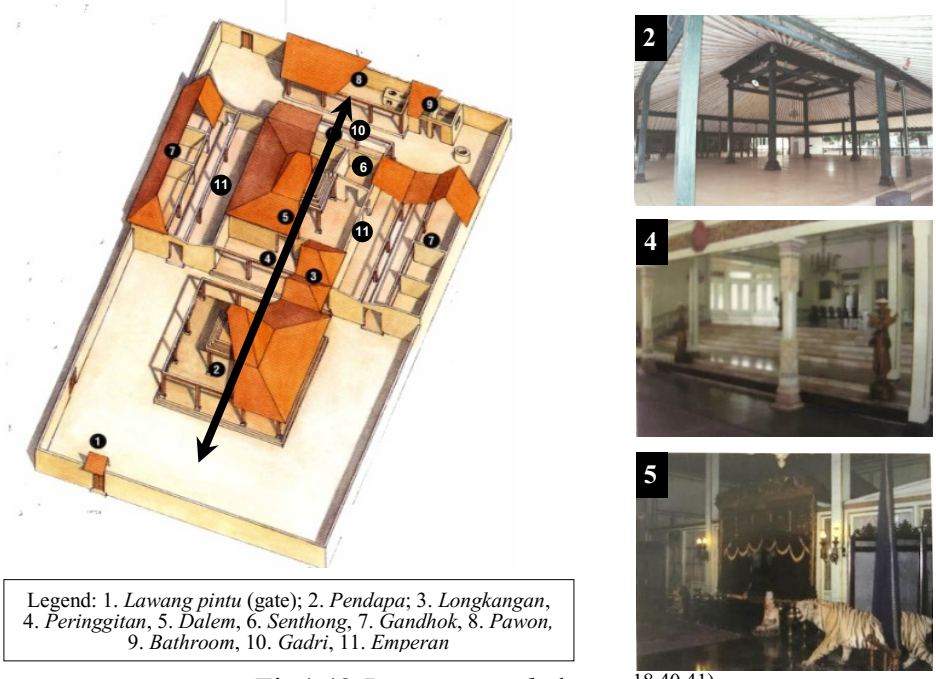



Fig4.41 Sitting element in traditional Indonesian houses[34,36,37)]
(A. Long bench in *useh* of Kenyah longhouses (*uma dadoq*),[36)]
B. Bench in Javanese *limasan* house,[37)] C. *Tapang* in paseban of Betawi house)[34)]

*9) A Javanese noble house, *joglo*, is divided into a *pendapa* (*pendopo*), a *peringgitan*, and the *omah* (*dalem* or *dalem ageng*), as well as some additional buildings, such as kitchen (*pawon*), and pavilions (*gandhok*). The *omah* has *peringgitan*, *gadri*, and two *empers* as the outside spaces. The *peringgitan*, located between the *pendapa* and *dalem,* is used for receiving well-known guests and friends, as well as performing shadow puppetry (*wayang*) in ceremonies. The *gadri*, located at the back of the *senthong*, is used for informal interaction with families or as a dining area. The *dalem*, an enclosed inner space, serves as a family private space that is divided into a front part for family activities and sleeping, a middle part with four principal posts (*saka guru*), and a back part with three enclosed rooms (*senthong*). The *peringgitan* and *gadri* flank the *dalem* in an opposite orientation, forming a south-north axis through main door, centered on the *saka guru* and middle *senthong*. While two *empers* faces the *gandhok* on the left and right side of the *dalem* used for receiving relatives and employees, the left side is for men and the right side is for women. These four outside spaces surround the *dalem* and enclosed rooms on the corner, forming four façades that centered to *dalem ageng* (Tjahjono, 1998, 2000; Santosa, 2000; Ronald, 2005; Widayatsari, 2012).




Legend: 1. *Lawang pintu* (gate); 2. *Pendapa*; 3. *Longkangan*, 4. *Peringgitan*, 5. *Dalem*, 6. *Senthong*, 7. *Gandhok*, 8. *Pawon,* 9. *Bathroom*, 10. *Gadri*, 11. *Emperan*

Fig4.42 Javanese *joglo* house[18,40,41)]

*10) Silaban mentioned that Dutch houses (before World War II) adopted verandas from Indonesian indigenous houses for dealing with the tropical climate, stating the government staff houses used the Indies Empire style (the 19th century) as an example (Silaban, 1982). Developed from Indies country houses (1790-1820) that adopted ideas from traditional Javanese joglo houses, Indies Empire house consist of a front veranda (*voorgalerij*) with classical columns, a central room, and a back veranda (*achtergalerij*). The central room is divided into a gallery (*binnengalerij*) and bedrooms area that flank a corridor to the back veranda. In the early 20th century, this style ended when Dutch architects came and applied a modern style (Passchier, 2016; Widodo, 2007).


Fig4.43 The Dutch Indies Empire houses[23)]
(A. Typical floor plan, B. Façade)


Fig4.44 The Dutch Indies Empire houses[37,42)]
(A. *Voorgalery* (front veranda, KITLV 180053),[42)] B. Central room,[37)]
C. *Achtergalery* (back veranda, KITLV 10290)[42)])

*11) Since the end of the nineteenth century, many families have come from the Netherlands looking for houses in the Dutch East Indies. The Batavia municipality began developing Nieuw-Gondangdia (Menteng) in 1911 using the garden city concept planned by P.A.J. Moojen. The new detached house is no longer built as large as the Indies Empire houses. The spatial composition is practically designed for a simple, small family and is divided into the front terrace, and a sitting room connecting with the dining room, and bedrooms. In the back area includes a kitchen, bathroom, storage, and servant bedroom. Sometimes a guest pavilion is built on the side or back of the house. The terrace facing the front garden is bordered by a low fence (70-80 cm high) made from river stones or terrazzo and occupied by columns supporting the roof. The houses use a 45° hipped roof with wide eaves. The two-story house types occupied by terraces and balconies are built at the end of the 1930s to resolve the high land prices due to the economic crisis (1932-1937) (Heuken and Pamungkas, 2001)

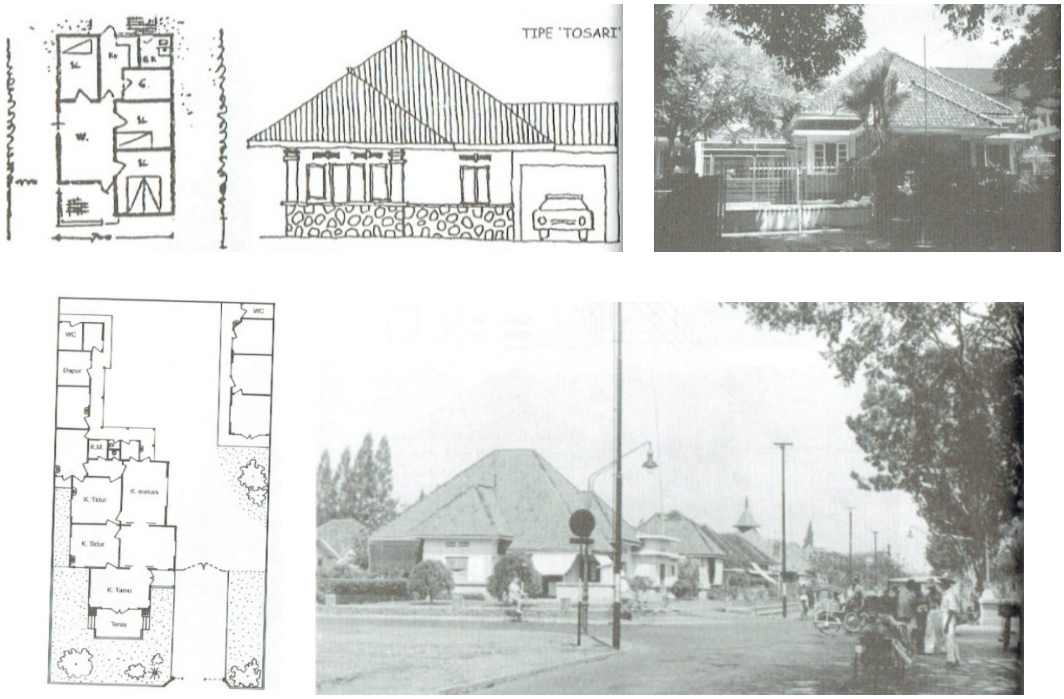



Fig4.45 The modern Dutch colonial houses in Nieuw-Gondangdia (Menteng)[22)]
(A. Tosari type at Jalan Kusumaatmaja, B. Madura type at Jalan M. Yamin)

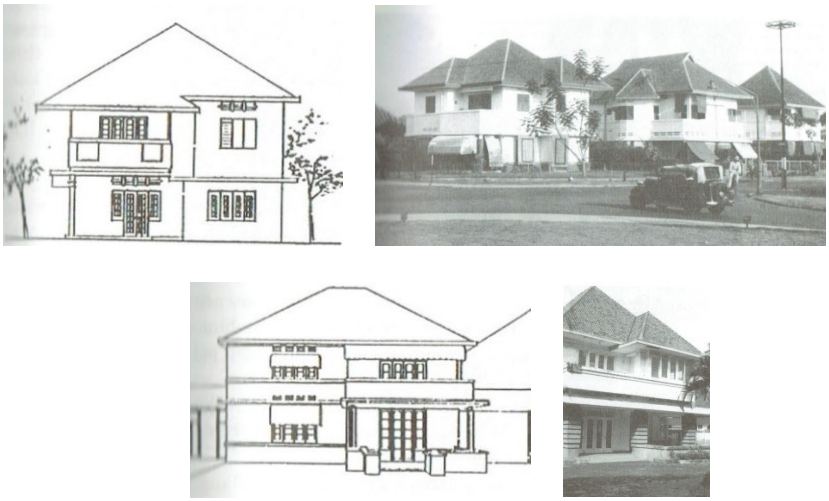


Fig4.46 The modern Dutch colonial houses (two-story types) in Nieuw-Gondangdia (Menteng)[22)]

*12) Silaban described combinations of open verandas and wide eaves in terms of three alternatives of the ideal house criteria: a house surrounded by veranda, a house with wide eaves and a limited-size front veranda, or a house with sufficient eaves and a limited-size front veranda (Silaban, 1982).

*13) In Indonesian modern houses, the living room or guest room acts as a public space for receiving formal guests, while the sitting room or family room serves as a more private living area for the family to gather in daily life (Wiryomartono, 2014).

*14) Indonesian architecture defines an architecture of shade as using the roof to act as the main element in dealing with the sun, wind, and rain (Prijotomo, 2007). The traditional Indonesian basic roof shapes are gable roofs, hipped roofs, and pyramid roofs, which were developed into various shapes (Tjahjono, 2009).

*15) Silaban's article for the second National Congress of the Indonesian Institute of Architects (1982): "If it implemented correctly, a 100%, concrete roof is the best because it is the most durable. However, concrete can essentially become porous, even if it is made 100% waterproof. Porosity is caused by our climate which is very cruel to building materials, including concrete. Therefore, concrete roofs must be protected with an insulation layer that consists of a layer of bricks then covered with hard materials such as ceramic tiles and other tiles that are resistant to rain and sun. This concrete preservation method is expensive, but it is the consequence of using concrete as a roof." (Silaban, 1982).

# Chapter 5
# Formation Process of the "Open Veranda" ("Emper Terbuka") in the Realization of Residence of Lie A Hong (1968- 1969) by Friedrich Silaban

## 5.1. Introduction

In the previous chapter, the author analyzed the private house design of Friedrich Silaban, an Indonesian architect who practiced in the modern era, to apply his notion of the open veranda (*emper terbuka*) in the 1930s- 1968. Among Silaban's private house designs, Silaban's house (1958) was the most important realized design that influenced his design methods. At the end of his career, a representative late private house project of Silaban that realized an open veranda was Residence of Lie A Hong (1968- 1969).[1)] In Chapter 5, the author clarifies the formation process of the open veranda in the realization of Residence of Lie A Hong and clarify the influence of Silaban's open veranda design method on this residence.

The author examines all the design drawings that are confirmed to exist and discusses the making of this residence. As a result of the investigation, the author confirms the seven architectural drawing archives, with various drawing types such as plans, elevations, sections, and detailed drawings (Table 5.2). Although only an existing house plan is dated (December 31, 1968), since all drawings are numbered it is possible to determine the order in which they were created. Based on the plan transformation, the author can classify the design process of Residence of Lie A Hong into four terms (Table 5.3).[2)]

To clarify the influence of Residence of Lie A Hong on the formation of Silaban's open veranda design, the author also compares Silaban's design method in this residence with private house projects between the 1930s and 1968 and the preliminary design of Residence of Sutjipto (1978).*[1)]

Table 5.1 Friedrich Silaban's Residential Project[2,3,4,5)]

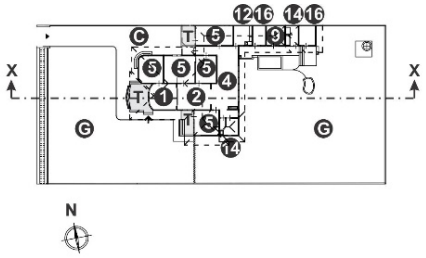
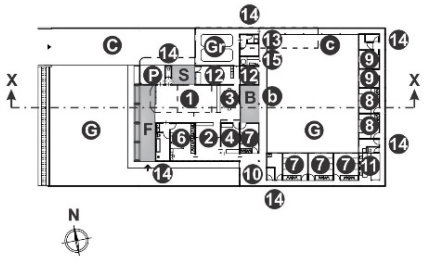
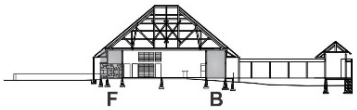
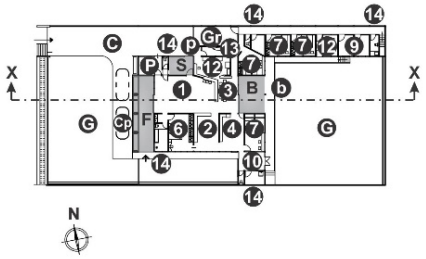
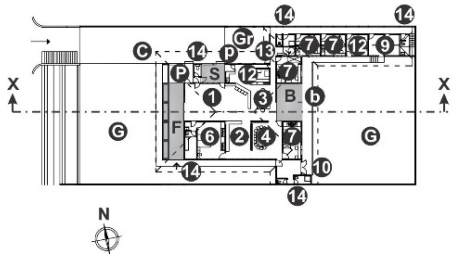
| Period | Residential Projects | Design publication (date/year) | Private House | House for Institution | Relevant chapter | Remarks |
|---|---|---|---|---|---|---|
| 1930s - 1940s | The official residence of the Mayor of Bogor | 1935[3)] | | O | | |
| | Design competition plan of Regent's official residence | 1936 | | O | | |
| | Residence at the junction of *Koninginneweg-Regentesseweg* | - | O | | | |
| | The official house of N.V. GEBEO at the junction of Djalan GunungGede–Mandalawangi, Bogor | - | | O | | |
| 1950s | Bungalow of Mr Rachim at Patjet near Tjipanas | - | | | | Villa house |
| | Residence at Djalan Cawang No. 199, Djakarta | - | O | | | Roof renovation project |
| | House of R.S. Mangoensoerana at Sukasari Complex, Djalan Baru, Bogor | - | O | | | |
| | The official house of N.V. GEBEO at Djalan Gunung Parang, Sukabumi | - | | O | | |
| | Complex of Djakarta Llyod at Djalan Tangerang, Djakarta | - | | O | | |
| | House extension of Noordin Ibrahim at Tjibuluh, Kedung Halang, Bogor | - | O | | | |
| | House at Kebajoran Baru P/3, Djakarta | February 28,1957 | O | | | |
| | Silaban's house at Djalan Gedung Sawah II No. 17, Bogor | 1958-1961[3)] | O | | | |
| | The official house of N.V. GEBEO at Djalan Bondongan (Dreded), Bogor | July 1959 | | O | | |
| 1960s | House of Suhirman at Tugu, Bogor | - | | | | Villa house |
| | House of T.D Pardede and family church at the junction of Djalan Sjailendra-Djalan Mojopahit, Medan | March 15, 1960 | O | | | |
| | The high official's residence of Attorney Department at Blok CII Kebajoran Baru, Djakarta | - | | O | | |
| | The flat of the National Research Department at Djalan Pedjagalan, Bogor | - | | O | | |
| | Private house of J.M. Minister of Air Force of Republic Indonesia at Kebajoran Baru O/2, Djakarta | - | O | | | |
| | Residence on Djalan Djendral Gatot Subroto (Djalan Slipi), Djakarta (Wisma Yaso) | - | O | | | |
| | House of Rinto Alwi family at Djalan Djakarta No. 22, Bogor | April 27, 1966 | O | | | |
| | Residence of the Ambassador of Pakistan Ambassador at Djalan Teuku Umar, Djakarta | February 26, 1967 | | O | | Roof renovation project |
| | Small house for Abdullah Al Bawahab at Djalan Tjisadane No. 19, Bogor | January 10, 1968 | O | | | |
| | Residence of Lie A Hong and Indriawaty at Djalan Gunung Gede No. 33, Bogor | December 31, 1968 | O | | 5.2 | |
| 1970s | Countryhouse of H.E the Minister of Agriculture, Tojib Hadiwidjaja in Tjilandak, Kebajoran Baru, Djakarta | - | | | | Villa house |
| | House at Jalan Jambu No. 38 Menteng, Jakarta Pusat | November 1, 1974 | O | | | The house using agreement between F. Silaban, G.M. Groenewegen, and Dr. Meyer. |
| | Residence of Mr.and Mrs. Sutjipto at Jalan Kedung Halang, Bogor | August 11, 1978 | O | | 5.3.2 | Only one drawing that consists of a floor plan and a front elevation (not realized) |
| 1980s | Shop and house of Ho A Heng family at Jalan Suriakentjana No. 294/296, Bogor | 1982 | | | | Shophouse |

The object of research

Table 5.2 Friedrich Silaban's Archives for Residence of Lie A Hong (1968-1969)[2)]

| Design Process of Residence of Lie A Hong | Number of Drawing | Drawing Title | Content | Scale | Signature | Remarks |
|---|---|---|---|---|---|---|
| Existing House Survey | 1 | Drawing of Residence at Djalan Gunung Gede No. 33 Bogor. Belong to Mr. Lie A Hong. Date 12/31/1968 | Block plan | 1:500 | | • Existing house condition<br>• Attachment: Handwritten detail sketch<br>• Drawing notation in Indonesian |
| | | | Floor plan | 1:100 | | |
| | | | Front elevation | 1:100 | | |
| | | | Side elevation | 1:100 | | |
| | | | Section A-A | 1:100 | | |
| | | | Section B-B | 1:100 | | |
| | | | Section C-C | 1:100 | | |
| Initial Plan | 1 | Preliminary design for a Residence for Mr. Lie A Hong. Djalan Gunung Gede No. 33 Bogor. According to (by the owner given) requirements | Floor plan | 1:100 | Silaban and Indriawaty (Lie A Hong's wife) | • Attachment: Building area<br>• Drawing notation in English |
| | | | Front elevation | 1:100 | | |
| | | | Perspective | | | |
| Mid-term Plan | 1 | The 2nd preliminary design for a Residence of Mrs. Indriawaty. Djalan Gunung Gede No. 33 Bogor | Ground floor plan | 1:100 | Silaban | • Attachment: Building area<br>• Attachment: "Plan after reducing guest bedrooms and toilet." (Handwritten by Silaban)<br>• Drawing notation in Indonesian |
| Final Plan | 1 | Plan for Residence of Mrs. Indriawaty. Djalan Gunung Gede No. 33 Bogor | Floor plan | 1:100 | Silaban | • Attachment: Building area<br>• Drawing notation in Indonesian |
| | | | Block plan | 1:500 | | |
| | | | Basement floor plan | 1:100 | | |
| | 1 | Plan for Residence of Mrs. Indriawaty. Djalan Gunung Gede No. 33 Bogor | Section B-B | 1:100 | Silaban | Drawing notation in Indonesian |
| | | | Section A-A | 1:100 | | |
| | | | Section C-C | 1:100 | | |
| | | | Front elevation (West) | 1:100 | | |
| | | | Rear elevation (East) and section F-F | 1:100 | | |
| | | | Side elevation (right) and section E-E | 1:100 | | |
| | | | Side elevation (left) and section H-H | 1:100 | | |
| | | | Section G-G | 1:100 | | |
| | | | The system of ceiling's hanging beam | 1:100 | | |
| | | | Detail of the position of the main truss | 1:10 | | |
| | | | Detail of the reinforced concrete plat for the rear building | 1:20 | | |
| | 1 | Plan for Residence of Mrs. Indriawaty. Djalan Gunung Gede No. 33 Bogor | Roof plan | 1:100 | Silaban | Drawing notation in Indonesian |
| | 1 | Plan for Residence of Mrs. Indriawaty. Djalan Gunung Gede No. 33 Bogor | Details of the reinforced concrete roof | 1:20 | Silaban | Drawing notation in Indonesian |

Table 5.3 Formation Process of the Open Veranda (*Emper Terbuka*) in the Realization of Residence of Lie A Hong (1968- 1969)[2)]

| **Design Process of Residence of Lie A Hong** | Floor Plan | Section |
|---|---|---|
| Former House Survey (December 31, 1968) |  |  Section X-X |
| Initial Plan (around 1969) |  |  Section X-X |
| Mid-term Plan (around 1969) |  |  Section X-X |
| Final Plan (around 1969) |  |  Section X-X |

Legend: F Front veranda S Side veranda B Back veranda T Terrace

C Carport Cp Parking G Garden Gr Garage P Porch p b Balcony

1 Living room 2 Sitting room 3 Formal dining room 4 Daily dining room

5 Bedroom 6 Master bedroom 7 Children's bedroom 8 Guest bedroom

9 Servant bedroom 10 Children's sitting room 11 Children's study room 12 Kitchen

13 Guest's driver room 14 Bathroom and toilet 15 Laundry/ironing room 16 Storage

Entrance

## 5.2. Design Process of Residence of Lie A Hong

### 5.2.1. Former house investigation (December 31, 1968)

Residence of Lie A Hong is located on Gunung Gede Street No. 33 (currently Pajajaran Street), Bogor, near the official residence of the Regents of Bogor that Silaban designed in 1935. The owner of this residence was an Indonesian Chinese, Lie A Hong, and his wife, Indriawaty.[3)] Nowadays, this house serves as a private bank office.[3)]

The background of the owner's design request to Silaban is unknown. His first request is a renovation of the former house. Silaban first surveys the former house with the 1920s- 30s' Dutch colonial style,[6), *2)] however, no further renovation plan exists, and it seems that it was changed to a new house plan at the investigation stage.

5.2.1.1 General composition

The main building consists of the main living room, sitting room,[*3)] dining room, bedroom, bathroom, and service space (kitchen, serving room, bathroom, storage room). This house was built with a stone foundation and a reinforced concrete structure. A hipped roof covers the main building with clay tiles. In addition, it used bricks for walls, wooden panel doors and blind windows.[7)]

5.2.1.2 Three existing terraces

In this survey, Silaban notices the space under the roof eaves as "terrace." The first terrace (22 $m^2$) faces the front yard and the side garden in front of the living room. The other terrace (8 $m^2$) is in front of the bedroom facing the side garden, and another one (7.2 $m^2$) faces the carport. Every terrace has a low fence covered by a natural stone. In addition, only the front terrace has a circular column.

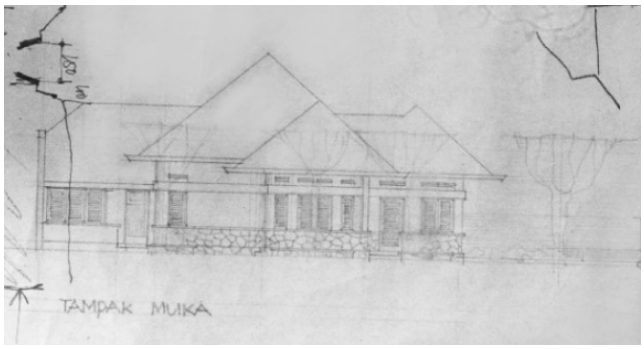



Fig5.1 Front elevation of the former house of Residence of Lie A Hong (December 31, 1968)[2)]

Fig5.2 Front elevation of the former house of Residence of Lie A Hong (December 31, 1968)[8)]

### 5.2.2. Initial plan (around 1969)

5.2.2.1 General composition

Silaban probably makes a new construction proposal to the owner at the middle stage of the investigation as well as a preliminary design. Silaban proposes a new design plan that satisfies the owner's space requirement[*4)] but respectfully maintains the borderline (15 m) from the old house's front road.

This plan consists of two buildings: a main building on the front and an additional L-shaped building on the back. Although it has a mass composition similar to that of an existing house, the main building has a single roof and a private L-shaped area attached to the main building. Silaban connects these buildings using a balcony.

Based on the front elevation plan, the house used reinforced concrete columns. The main building is covered with a hipped roof (inclination 40°), but it is on a large scale reaching 15 meters width. The natural stone covers the wall under the flat eaves.

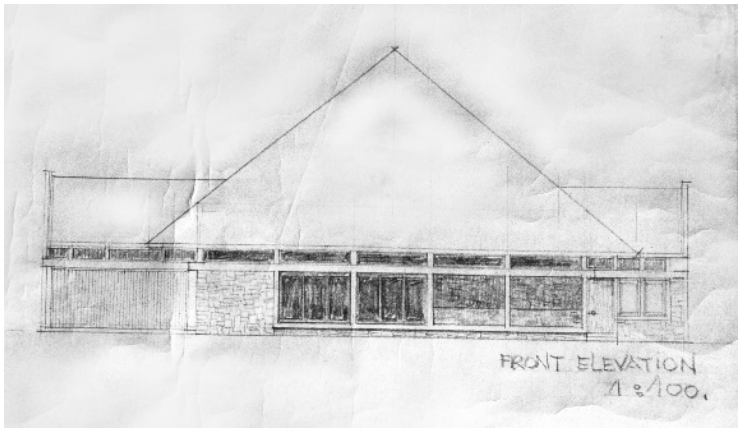



Fig5.3 Front elevation of the initial plan of Residence of Lie A Hong (around 1969)[2)]

5.2.2.2 Proposal of three open verandas

Silaban changes the existing small “terrace” into three “open veranda” at the front, side, and back in the new plan. The front and back verandas are separated but connected via the living room and the formal dining room.

The front veranda (30 $m^2$) without a permanent sitting element extends in front of the living room and the master bedroom and faces the front and side gardens. In this initial plan, Silaban designes the front veranda as a space protected against afternoon heat due to westerly orientation. This veranda is supported by a wide roof eave and a combination of five rectangular columns, flat eaves, and flat beams that provide shade (Fig.5.4).

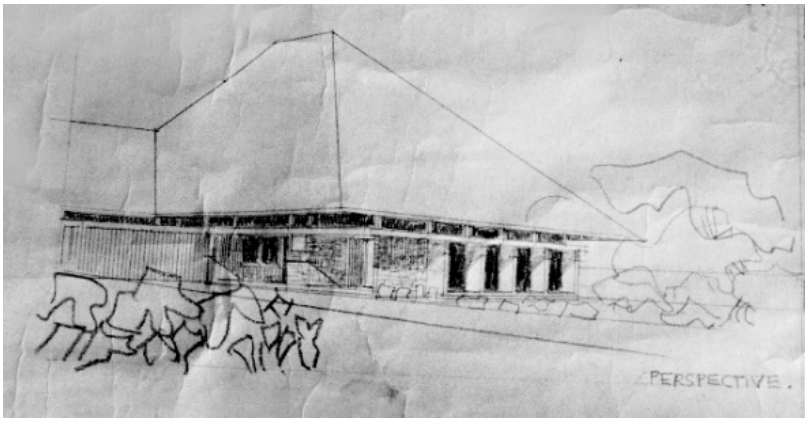



Fig5.4 Front façade’s perspective of the initial plan of Residence of Lie A Hong (around 1969)[2)]

According to Silaban, a house without a large open veranda is not a real Indonesian house. This open veranda must be the most enjoyable place to sit, talk and relax.[9),*5)] It is necessary to have a front veranda equipped with wide eaves so that a part of the floor is not affected by direct sunlight.[9),*6)] It is supposed that the width of the front veranda, the size of the column, and the spacing between the columns should be equal, but the criterion of this consideration is not clear.[9),*7)]

The back veranda (18 $m^2$) connects to the formal dining room and to the children's bedroom via a balcony (1.25 m width), and a circular column is located between the back veranda and balcony. According to Silaban, a pair of the front and back veranda was found in the Dutch houses before World War II as a solution for natural ventilation in the tropical climate conditions.[9),*8)] Silaban also adds a small side veranda (11.3 $m^2$) facing the carport, which serves as a private passageway to the kitchen and living room.

Fig5.5 Front veranda of the initial plan of Residence of Lie A Hong (around 1969)[8)]

Fig5.6 Side veranda of of the initial plan of Residence of Lie A Hong (around 1969)[8)]

Fig5.7 Back veranda of the initial plan of Residence of Lie A Hong (around 1969)[8)]

### 5.2.3. Mid-term plan (around 1969)

5.2.3.1 Change in composition

After the initial plan, Silaban presents the second preliminary plan by reducing the guests' bedroom, bathrooms, children's study room, and guest driver's room, and by changing the L-shaped private building into an I-shaped building in the opposite position. However, although there are some changes in the layout of the main building, this has not changed significantly. [*9)] Since Silaban only drew a plan and not a new elevation, the section is unknown.

5.2.3.2 The expansion of the back veranda

The front veranda and side verandas present no modification, but the back veranda increases in depth, and the area expands to 25.5 $m^2$. It spatially connects two dining rooms, a formal dining room and a family dining room, that were not originally connected. The back veranda connects social activities and guests with the family's personal life and dining activities. The change in position of the rear building causes the scenery from the back veranda to the back garden to no longer be disturbed. On the other

hand, the front garden becomes smaller due to a newly planned parking lot for guests that obstructed the view from the front veranda.

Fig5.8 Front veranda of the mid-term plan of Residence of Lie A Hong (around 1969)[8)]

Fig5.9 Side veranda of the mid-term plan of Residence of Lie A Hong (around 1969)[8)]

Fig5.10 Back veranda of the mid-term plan of Residence of Lie A Hong (around 1969)[8)]

### 5.2.4. Final plan (around 1969)

5.2.4.1 Change in composition

After the mid-term plan, Silaban designs the final plan. He changes the front parking lot into a sidewalk, making the front space not blocked by the car. The space of the main building does not change significantly.[*10)]

Based on the concept of the final plan, it is constructed using a stone foundation, a reinforced concrete structure, plaster walls, and a wooden frame roof construction covered by clay tiles. Regarding the façade, a rectangular column is added in front of the front porch that is enclosed by the windows.

5.2.4.2 Continuity of the open veranda

The open veranda's composition does not change. The front veranda, including the columns supporting the roof, is realized as the final plan. The back veranda with a rectangular column is slightly narrower (24 $m^2$) owing to the reduction in depth. The area

of the side veranda is also smaller, Silaban added a sitting element and a circular column on it as well as on the front porch.

However, by removing the parking lot, the scenery from the front veranda to the front garden is continuously connected without being obstructed by the open parking lot. Silaban modifies the front veranda's elevation and removes the flat concrete beams as the base part of the sun breaker shading, so that only five rectangular columns and flat eaves are combined to create a soft view for the residence façade.

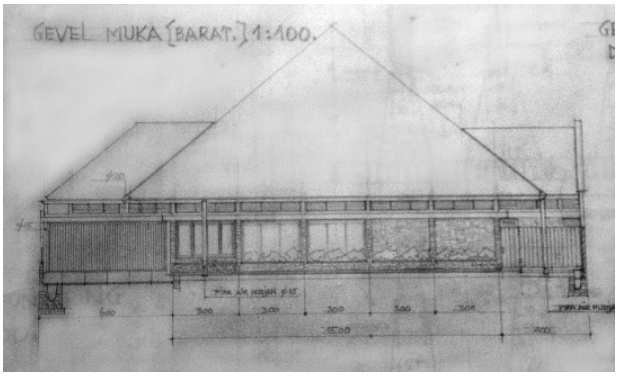



Fig5.11 Front elevation of the final plan of Residence of Lie A Hong (around 1969)[2)]

Fig5.12 Front veranda of the mid-term plan of Residence of Lie A Hong (around 1969)

Fig5.13 Side veranda of the mid-term plan of Residence of Lie A Hong (around 1969)

Fig5.14 Back veranda of the mid-term plan of Residence of Lie A Hong (around 1969)

## 5.3. The Relationship Between the Design of the Residence of Lie A Hong (1968-1969) and the Open Veranda in Silaban's Private House Projects

### 5.3.1. Comparison with private house projects between the 1930s and 1968

The Residence of Lie A Hong (1968- 1969) has a similar veranda composition to the House of T.D. Pardede (1960, Fig.4.13) that developed from the third plan of Silaban's house (1958, Fig.4.9.III). This residence also boasts the three verandas composition, with the front and back verandas flanking a spacious living room and formal dining room, forming an axis. However, the front veranda has no sitting element, which is replaced by plant pots.

Regarding the roof's eaves design, this residence also continues to combine a hipped roof with wide eaves as well as simple sun breaker in the façade of the front veranda. In the initial plan, the front veranda's shading on the west has a similar shape to the front veranda's shading of the second plan of Silaban's house, which provides shade on the east side (1958, Fig.4.9.II).[10)] However, Residence Lie A Hong has multiple square shadings between columns, while the second plan of Silaban's house only has one rectangular shading. On the other hand, in the final plan, the front veranda's shading has a more similar shape to that of the House of Rinto Alwi (1966, Fig.4.31 and Fig.4.32), though its position shifts to below-hipped roof eaves. It also has a similar form to the façade of House Mangunsoerana (early 1950s, Fig4.4) and Silaban's house (1958, Photo4.2).

### 5.3.2. Comparison with the preliminary design of Residence of Sutjipto (1978)

This house extends across the site's width, facing the street and garden to the east and the south. The Residence of Sutjipto (1978) applied a two verandas composition with a back veranda on the side. A front veranda (36 $m^2$) with a permanent sitting element between the columns faces a front garden and connects with a spacious living room. A back veranda (18 $m^2$) on the side connects with a spacious family sitting and dining room. Silaban specifically notes that this veranda is designed for the family (Fig.5.15).

Influenced by the Residence of Lie A Hong (1968- 1969) design, the front veranda's façade, located on the east, combines a hipped roof with 1.5 meters eaves and simple concrete shadings; however, the plant pots are replaced by permanent sitting elements between the four rectangular columns.

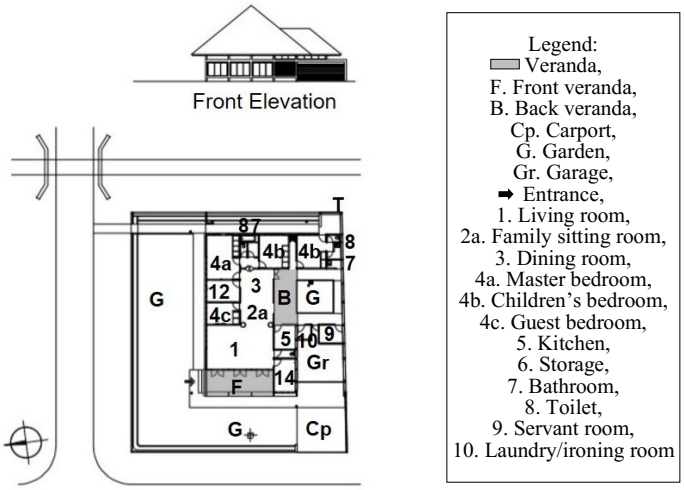



Fig5.15 Residence of Sutjipto (1978)[2)]

Fig5.16 Front veranda of Residence Sutjipto (1978)[11)]

Fig5.17 Back veranda of Residence Sutjipto (1978)[11)]

### 5.3.3. The Formation of the Open Veranda (*Emper Terbuka*) in 1968- 1978

From the comparison of the open veranda designs between Residence of Lie A Hong (1968- 1969), private house projects in the 1930s–1968, and Residence of Sutjipto (1978), the author can summarize the development of Silaban's design method, as follows:

a. Silaban continues applying a large front veranda as the main social space to his private house projects until the 1970s, though a permanent sitting element in the front veranda become less frequent at the end of the 1960s and is then re-used in the 1970s.

b. Silaban continues combining the front veranda, back veranda, and side veranda, forming an axis that connects the verandas and interior in the Residence of Lie A Hong, and reapplying the veranda composition in House of T.D. Pardede (1960). On the other hand, in the 1970s he applies a veranda composition in which the position of the back veranda shifts to the side, as in House of Rinto Alwi (1968).

c. Silaban continues the spatial composition that integrated the verandas, interior, and

exterior by integrating the front veranda with a living room and a spacious family sitting room and dining room, whereas the back veranda becomes more private since its position switches to the side.

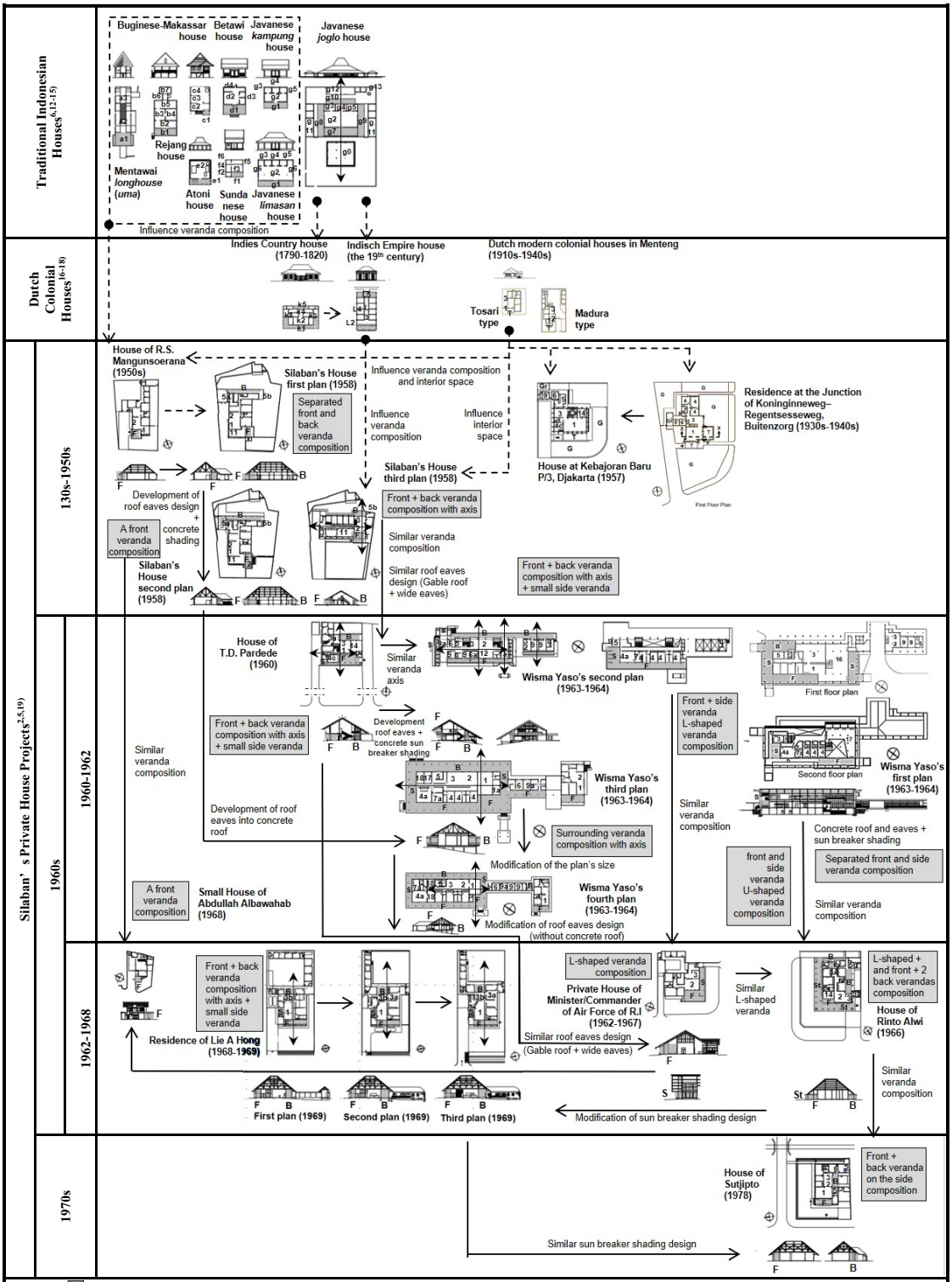
d. Silaban continues developing the roof with a wide eaves design. To provide shade for the front veranda on the west side, he reapplies the combination of the hipped roof with a simple concrete sun breaker shading in the second plan of Silaban's house (1958), then shifting to modifying the shading position of the House of Rinto Alwi (1966) which continues until the 1970s.

## 5.4. Conclusion of Chapter 5

In the design process of Residence of Lie A Hong (1968- 1969), Silaban interpretes the small terrace of the existing colonial house, transforming it into a large open veranda in the front and back of the house with an additional side veranda through three new construction plans. This three verandas composition forms an axis at the center of the house connecting the front garden, front veranda, living room, formal dining room, back veranda, and back garden. However, in the initial plan, the guest bedrooms block this axis on the backside, and the parking lot blockes its axis on the front side in the mid-term plan. On the other hand, in the final plan, it is seamlessly connected by the composition of the exterior, front veranda, back veranda, and interior.

As a result, the open veranda not only has the function of adjusting the tropical climate,[9), *6)] it is also a mechanism to connect social activities and personal life activities. The single-axis configuration consisting of multiple open verandas in Silaban's residential design is considered an important mechanism to interpret the indigenous climate and architectural style in contemporary ways.

Silaban applies the uniaxial composition of multiple verandas integrated with interior and exterior from his design methods in 1958- 1960. However, it shifts into a separate front veranda and back verandas on the side in the 1970s. Regarding the roof's eaves design, Silaban re-applies the combination of a hipped roof with wide eaves and with concrete shadings until the 1970s.




Legend: Veranda; F. Front veranda; B. Back veranda; S. Side veranda; ➡ Entrance; ↔ Axis;
a1. *Kalaibokat/patitikat*, a2. *Tengan uma*, a3. Inner room; b1. *Berendo*, b2. Outer room, b3. *Penigo*, b4. *Bilik*, b5. Dining room, b6. Passage, b7. Kitchen; c1. *Lego-lego/dego-dego*, c2. *Lontang risaliweng*, c3. *Lontang rilaleng*; d1. *Paseban*, d2. Inner room, d3. *Pangkeng*, d4. Kitchen; e1. *Si'u*, e2. *Nanan*; f1. *Tepas*, f2. Inside *tepas*, f3. *Tengah imah*, f4. *Pangkeng*, f5. *Goah*, f6. *Pawon* (kitchen); g0. *Pendapa*, g1. *Emperan*, g2. *Dalem*, g3. Left *senthong*, g4. Central *senthong*, g5. Right *senthong*, g6. Multifunction room, g7. Peringgitan, g8. Left *emper*, g9. Right *emper*, g10. *Gadri*, 911. *Gandhok*, g12. *Pawon*, g13. Bathroom; k1. Voorgalerij, k2. Binnengallerij, k3. Corridor, k4. Bedroom, k5; Archtergallerij; L1. Voorgalerij, L2. Binnengallerij, L3. Corridor, L4. Bedroom, L5; Archtergallerij; 1. Living room; 1a. Guest waiting room; 2. Sitting room; 3. Dining room, 3a. Daily dining room; 3b. Formal dining room; 4. Bedroom; 4a. Master bedroom; 4b. Children's bedroom; 4c. Guest bedroom; 5. Kitchen; 5a.Dry kitchen; 5b. Wet kitchen; 6. Storage; 6a. Electrical room; 7. Bathroom; 7a. Dressing room; 8. Toilet; 9. Servant room; 9a. Driver room; 10. Laundry/ironing room; 11. Drawing room; 12. Study room; 13. Children's recreation room; 14. Office; 15. Spare room; 16. Party room; 17. Studio; 18. Japanese room

Fig5.18 The formation processes of the Open Veranda in Silaban's private house project designs (the 1930s– 1970s)[2,5,6,12-19]

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Table5.3 Silaban, F.: Silaban’s Residential Project Achieves Collection (1930s-1982) for Residence of Lie A Hong, digitized by the author, May 8, 2017 and redrawn by author, 2019

**References for Figures**

Fig.5.1~5 Silaban, F.: Silaban’s Residential Project Achieves Collection (1930s-1982), digitized by the author, May 8, 2017
Fig.5.2 Dahniar, Ulmia, N., and Hasbi, A.: Perspective of Residence of Lie A Hong (1968-1969), 2020
Fig.5.3~4 Silaban, F.: Silaban’s Residential Project Achieves Collection (1930s-1982), digitized by the author, May 8, 2017
Fig.5.5~10 Dahniar, Ulmia, N., and Hasbi, A.: Perspective of Residence of Lie A Hong (1968-1969), 2020
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**Notes**

*1) This house was probably not realized since it is only a preliminary design archive that consists of a plan and a front elevation (see Table 5-2).

*2) The typical Dutch colonial houses of the 1920s-1930s in Indonesia are designed as middle-class houses. The basic house model is a relatively small, single-story house, covered by a tiled roof, wooden shed, stone walls, teak windows, and a stone base. In the past, relatively large semi-outdoor spaces were created by columns that supported the roof, but at this time they are scaled-down (Tjahjono, et al., 1998: 124-125).

*3) Generally, the "sitting room" is a living room shared with guests, but Silaban prefers a "sitting room" for the family room. In modern Indonesian houses, the living room or guest room acts as a public space for receiving formal guests, while the sitting room or family room serves as a more private living area for the family to gather in daily life (Wiryomartono, 2014).

*4) Silaban wrote in the drawing title "according to the requirements (given by the owner)" (see Table 5-2). However, the specific content is not described.

*5) Silaban's article in 1982: "When we drive a car from one town to another, passing through farming areas and seeing most people's houses on the roadside with front verandas (*emper*) opposite the roads. We will find the occupants sitting in these front verandas (*emper*) all day. They will enter the walled parts inside the houses at night. Therefore, I dare to say that *a house without a sufficiently large open veranda (emper terbuka)* (instead of a narrow veranda (*emper*) with an additional platonic *eave*) *is not an authentic Indonesian house*. This is a sign for me that *the open part of such houses is the most pleasant place for sitting while chatting and resting*." (Silaban, 1982).

*6) Silaban's article in 1982: "The most important thing is to avoid a single ray of sunlight reaching the floor, instead of building a wall. However, to hold the sunlight, a widened roof can be built beyond the wall outline. By doing this, the sunlight will not reach the wall." (Silaban, 1982)

*7) Silaban's article in 1982: "It was not astonishing that many Dutch people (before World War II) built their houses with large rooms and high ceilings. In addition to building verandas (*emper*) that surround houses or at least one large front veranda (*voorgalery*) and one back veranda (*achtergalery*) with a comparable size. Having come from a cold country to a tropical country such as Indonesia, the Dutch quickly understood the importance of verandas (*emper*), *voor* (front) and *achtergalery* (back veranda) as well as large rooms and high ceilings. They considered these fundamental elements for houses in tropical countries. Remember the Residen houses, the Residen assistants' houses, the Regent's houses and their pendopo,[*9)] the houses and pendopo of the Wedanas, and the Administrateurs' houses on big farms in the past that we can still admire the remaining constructions today. Indeed,

these designs are the results of their observations of local indigenous houses. Both small and big houses are built following the same principles." (Silaban, 1982).

*8) Silaban's article in 1982: "Many buildings use free (standing) column sequences. I think these column sequences suggest that they surround an open space or stand in front of it. The distance between the column row and the room border should be large and equal to the column size and the spacing between the columns, so the free columns stand in front of a large *voorgalery* (*front veranda*) (as seen in Merdeka Palace, State Palace of Jakarta, and Bogor Palace)." (Silaban, 1982)

*9) One of the kitchens is moved near the servant room, and the laundry/ironing room to the garage area. The children's sitting room become smaller due to the addition of the bathroom, and the balcony connecting the main house and the private area becomes wider (1.5 m width).

*10) The ironing room is moved next to the toilet for the children's bedroom, and the shape of the children's bedroom next to it is changed into a rectangular room. The area of the children's sitting room and bathroom (6.27 $m^2$) is also reduced.

# Chapter 6
# Conclusion

## 6.1. Discussion

In this dissertation, the author explores Friedrich Silaban's idea of "open veranda" ("*emper terbuka*") and tries to explain and clarify his ideas.

Chapter 1 introduces the background, objectives, previous studies, and position of the research, materials, methodology, and structure of the dissertation. The author specifically studies Friedrich Silaban as one of the first generations of Indonesian architects who developes the idea of "open veranda" ("*emper terbuka*"). From 1930s to 1980s, Silaban practiced the architecture that emphasized the modern tropical buildings. The author focuses on the analysis of Silaban's idea of open veranda (*emper terbuka*) through Silaban's texts and designs. The objective includes the analysis of formation processes of Silaban's notion on open veranda through his textual archives. Further, it continues to analyze the application of this notion through the formation processes of Silaban's design method to create open veranda in his private house project design archives.

Chapter 2 provides Silaban's background and professional career. Silaban went to Dutch Indies School, Koningin Wilhelmina School (KWS), majoring in *bouwkunde* (building science). Silaban passed through three periods in his architectural career. In Silaban's early career (1930s-1940s) during the late colonial period, he began his career as a Dutch government staff and performed a private architectural practice as a young Dutch Indies architect. When Indonesian independence was proclaimed, he took a year course in *Academie voor Bouwkunst* Amsterdam and received an architect profession certificate in 1950. In Silaban's peak of career (1950s-1960s) during the Old Order period, he won three national design competitions from 1954 to 1956 that raised his reputation as a national architect. He then designed many public and residential buildings from 1955 to 1965. He also applied modern tropical architecture, which was in line with the Indonesian national identity. In the last period (1970s-1980s) during the New Order period, Silaban focused on his role as a vice chief of Istiqlal Mosque construction project

and an architect of some private projects. During the second and third period, he wrote some texts that explained his ideas for modern Indonesian architecture: the journey report to Japan and India (1954) and the article for the second National Congress of the Indonesian Institute of Architects (1982). He emphasizes the connection between architecture with the climate, geographical location, and society's life pattern. These factors are transformed into modern architecture using new materials and construction. Therefore, modern Indonesian architecture should correspond to the tropical characteristics of Indonesian architecture and Indonesian life patterns. In this context, Silaban points out the open veranda (*emper terbuka*) as his notion to design modern tropical architecture and as a required space for Indonesian houses.

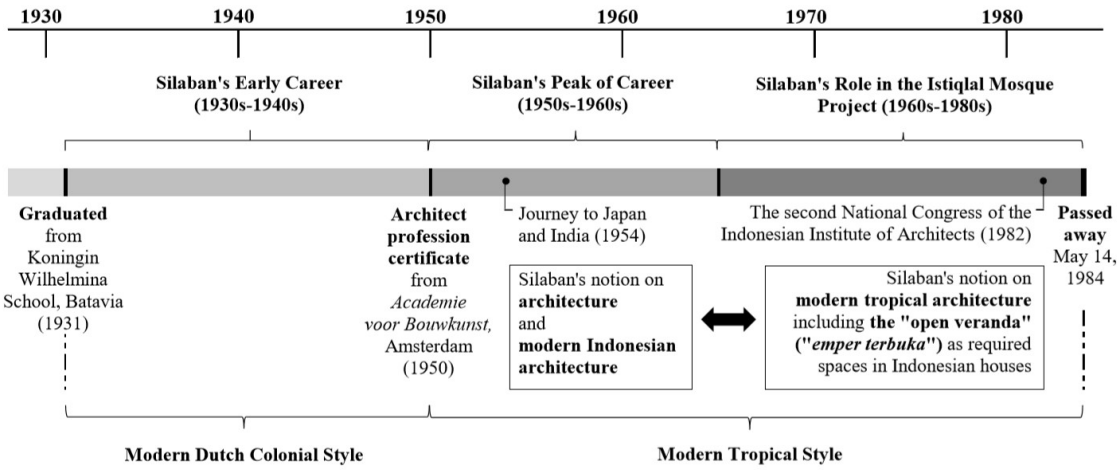


Fig6.1 Diagram of chapter 2 summary

Chapter 3 clarifies the formation processes of Silaban's notion of "open veranda" ("*emper terbuka*") by analyzing his textual documents mentioning the description of open veranda. In the first period (1954-1957), he identified the relation between the various veranda forms with the local climate and the the veranda's infuences on the building expression as noted in his journey reports to India (1954) and the United States of America (1957). In the second period (1950s-1960s), as it was noted in his unpublished article draft, he emphasized the combination of open veranda and the roof eaves to reveal the building expression. In the third period (1970s-1980s), he discovered the essence of open verandas in Indonesian vernacular houses as a social space and tropical climate modifier mentioned in his article for the second National Congress of Indonesian Institute of Architects (1982). The analyses of these texts reveal that Silaban's notion of "open

veranda" (*"emper terbuka"*) formulates the references to Indonesian indigenous architecture and other countries' architecture in terms of historical and modern buildings. These descriptions include the theme of function and climate adaptation to create a modern form. Therefore, the notion of open veranda represents a unique element of Indonesian houses as well as a universal element in architecture.

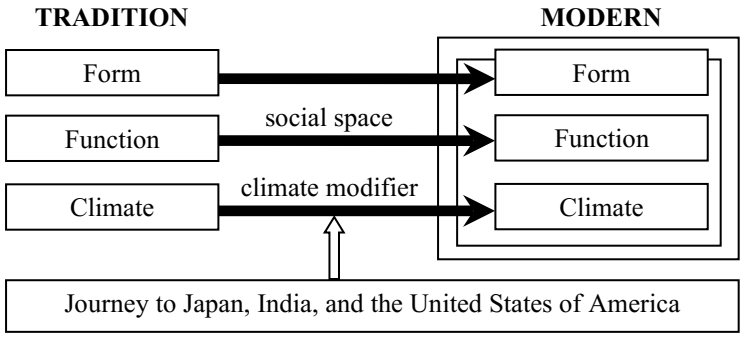


Fig6.2 Diagram of chapter 3 summary[1)]

Chapter 4 discusses Silaban's approaches as a modern architect who applies his notion on "open veranda" ("*emper terbuka*") to represent both Indonesian and universal characteristics. The author clarifies the formation processes of Silaban's design methods to create the open veranda (*emper terbuka*) through a chronological analysis of seven private house project design documents from 1930s until 1968. The design analysis focuses on the planning composition of open veranda and the design of roof eaves as it is related to the function theme, the climate adaptation, and the traditional Indonesian verandas. By using a new approach, the analysis reveals that Silaban applies four design methods related to the spatial composition and design of roof's eaves. Regarding the spatial composition, Silaban applied the front and side terraces in 1930s-1940s. In 1950s, Silaban applied a large front veranda as a primary social space, which evolved from a front veranda composition into a combination of the front veranda and back veranda integrated with interior and exterior as a reformation of spatial composition. In 1960s, he developed various compositions by combining the front veranda and back veranda or side veranda. Meanwhile, regarding the design of roof's wide eaves before 1950s, Silaban only applied enough flat concrete eaves with the side terrace that was not fully covered. Further, he applied a hipped roof and gable roof with wide eaves to provide shade and developed the combination of concrete roof and concrete shading.

Chapter 5 continues the chapter 4's discussion by analyzing Silaban's approaches that apply the notion of open veranda (*emper terbuka*) to represent both Indonesian and universal characteristics. The author specifically clarifies the formation processes of Silaban's design methods to create the open veranda in Residence of Lie A Hong (1968-1969), which is Silaban's last realized private house project. The author analyzes four terms of design processes of the residence and reveals that Silaban applies a multiple veranda composition combining the front and back veranda and forming an axis with additional side veranda. This axis existence is developed from a spatial composition where the axis view to exterior is blocked on the backside and frontside, and finally it is perfectly integrated with the exterior. Comparing to the previous private house designs in chapter 4, Silaban applied this method from his prototype veranda composition in 1958 and 1960. On the other hand, he developed his methods in 1958 and 1966 to combine the roof's eaves with the concrete shading to maximize the shade and block the afternoon sun rays. Silaban's shading design for Lie A Hong's Residence also affected his approach of the preliminary design for Sutjipto's Residence (1978).

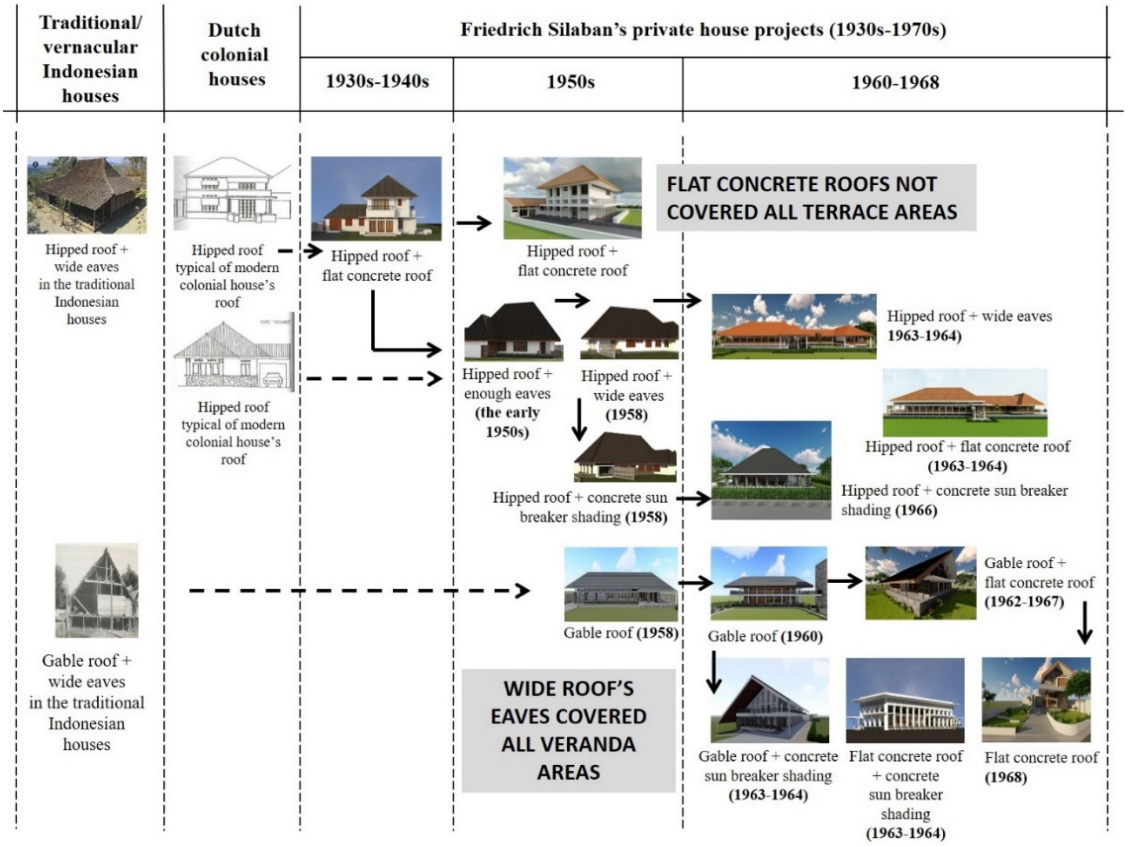


Fig6.3 Diagram of chapter 4 summary for the development of the wide roof's eaves

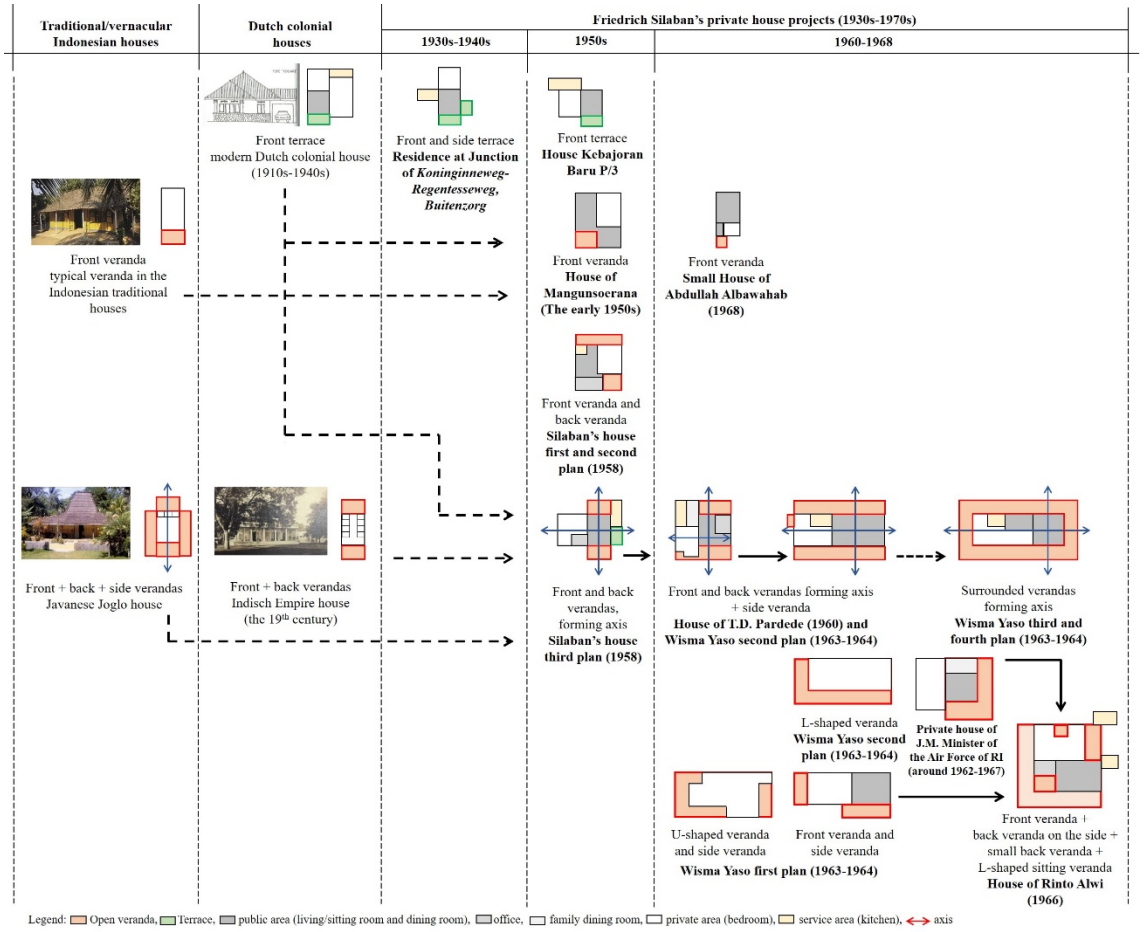


Fig6.4 Diagram of chapter 4 summary for the spatial composition development

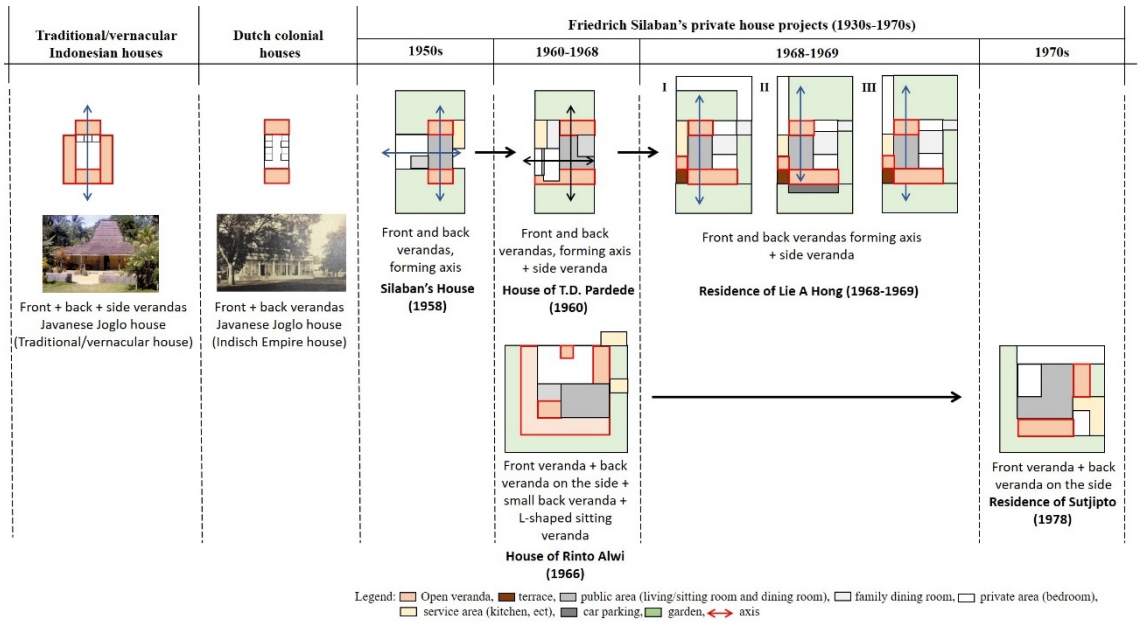


Fig6.5 Diagram of chapter 5 for the spatial composition development

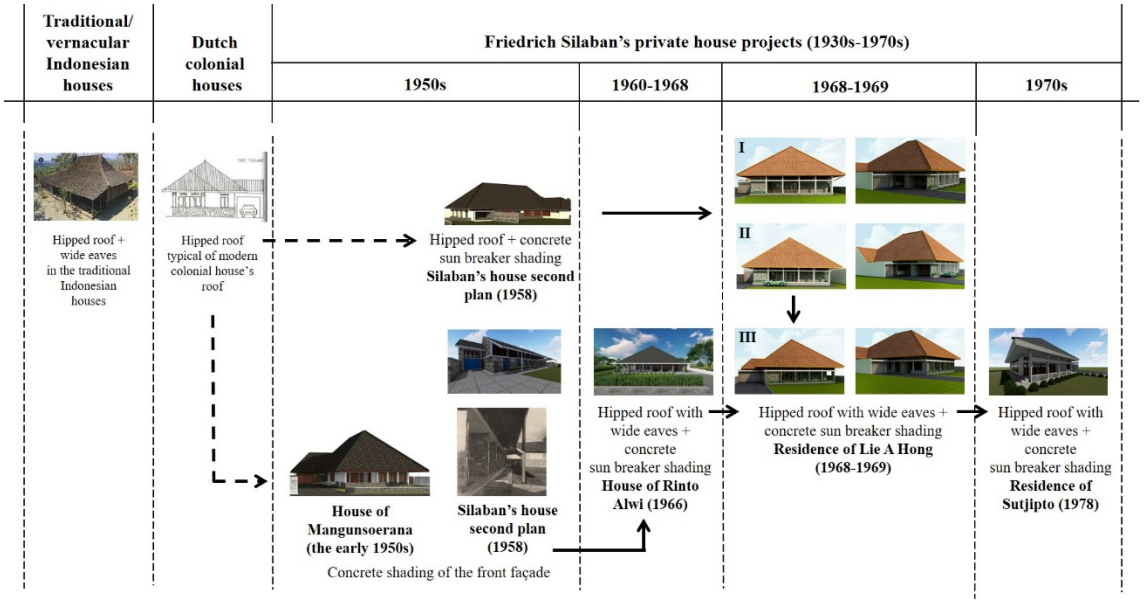


Fig6.6 Diagram of chapter 5 for the development of the wide roof's eaves

## 6.2. Conclusion

This dissertation aims to clarify the architectural theories of Friedrich Silaban, one of the first generations of Indonesian architects who played a vital role to develop the modern Indonesian architecture from 1950s to 1980s. It specifically discusses Silaban's notion of open veranda (*emper terbuka*) and his design application.

From the analysis of Silaban's writings, the author finds out that Silaban essentially forms his notion of open veranda (*emper terbuka*) by interpreting the social function and tropical characteristics of traditional Indonesian houses for modern architecture. Silaban's notion of open veranda (*emper terbuka*) shows a dualism between the tradition and modern architecture.

The analysis of Silaban's private house projects shows that Silaban interprets the tropical climate, social, and personal life activities for open veranda (*emper terbuka*) using a new form: modern material and construction. Silaban applies the front veranda for social space and becomes various veranda compositions by combining the front veranda with the back or side veranda and integrating them with the interior and exterior. He develops the roof's wide eaves design by combining it with concrete roof and concrete shading.

In significance of the study, the author clarifies the essence of Silaban's architectural theory for open veranda (*emper terbuka*). Analyzing Silaban's notion of open veranda (*emper terbuka*), the author reveals that Silaban's tropical architecture idea

is depicted in this element. The study of this notion underlines that the formation of Silaban's perspective as a modern architect on designing open veranda. Based on the formation analysis of Silaban's design method to create the open veranda, the author clarifies his re-interpretation of this element into a modern form design by reforming the space composition and using the modern construction for the roof's wide eaves. Silaban successfully re-creates the open veranda (*emper terbuka*) into a new shape in his design. This study gives us a new perspective to reinterpret the method of modern tropical architecture design that essentially supports the quality comfort of living in the hot-humid tropical areas.

Despite the above results of the research, the author's studies for Friedrich Silaban's open veranda (*emper terbuka*) have some weaknesses. One of them is the interpretation of Silaban's design methods to design the open veranda (*emper terbuka*) according to Silaban's design documents that only focus on the private house projects. The author has not yet analyzed the special characteristics of other residential projects such as villas, shop houses, and houses for institutions. This study has not either analyzed the public buildings that have different characteristics from the residential projects. Therefore, these limitations will be the subjects for further research.

There are not many references and studies discussing Friedrich Silaban's influences on other architects and contemporary architecture including in this dissertation. Sopandi, in Silaban's biography, discusses Silaban's collaboration with J.M. (Han) Groenewegen doing some projects from 1956 to 1966. The biography specifically mentions a collaboration project for the Office of Centralized Agencies of Ministry of Finance (Gedung Pemusatan Jawatan/Instansi Kementerian Keuangan) on Djalan Djogja, Medan (1957).[3)] Based on Silaban's archives, Silaban employs a drafter to do the principle detail drawing.[4)] Friedrich Silaban's influence on his son Panogu Silaban, who is also an architect, has not been discussed. In a closing remark for the book of Silaban's house published by mAAN, Panogu Silaban admits that he and his father have never collaborated to design projects.[5)]

Furthermore, Indonesian Institute of Architects announced Friedrich Silaban's Monument competition on July 25, 2019. This monument will be a tribute to Silaban's contribution to Indonesian architecture. It will be built on a mountainous area in Humbang Hasundutan, North Sumatera. On October 7, 2019, the competition judges announced the

first winner to the team of Benny Gunawan, Giovanni Gunawan, Budi Riyanto, Loundy Lompoliuw, and Guszeus Wisnu. These architects present their designs entitled "*Emper* Silaban" inspired by Silaban's open veranda (*emper terbuka*) as the keyword to Silaban's design. They use the abstraction of open veranda shape to follow the site contour (Fig.6-7)[6] that is almost similar to the open veranda in Istiqlal Mosque (1955, Fig.6-8) and in Silaban's house (1958, Fig.6-9). However, this design is juat a monument that has a spesific function and different characteristics from a residence that is closely related to the concept of open veranda. Therefore, the analysis of Friedrich Silaban's influence on other architects and contemporary architecture can be later developed as a subject for further research.

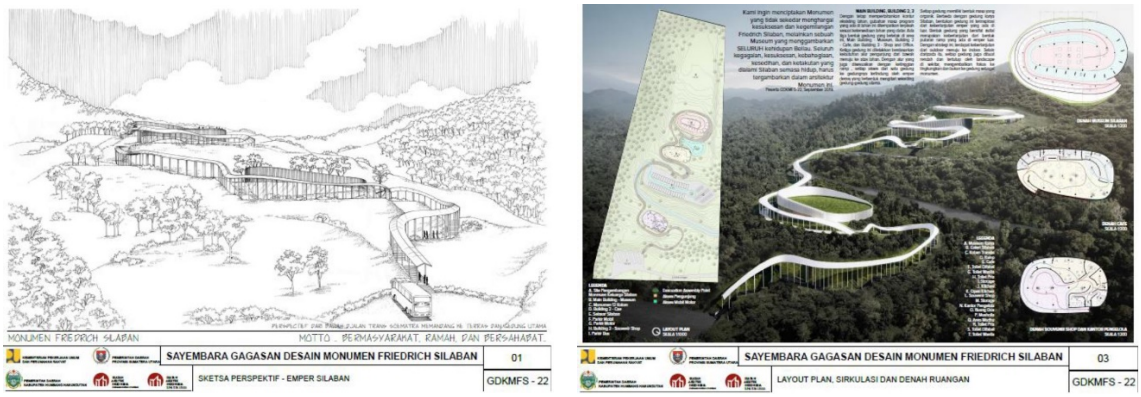


Fig6.7 The first winner design of Friedrich Silaban's monument competition (2019)[6]

Fig6.8 Open veranda (*emper terbuka*) of the Istiqlal Mosque (circa 1980s)[5]

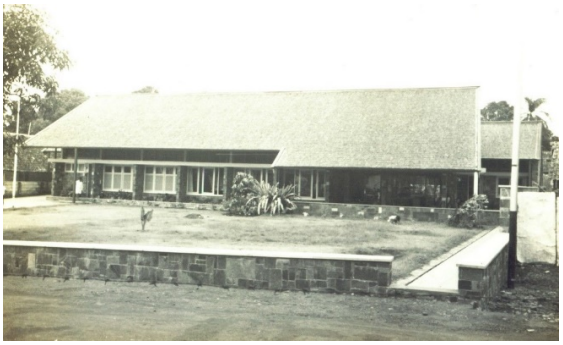

Fig6.9 Open veranda (*emper terbuka*) of Silaban's House (1958)[5]

### 6.3. Future Research Directions

Regarding Silaban's open veranda designs, the analyses of Silaban's design methods for private house projects can be compared to other residential projects that have special characteristics such as villas, shop houses, and houses for institutions. The

analyses can also synchronize Silaban's design methods for public buildings. Through a comparison of design methods for these types of buildings, the analyses of open veranda design will be completed.

The study of Silaban's idea of "Open Veranda" ("*Emper Terbuka*") has opened some possibilities to do a further study in terms of the relationship between this notion and the other Silaban's notions. It is also necessary to consider that indigenous/international or traditional/modern issues are not only morphological problems but also material and construction issues. In his article for the Second National Congress of the Indonesian Institute of Architects (1982), Silaban considers seven points to be designed in tropical countries including the open veranda (*emper terbuka*). Besides, he also mentions two points connecting to material and construction, which is the fourth point: leak-free "roof material," shape, and construction and the fifth point: good quality of "materials." Next, the analyses of chapters 4 and 5 reveals that Silaban develops the design of roof's wide eaves by combining the roof with concrete roof and concrete shading in his open veranda designs. This research result may be a preliminary study in terms of the relationship between Silaban's notion of open veranda and that of material and construction.

Open verandas (*emper terbuka*) are still relevant in Indonesian contemporary architecture.[7)] Architects may consider creating architectural designs that are responsive to climates.[3)] They have to manage residential designs that accommodate occupants' open spaces for living and relaxing by means of veranda and solve their privacy and security for urban areas as well.[7)] Silaban's design methods to create the open veranda (*emper terbuka*) that links social and climatic issues can be a preliminary study to develop a design for Indonesian contemporary housings and buildings that will maximize the quality comfort of living in a hot-humid tropical areas.

Despite the above issues, the discussion regarding the influence of Friedrich Silaban's notion and design to other architects and Indonesian contemporary architecture is also limited. Thus, this research gap can be developed to conduct a further study to deepen the influence of Silaban's open veranda (*emper terbuka*) to other architects including his son. The relationship and distinction between these two generations of architects become an interesting study to deeply explore Friedrich Silaban's influences on contemporary architects.

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