THE STUDY OF KISHO KUROKAWA THE ARCHITECTURAL DESIGN OF THE INSTITUTE OF EAST ASIAN STUDIES, THAMMASAT UNIVERSITY, RANGSIT CAMPUS, THAILAND

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ABSTRACT

This qualitative research study aimed to investigate the design element identity of the only Kurokawa's Japanese Modernism design in Thailand - the Institute of East Asian Studies, Thammasart University and identified common characteristics of Kurokawa's designs in Japan of the same period (1970s-1980s). Additionally, the study aimed to present Japanese Modernism architectural conservation guidelines applicable to tropical countries. Data collection applied multiple methods to triangulate the data. The methods included observations, archival searches, surveys, site measurements, and one-on-one interviews with the executives, facilities managers, and the architect who supervised the renovation project of the Institute of East Asian Studies. Data was analyzed using content and narrative analysis.

The findings revealed common design characteristics of the Institute of East Asian Studies and Kurokawa's other works in Japan, these signatures included, first, the modular systems creating flexible and human-scale designs shown in the application of various sizes of square grid. Second, the application of organic shapes and forms of wave-like grids reflected the natural world and helped to create a more harmonious relationship between humans and the built environment. Third, submitted of regionalism concept of blending local cultural and Japanese historical elements to designs such as "Shinden Zukuri (寝殿造)" and "Garan Haichi (伽藍配置)" layouts to all of his architectural designs with main construction in the middle. To conserve the

original architectural design mentioned above, considering of significant signature and elements of Kurokawa's works is essential.

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CHAPTER 1

INTRODUCTION

1.1 Statement of the Problems and Background

For more than 600 years, the respectable relationship between Thailand and Japan has continuously grown in economy, society, culture, and architecture. After World War II, Japan amid in economic downturns and a long-term bubble for 14 years before recovering and gradually returning to its golden age. During the economic recession, Japan constantly developed technology, human capital, and a sound education system as a tool to drive the economy (วุวงศ์, 2016).

At that time, the "Modern Movement" became very prominent in Asia, especially in Japan. With a robust sense of tradition, the Japanese had adapted and created a new transformation from the Western architecture outlook with its philosophy, resulting in Japanese modernist architecture. With these unique characteristics, Japanese Modernism gained international recognition impacted the Japanese urban landscape, and also influenced many other countries' designers (Xue, Xiao: 2014). Kurokawa's work is evident in the field of architecture and has been recognized in Thailand.

Complete in 1984, the building of the *Institute of Japanese Studies* at Thammasat University, Rangsit Campus, Pathum Thani; and transformed into the *Institute of East Asian Studies* in 1987, is the only building in Thailand designed by Kurokawa. From 1965 to 1989, the Institute was part of a collaboration series between the Japanese Official Development Assistance (ODA), under the Japan International Cooperation Agency (JICA), and the Royal Thai Government. This two-and-a-half decades of cooperation resulted in the foundation of more than 50 educational institutes, research, and training centers in Thailand. Some of these projects were undertaken by distinctive Japanese architects such as Junzo Sakakura or well-known firms such as Kume Architect-Engineer or Nikken Sekkei (Charoensupakul, A.: 1988). They could be considered as parts of the Japanese Modernism legacy in Southeast Asia.

Kurokawa's architectural design of the Thammasat University's Institute of East Asian Studies represents the proper amalgamation of Japanese Modernism, traditional Japanese characteristics, and tropical design that could aesthetically and efficiently co-exist (Figure 1. 1).

Figure 1. 1: The Institute of Japanese Studies (the Institute of East Asian Studies) Thammasat University, Rangsit campus

Kurokawa is one of the most recognized architects worldwide in the era of modernist architecture. The Institute of East Asian Studies is the only Kurokawa's Japanese Modernism design in Thailand with unique characteristics. As a result of the great flood in 2011, the ground floor of the Institute of East Asian Studies building was flooded for a month. Besides the building's degradation, parts of the institute documents were lost. After the flooding, with the Thai architects' support, the building was renovated considering the unique characteristics of Kurakawa's works. The restoration of the institute preserved the original characteristics of the architecture; therefore, it received a preservation award from the Association of Siamese Architects and an award for outstanding architecture (Academic and institute building) in 2017.

State-of-the-art construction technologies created a sensible architectural design from locally available materials, resulting in an architectural design that very well represents the idea of symbiosis in terms of conceptual design, formal quality, and

functionality. To date, the Institute compound has been one of the exemplary and well-conserved Japanese Modernism in Thailand. In the same period (1970s to 1980s), there are Kurokawa's works represented in many learning centers in Japan such as the National Museum of Ethnology, Osaka (1977); Saitama Prefectural Museum of Modern Art, Saitama (1982); and Nagoya City Art Museum, Aichi (1987).

1.2 Rationale

This research focuses on the development and influence of Japanese Modernism in Thailand and Southeast Asia, especially Kurokawa's architecture. This exploration would resolve problems in applying architectural masterpieces in different geographies. This early framework is worth researching not only because of its architectural style but also for its conceptual knowledge of conservation. Hence, the main benefits of this study are as follows.

Firstly, the Thammasat University's Institute of East Asian Studies is part of the Modernism legacy in Thailand and Southeast Asia and these over thirty years old buildings still serve as regional educational, research, and training facilities. Many structures could not withstand the impacts of natural disasters in the tropical region and require extensive renovations. The Institute constructions were adapted to accommodate the users' changing needs, therefore; this research presents environmentally sustainable approaches to renovation, rehabilitation, and adaptive reuse of the old buildings.

Secondly, successful conservation requires a blend of understanding of architecture, social and physical context, and ingenuity to revitalize and extend the facility's lifetime. This study would provide rationale and restoration approaches of Japanese Modernism architecture conservation guidelines that could be applied to valuable facilities in Thailand and other tropical countries.

In addition, the collection of modern Japanese architecture information in Thailand is essential for students, educators, and those who work in the architectural circle. For example, designed by Kurokawa; the aesthetic of Institute of East Asian Studies constructions and their physical characteristics can only be found in Japanese

architecture in Thailand. Hence, the site is a good source of architectural learning and individual interest.

1.3 Purposes

The Thammasat University's Institute of East Asian Studies is part of the Japanese Modernism legacy in Thailand and Southeast Asia. After an extensive search of both aspects of Thai design aspects of Japanese architects, the objectives of this study are clarified as follows:

1.3.1 To investigate the design element identity of the Institute of East Asian Studies buildings.

1.3.2 To identify common characteristics of Kurokawa's design in Japan from the same era as the Institute of East Asian Studies' designs.

1.3.3 To present Japanese Modernism architectural conservation guidelines applicable to tropical countries.

1.4 Research Questions

1.4.1 What is the design element identity of the Institute of East Asian Studies' buildings?

1.4.2. What are common architectural characteristics of Kurokawa's design in Japan from the same era as the Institute of East Asian Studies' buildings.?

1.4.3 What methods might tropical regions apply Japanese Modernism to architectural design theory and practice?

1.5 Scope of Study

Physical field: The Institute of East Asian Studies Thammasat University, Rangsit Campus, Pathum Thani, Thailand, the National Museum of Ethnology, Osaka, Japan, the Museum of Modern Art, Saitama, Japan, and the Nagoya City Art Museum, Aichi, Japan.

Document sector: The studies relevant to Japanese architecture in Thailand, materials applicable to Kisho Kurokawa's architectural design, and the Institute of East Asian (Japanese) Studies' footprint.

1.6 Benefits of the Studies

A study of Japanese architecture and Japanese architecture in Thailand in terms of design principles discovered that the designs of foreign architects could be implemented and serve as a guideline for adapting tropical architectural design theory to tropical environments. Since some data was lost during the worst floods in the region in 2011, this study might serve as a foundation for the development or application of Japanese architecture in the architectural sector.

1.7 Definition of Terms

Metabolism: This context is derived from biological processes, referring to the idea that buildings and cities should be designed in a way that allows growth, adaptation, and change over time. The goal of metabolic architects was to create dynamic, linked systems that could change and adapt to the demands of the environment.

Symbiosis: refers to the concept of establishing symbiotic and long-lasting connections between urban or natural ecosystems and architectural constructions. Kurokawa thought that buildings should not exist in a vacuum, but rather cohabit and interact with their environment in a way that benefits both parties, much like the biological idea of symbiosis that describes how two dissimilar creatures may live together and share benefits.

CHAPTER 2

LITERATURE REVIEW

This section reviews the literature relating to Kisho Kurokawa's background. The following section focuses on the cooperation between the Japanese Official Development Assistance (ODA) and the Thai government that led to the attendance of Japanese Modernism in Thailand. Moreover, this study examines the relationship between the Institute of East Asian Studies architecture, Japanese modernism architecture in Thailand, and Kurokawa's works.

2.1 Kisho Kurokawa's Background

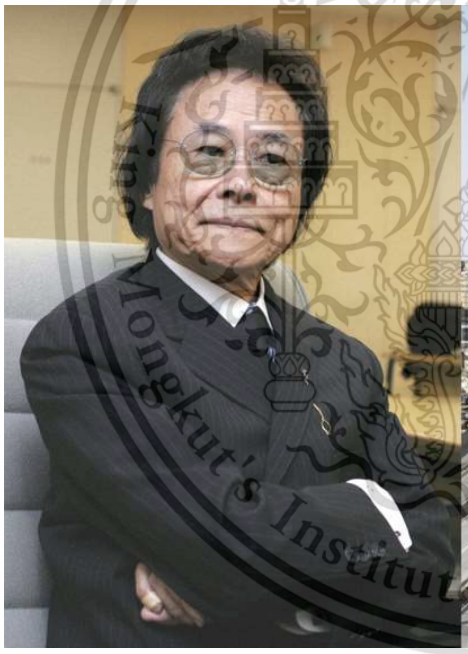


Figure 2. 1: Kisho Kurokawa
(Source: photo taken on Feb. 22, 2007, by Mainichi/Kan Takeuchi)

Figure 2. 2: Nakagin Capsule Tower / 中銀カプセルタワー
(Source: photo taken by Tomio Ohashi)

Kisho Kurokawa (黒川　紀章) (April 8, 1934 – October 12, 2007) (Figure 2. 1), a prominent Japanese architect of the 20th century, was born in Kanie, Aichi Prefecture of Japan. In the 1960s to 1970s, he was a leading leader in the Metabolist movement theory. The theory mentions Kurokawa's Nakagin Capsule (メタボリズム, Figure 2. 2)

functioned as a symbol of the Metabolist movement. A fascinating anomaly, the Nakagin Capsule Tower was a retro-futurist legacy of unrealized ideals. The Metabolists, who were led by Tange, Isozaki Arata, Kikutake Kiyonori, and Kurokawa Kisho, focused on buildings that integrated megastructures, Brutalism, and high-tech visuals (Darran,2022).

In the 1980s, Kurokawa became interested in the Metabolist movement's dramatically futuristic elements and turned to art creation with a more profound, more meaningful work. After World War II, he designed the Hiroshima City Museum of Contemporary Art, the city's first art museum from 1988 to 1989.

The Philosophy of symbiosis is the extension of the metabolism concept that characterizes Kurokawa's design philosophy. Kurokawa's concept of symbiosis believes that different components of the built environment are interrelated and dependent on one another. According to this perspective, architecture is a dynamic system that should live in harmony with its surroundings of the natural world, people, culture, and history (Kisho Kurokawa, 1991). Therefore, Kurokawa's work emphasized the following qualities as part of its symbiotic philosophy, coexistence and adaptation, inspiration from nature and biology, holistic approach, and interconnected systems.

Coexistence and adaptation in Kurokawa's strategy emphasizes how important to architecture to adapt to times and respond to users' requirements. He promoted the application of adaptable and flexible designs for future development, functional changes, and technological improvements.

Inspiration from nature and biology referred to Kurokawa's ideas of designs from nature and biology and applied concepts such as biomimicry, organic development, and ecological sustainability. He aimed to design structures that behaved like living things, interacting with, and adapting to their surroundings.

The holistic approach stresses the need to use an all-encompassing approach to architecture that considers not only physical appearance but also includes social relations, local cultural, and historical factors. Kurokawa believed that architecture ought to improve the well-being and standard of living of both people and the community at the same time.

Kurokawa's interconnected systems aim to establish links and relationships between various components of the built environment. Because he considered

architecture as a component of a more significant system of infrastructure, transportation, and urban planning that encourages effective and sustainable growth.

Kurokawa's symbiotic philosophy attempted to get beyond limitations and advance approaches to architecture and urban planning with a more comprehensive and interconnected philosophy. Besides the constructed environment, the natural world, and civilization; Symbiotic philosophy aims to promote harmony, adaptation, and symbiotic relationship. The next section presented the contemporary works of Kurokawa.

2.2 The Contemporary Works of Kurokawa

Japanese architect Kisho Kurokawa lived from 1934 to 2007 and was well-known for his original thinking and contributions to the "*Metabolist movement*". Although Kurokawa's ideas significantly impacted architecture throughout his career, his most recent works that were completed before his death in 2007 were distinguished by the ongoing investigation of organic forms, ecological design, and the idea of "symbiosis." A few of Kurokawa's significant recent pieces included.

Figure 2. 3: Nakagin Capsule Tower / 中銀カプセルタワー

(Source: https://www.iconichouses.org/icons-at-risk/nakagin-capsule-tower)

1. Nakagin Capsule Tower (1972, Figure 2.3), one of the early buildings in Tokyo, is among Kurokawa's most recognizable works. With its modular construction that enables individual dwelling units (capsules) to be added or withdrawn by the demands of the residents, it is a prime example of the Metabolist movement.

   (Source: https://www.iconichouses.org/icons-at-risk/nakagin-capsule-tower)
2. National Ethnology Museum (1977, Figure 2.4) located in Osaka, Japan, highlights the legacy and cultural variety of numerous ethnic groups. Kurokawa's passion for organic and natural designs can be seen in the building's unusual shape which resembles a network of linked bubbles or cells.

Figure 2. 4: National Museum of Ethnology

3. Kuala Lumpur International Airport (1998) was the principal architect known as Malaysia's satellite terminal. With contemporary materials and technology, the terminal has a sweeping ceiling and elements of traditional Malaysian architecture.
4. Toyota Stadium (2001), Situated in Toyota City, Japan, this multipurpose stadium was designed by Kurokawa for the 2002 FIFA World Cup. The stadium's curvilinear form mimics the surrounding landscape, and its retractable roof allows for versatile use in various weather conditions.

5. The National Art Center, Tokyo (2007, Figure 2. 5) was completed shortly before Kurokawa's passing, the museum located in Roppongi, Tokyo. The building's exterior consists of undulating curves and glass panels, creating a sense of transparency and fluidity. It serves as a significant cultural hub, hosting various art exhibitions and events.

Figure 2. 5: The National Art Center, Tokyo

These examples demonstrate Kurokawa's continuous passion for organic forms, adherence to ecological design principles, and conviction that architecture and its environment coexist. His works frequently aimed to establish harmonic links between buildings and their surroundings with the vision for a more connected and sustainable urban future.

2.3 The Influence of Japanese Modernism on Thailand and Southeast Asian Architecture

During the 1960s - 1980s, Japanese Modernism gained popularity globally. At the same time, Thailand transformed from an agricultural-based country to an industry-based economy. Many educational institutes, research, and training centers were established all over Thailand, either with the World Bank's or the Japanese government's support, to create a new highly skilled workforce and propel new economic needs. Along with the financial and technical assistance, new facilities funded by the Japanese government also employed Japanese architects or design firms and introduced Japanese Modernism to Thailand. Xue and Xiao (Xue and Xiao, 2014) mentioned that as long as Japanese architectural designers take the initiative in leading independent criticism when exploring new Asian architectural frontiers, Japanese architecture will continue to influence the tropical Southeast Asian area.

Among Thailand's early Japanese architectural designs were the prototypes of Vocational Schools (1966) facilities designed by Junzo Sakakura. The Thai government received aid from the International Bank for Reconstruction and Development (IBRD) under commitment to the international architecture firm for the project, to improve 25 vocational schools which increase human resources capabilities for the country's agricultural and industrial sectors. Among several international design firms such as Denmark, the USA, the Netherlands, etc., the IBRD committee selected Sakakura Associates architects and engineers to carry out the project (1966-1970). Waeovichian and Watanabe (2017) found that Sakakura used design attributes influenced by Le Corbusier such as the golden ratio and Pilotis in the vocational school design. Primary reviews of six modern JICA buildings projects constructed during the 1970s – 1980s included the cafeteria of the King Mongkut's Institute of Technology Ladkrabang (1970), the King Mongkut's Institute of Technology Ladkrabang (KMITL) 's auditorium (1974, Figure 2. 6), the Asian Institute of Technology (AIT) 's Central library building (1978, Figure 2. 7), Kasetsart University Kamphaeng Saen Campus (KU KPS) 's Central Laboratory and Greenhouse Complex (1978, Figure 2. 8), the Princess Maha Chakri Academic Center, King Mongkut's Institute of Technology Ladkrabang (1984, Figure 2. 9), and the Environmental Research and Training Center (ERTC) (1989, Figure 2. 10).

Figure 2. 6: The auditorium of KMITL (1974)

(Source: Vorrakan, 2011)

Figure 2. 7: The Asian Institute of Technology's Central Library Building (1978)

(Source: Nanta, 2021)

Figure 2. 8: Kasetsart University Kamphaeng Saen Campus's Central

(Source: Chiangsai, 2021)

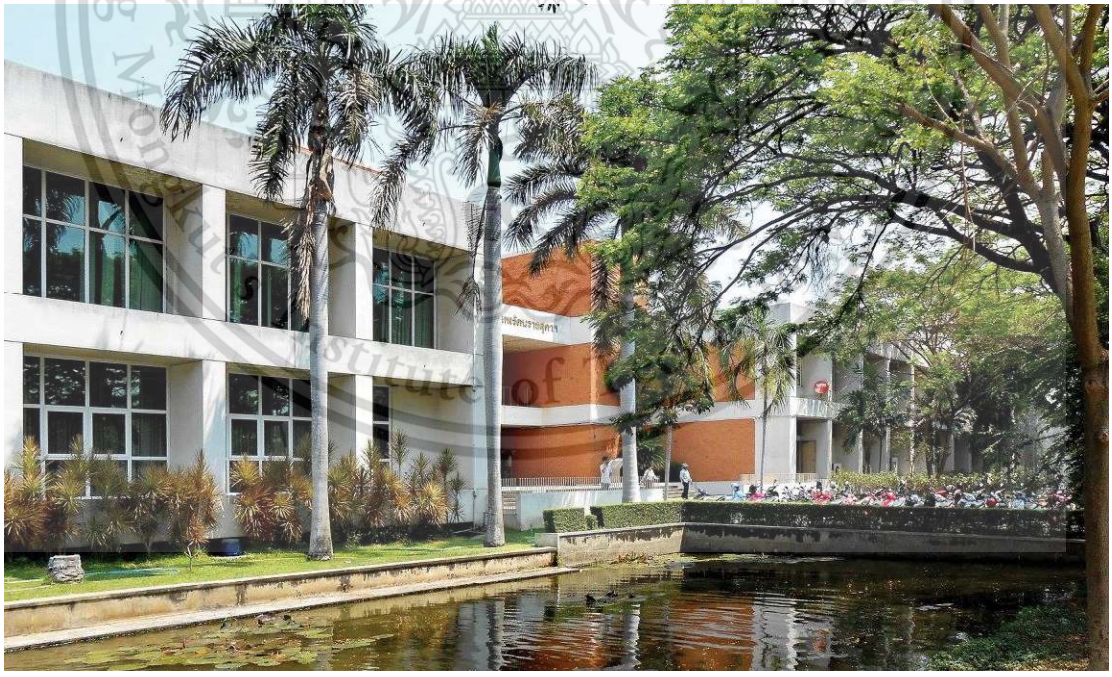


Figure 2. 9: The Princess Maha Chakri Academic Center, KMITL (1984)

(Source: Chiangsai, 2021)

Figure 2. 10: The Environmental Research and Training Center (1989)

(Source: Chiangsai, 2021)

The findings of Chiangsai and Nanta (2021) showed that common layout design characteristics that traced traditional Japanese design among these buildings included, a relatively symmetrical floorplan layout, arrangement of inward focus of the building occupants by a building enclosure around the courtyard, and visually limited main entrance that led to the openness of the main courtyard.

After World War II, Japanese architectural impact was limited to Thailand and other Southeast Asian Nations (ASEAN). Xue and Xiao and Xue et al., (2011) indicated that several Japanese architects contributed to 22 projects in Singapore during the 1970s, while the country accepted Japanese investments and technology transfers. Xue and Xiao (2014) also reported the contrast between Kenzo Tange and Fumihiko Maki's architecture and provided an example of how politics had placed the Japanese architects with ideas of symbolizing economic grandeur and national confidence. At that time, Maki, who was only interested in a well-functioning design with a less powerful iconic image would never be chosen in Singapore during the country's developmental state.

Kurokawa was very well recognized in Malaysia for his firm design of the world-class transit hub Kuala Lumpur Central concept. From this project, Kurokawa won the

Malaysia Award of Distinction 2002 and became the finalist for FIABCI International Prix d'Excellence 2003. Kurokawa's other works include the Main Building of Kuala Lumpur International Airport (1992) in the southern part of Kuala Lumpur, which received the International Dedalo Minosse Prize (Grand Prize) in 2003/2004 and the Green Globe 21 award in 2004. Thus, it was evident that Japanese architects had been very well received in Southeast Asia since the 1960s, and the number of works had reached the pinnacle during the 70s–80s and tapered off in the 90s due to the economic developments and interaction with the Japanese government.

2.4 Japanese Modernism and Tropical Climate Adaptation

Because of the significant difference in temperature, precipitation, and humidity between Japan and Thailand's climate; adaptation of Japanese architects' designs and architectonic details to cope with Thailand's tropical climate is necessary. Japanese Modernism made entry to Thailand in early 1960 through the JICA's funded projects. Several studies have been devoted to the investigation of design characteristics as well as the architectonic details that the Japanese architect used in the Tropical context. Several researchers explored Junzo Sakakura's Vocational School projects. Kume architects-engineer designed the King Mongkut Institute of Technology Ladkrabang's (KMITL) auditorium memorial hall (1974) and lecture hall compound (1983) to understand these ingenious techniques.

Chiangsai and Nanta (2021) showed standard design features of Sakakura's and Kume's Architect-Engineer such as efficient shading design roofing, placing the building toward east-west orientation, allowing windows on the south and north to obtain natural ventilation, and south side corridor to help alleviate the tropical heat and allow indirect sunlight in the classroom. Sawaki et al. (2018) used reinforced concrete as the building's construction material, and louvered windows and ventilation are used in the Sakura design in tropical zones. Pienroj et al., (2021) noted the other Kume’s strategies included double-layer and curved roofs, and double-layer walls to create air pockets that help buffer the heat from direct sunlight.

Chiangsai and Nanta (2021) also illustrated that the architect placed the building along the east-west axis leaving only the short side exposed to the sun and using

double-layer covered walkway roofing with a ventilation outlet to prevent overheating. To confirm these unique features of the Japanese Modernism design, further investigation is essential.

2.5 Characteristics of Japanese Architecture in Thailand

Previous studies found that from 1965-1989, there were more than ten Japanese Modernism buildings constructed in Thailand. This study chose only the Japanese modernism construction in the same period as the Institute of East Asian which was founded in 1984, which included; Kasetsart University Kamphaeng Saen Campus's Central Laboratory and Greenhouse Complex (1978), the Asian Institute of Technology's Central Library building (1981), the Princess Maha Chakri Academic Center, KMITL (1984), the Institute of Japanese Studies (1984), and the Environmental Research and Training Center (1989). This study aimed to investigate building characteristics in terms of background, architecture planning, and building material.

2.5.1 Kasetsart University Kamphaeng Saen Campus's Central Laboratory and Greenhouse Complex

Background

Kasetsart University, Bangkhen Campus, is a top educational institute in agriculture. Since the surrounding communities had changed from rural to urban, the university's facilities were almost at maximum usage due to increasing students and growing requirements that come together with the development of the economy and society of the country. In 1972 the administrators of Kasetsart University recognized that the Bangkhen campus was packed and needed expansion, the university development project was implemented to construct a campus in Kamphang Saen, Nakon Phatom.

Architecture planning

The central laboratory and greenhouse complex' building is connected to the common corridor (Figure 2. 11). There are research rooms and various laboratories. The corridors of each building are divided into three sections the central administration office, central biochemistry laboratory, and laboratory maintenance unit.

The main entrance of the building is on the north of the main road. The east and west sides of the building are parking areas. The building's form is rectangular in the direction of the east and west axes with natural ventilation.

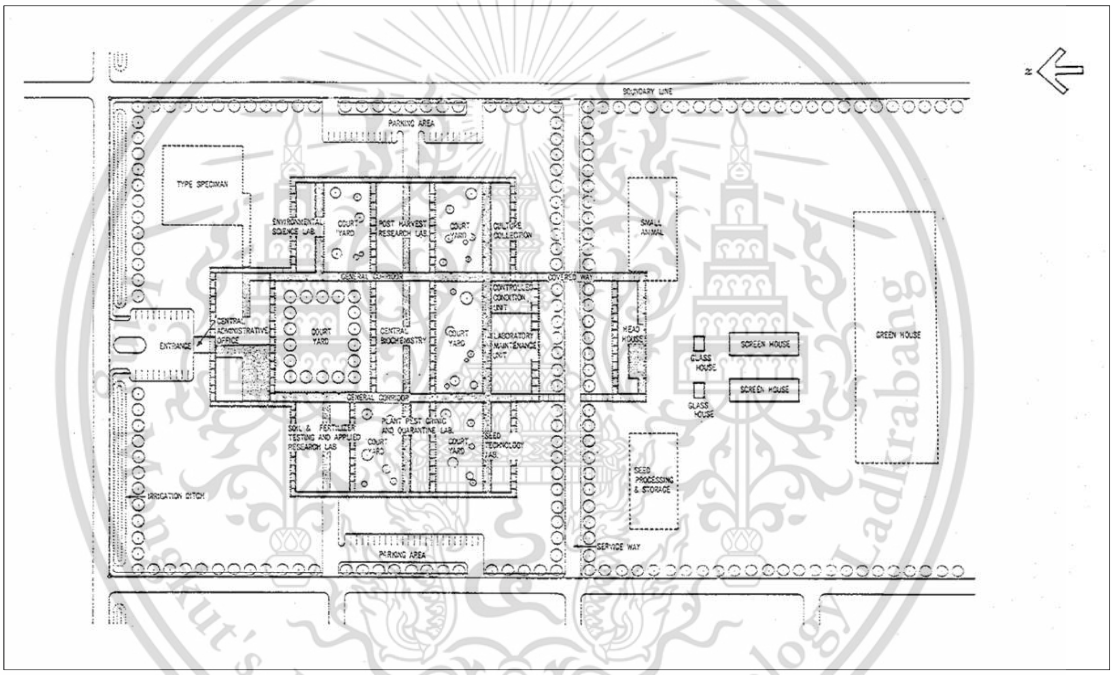


Figure 2. 11: Master plan of Kasetsart University Kamphaeng Saen Campus

(Source: JICA report, Preliminary Design for Central Laboratory & Greenhouse Complex of Kasotsart University Kamphaengsaen Campus in the Kingdom of Thailand, p.61)

Building material

The roof of the central laboratory and greenhouse complex is made from reinforced concrete. The area underneath the roof structure has been utilized as a heat insulator by the roof frame and shingles layer. With some holes on the top of the roof for heat dissipation, the roof sheet is made of corrugated asbestos cement sheets.

Thailand's heat radiation significantly impacts the exterior wall, therefore; the design considers all year-round seasonal southeast breeze direction. The design of a natural ventilation plan includes ventilation louvers, doors, and windows of local materials such as asbestos, glass, or aluminum. Exposed aggregate is also used on the exterior wall.

The prevention of shallow flooding interior floor must be adjusted above the exterior floor level and ceramic tiles are used to cover the interior floor.

2.5.2 Asian Institute of Technology (AIT) Central Library building

Background

AIT library was founded in 1959 at SEATO Graduate School, Chulalongkorn University. In 1977, the Regional Documentation Center (RDC) was established in the AIT Library. A new AIT library building was constructed in 1979 with the assistance of the Japanese government fund of US$4.6 million. The library opened on August 21, 1981. The AIT Library was severely impacted by the 2011 flood and lost many library materials (i.e., books and journals kept on the ground floor). After flooding, the building was rebuilt to be a modern library for faculty, researchers, and students.

Architecture planning

The library building has two stories and is placed on the north side of the institute, with an appropriate entrance (Figure 13). The AIT architecture planning is separated into three parts classrooms and laboratories, accommodations (student dormitories, and accommodation for instructors and staff of the institute), and office.

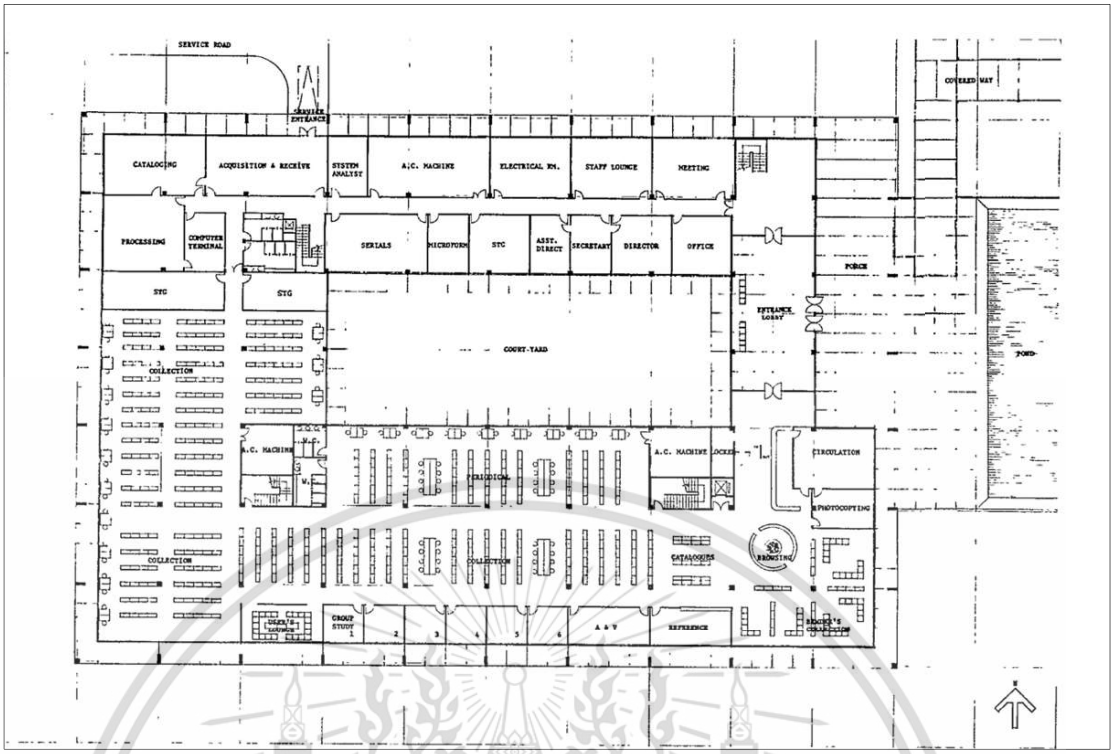


Figure 2. 12: The Asian Institute of Technology's Central Library Building

(Source: JICA report, Preliminary design of the library & media
Building Asian Institute of Technology, p.88)

The Asian Institute of Technology has been designed using a structural system, and the structure of the library building is the relationship between structure and space.

Building material

One element that is significantly impacted by sunlight is the roof of the library. "Double Roof Method," is the roofing system applicable to the library building by using air space under the composite roof to heat the roof tiles.

The structures of the building are made of reinforced concrete. The internal floor plan is a flexible design using movable partitions. The external wall surface is exposed to aggregate finishing by local skilled workers. Floor materials are PVC tiles and terrazzo. Soundproof rooms line up with carpets.

2.5.3 Princess Maha Chakri Academic Center, King Mongkut's Institute of Technology Ladkrabang

Background

Over 3,000 students were enrolled in bachelor's, master's, and doctorate programs at King Mongkut's Institute of Technology Ladkrabang Campus. Faculties in the university included Engineering, Architecture, Education, Industry, Science, and Agricultural technology. The institute expanded to accommodate more students and offer additional courses. As a result, the Japanese government asked JICA for a 400-million-baht (3,690 million Japanese yen) fund to construct a school and learning equipment.

Therefore, the KMITL of Her Royal Highness Princess Maha Chakri Sirindhorn was constructed in 1984 and completed in 1986 by Kume Architects-Engineers and Takenaka Komuten Co., Ltd.

Architecture planning

Princess Maha Chakri Academic Center is a 5-stories building approximately 200 meters long with 1800 pax. lecture hall and a laboratory (Figure 2. 13). The floor plan consists of 3 groups of buildings: the central administration building, the central lecture room/laboratory/information center building, and the student Hall.

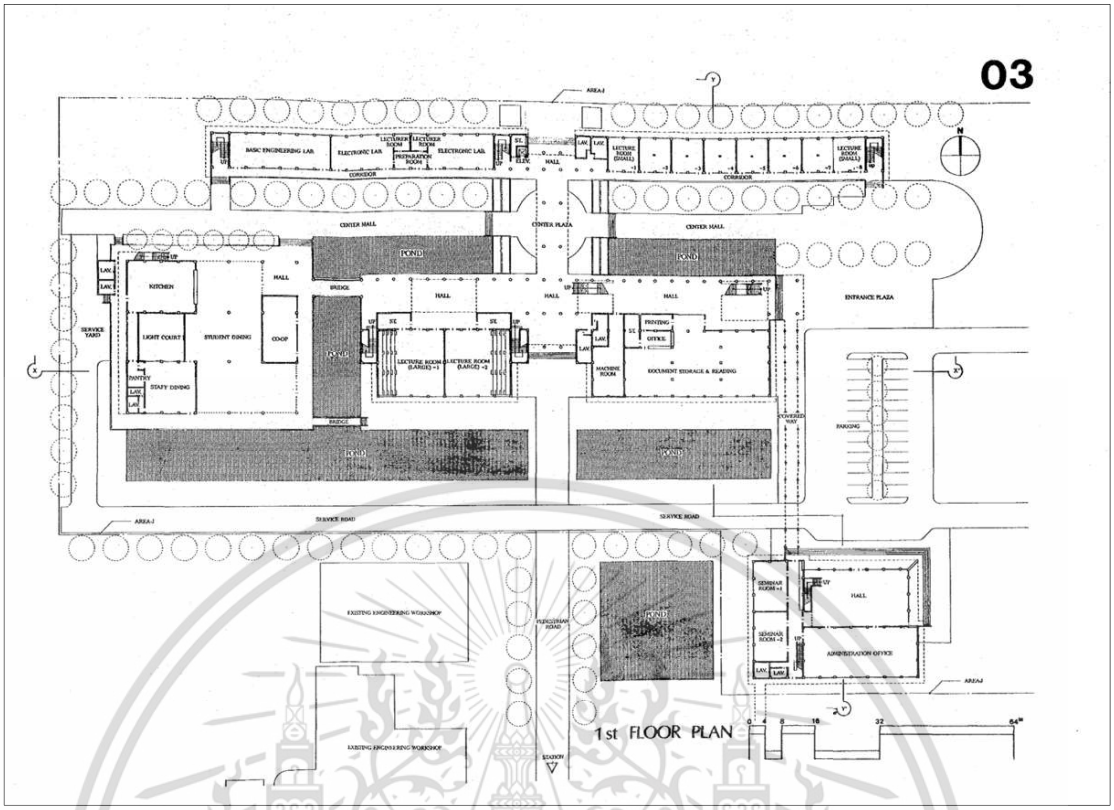


Figure 2. 13: Master plan of the Princess Maha Chakri Academic Center, KMITL

(Source: JICA report, Basic design study on constructing the lecture room building King Mongkut's Institute of Technology in the Kingdom of Thailand.)

Building material.

The roof tiles of the buildings are made of asbestos to prevent heat from sunlight. The external exposed aggregate painted walls are made of clay bricks and terrazzo in the same tone of color.

2.5.4 The Environmental Research and Training Center

Background

Since the influx of farmers who have lost their jobs and the movement of workers from rural areas to Bangkok's manufacturing sector, the population of metropolitan Bangkok has been increasing dramatically. As a consequence, many negative impacts on Bangkok include the growth of slum areas, severe traffic jams, the degradation of public services, and pollution. The Environmental Research and Training Center was

established to mitigate those negative impacts by research and development. The center consisted of facilities covering the environmental conservation research department, environmental conservation training department, environmental monitoring department, accommodation area for trainees, and administrative functions area.

Architecture planning

The building's design focused on the layout of the corridor by adding a side corridor to the main corridor that cannot provide adequate natural ventilation and lighting. The application of side corridors aimed to reduce air conditioning costs and enhance natural ventilation and lighting (Figure 2. 14). Because of adding a side corridor, the total corridor length is longer than usual. A gallery at the courtyard provides quick access between blocks, and secure natural ventilation and privacy of each block.

All of the blocks on one side of the courtyard are connected to the entrance hall, and the nine cores of the building make the interior noticeable. Common facilities such as stairs, lavatories, storages, etc., are located at these cores for easy access and utilization.

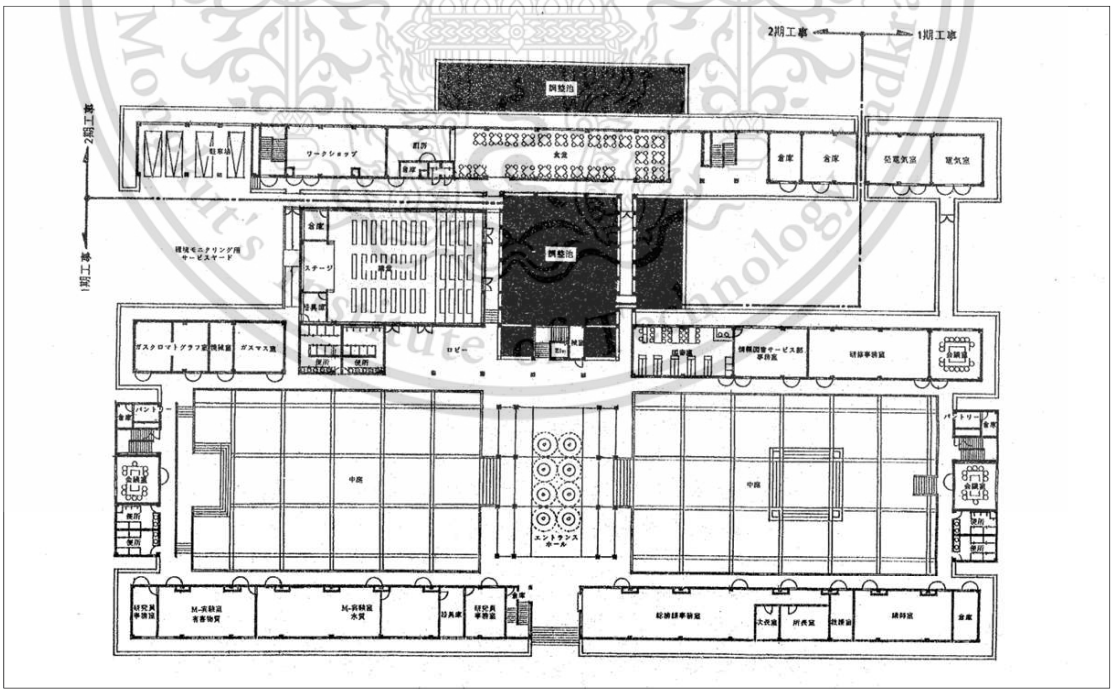


Figure 2. 14: Master plan of the Environmental Research and Training Center

(Source: JICA report, Basic design study report on the project for the establishment of the environmental research and training center in the Kingdom of Thailand., p.138)

Building material.

The upper structure of the building is made of reasonably priced reinforced concrete that is popular in Thailand. The exterior wall is made of exposed aggregate that is easy to maintain and typically used in Thailand—materials for interior finishing based on specific needs and finishing materials.

CHAPTER 3

METHODOLOGY

This chapter describes the research methodology of the current study with four main sections as follows:

3.1 Research design

3.2 Informant & Recruitment

3.3 Data Collection & Instrument

3.4 Data Analysis

3.1 Research Design

The Institute of East Asian Studies building is not the only Japanese Modernism building in Thailand, but it is the only Japanese Modernism building designed by Kurokawa, therefore: this research investigates the Institute of East Asian Studies architectural identity. The aims of this study were also to investigate the types and levels of damage incurred, the functional change at the Institute of East Asian Studies after the renovation, characteristics of the structures in common with other modern Japanese architecture in Thailand, and characteristics of the Institute of East Asian Studies structures in common with contemporary works of Kurokawa. A case study was used as a primary factor. Historical research and case study research were used as parts of research designs in this study.

A qualitative approach and triangulation were applied to the study. Triangulation is the application of multiple methods or databases to develop an inclusive understanding of phenomena (Patton: 1999) and can confirm validity through the merging of data from a variety of sources. Triangulation can be categorized as method triangulation, investigator triangulation, theory triangulation, and data source triangulation (Denzin: 1978). This study presented four types of triangulations using multiple methods such as documentaries from different sources and case studies, observation of different sites, and one-on-one interviews to collect data. In addition, many architectural theories were reviewed. Data was analyzed using descriptive

thematic analysis such as content analysis and narrative analysis. Details of the study will be described as follows.

3.2 Informant & Recruitment

Since the Institute of East Asian Studies is the only building designed by Kurokawa in Thailand, this study focused on the institute community and recruited key informants from the community. One-on-one interviews aimed to collect information from a wide range of people including community leaders, professionals, or residents who have first-hand knowledge about the community. With their particular knowledge and understanding, these community experts can provide insight into the nature of problems and recommend solutions. Five key informants were recruited as follows:

Preservation & renovation architect

- Mr. Apinant Phongmethakul, Lecturer of Architecture Faculty of Architecture and Urban Planning, Thammasat University (2003-2016)

The Institute of East Asian Studies facility manager

- Mrs.Thapanee Chueamueangphan, Operational Studies Academics
- Mr. Wachira Rodruay, Audiovisual scholar specialization, Head of Administration and Administration
- Mr. Sittichai Panseth, Audiovisual scholar specialization
- Mrs. Natenapaporn Petchpueng, General Administration Officer and Head of Academic Services

3.3 Data Collection & Instrument

Data collection and instruments of the study included archival study, observations, site measurement, and one-on-one interviews relating to the Institute of East Asian Studies architecture and history. Details of data collection and procedures are as follows:

3.3.1 Archival Study

The archival study is based on literature reviews of specific documents relevant to Kisho Kurokawa such as the influence of Japanese modernism in Thailand and Southeast Asia, Japanese modernism and tropical climate adaptation, characteristics of Japanese architecture in Thailand, and JICA fundamental reports.

3.3.2 Observation

To find a restoration process of the Institute of East Asian Studies, observation was used to collect information on architectural details such as building layout, renovation areas, and materials used. Observation instruments included a camera, tripod, and notebook.

3.3.3 Site measurement

After observation, details of the building were specified during the site measurement phase that can describe the proportions of architectural components. Site measurement equipment such as tape measurement and notebook were used.

3.3.4 One-on-one interviews

Appointments with key informants were set up for one-on-one interviews as the follow-up to observation, site measurement, and literature review. Because of the COVID-19 pandemic, two types of interviews were conducted, online interviews and on-site interviews. A site interview was carried out to ensure that the material was understood completely and precisely.

A semi-structured interview was constructed in Thai (Appendix A) with a set of questions for online interviews. On-site interviews used a direct-unstructured method. In exploratory investigations, unstructured-direct interviews are frequently employed. These interviews are beneficial in clarifying the issues and identifying the areas. The interview device included a computer with Zoom application and voice recording.

3.4 Data Analysis

Collected data from documents and records, observations, and one-on-one interviews were analyzed, classified, and interpreted based on research questions. Descriptive thematic analysis such as content analysis and narrative analysis were applied to interpret the data and clarify types and levels of damage incurred, functional change at the Institute of East Asian Studies after the renovation, characteristics of the Institute of East Asian Studies that are in common with other modern Japanese architecture in Thailand and characteristics of the Institute of East Asian Studies that are in common with the contemporary works of Kurokawa.

Content Analysis is the most commonly used and generally accepted method of data analysis in qualitative research to describe the information that has been recorded in text, images, and occasionally physical objects. Narrative Analysis is applied to analyze data from a variety of sources such as surveys, interviews, field observations, and people's tales or opinions.

1. What is the design element identity of the Institute of East Asian Studies' buildings?
2. What are common architectural characteristics of Kurokawa's design in Japan from the same era as the Institute of East Asian Studies' buildings.?
3 What methods might the tropical region apply Japanese Modernism to architectural design theory and practice?

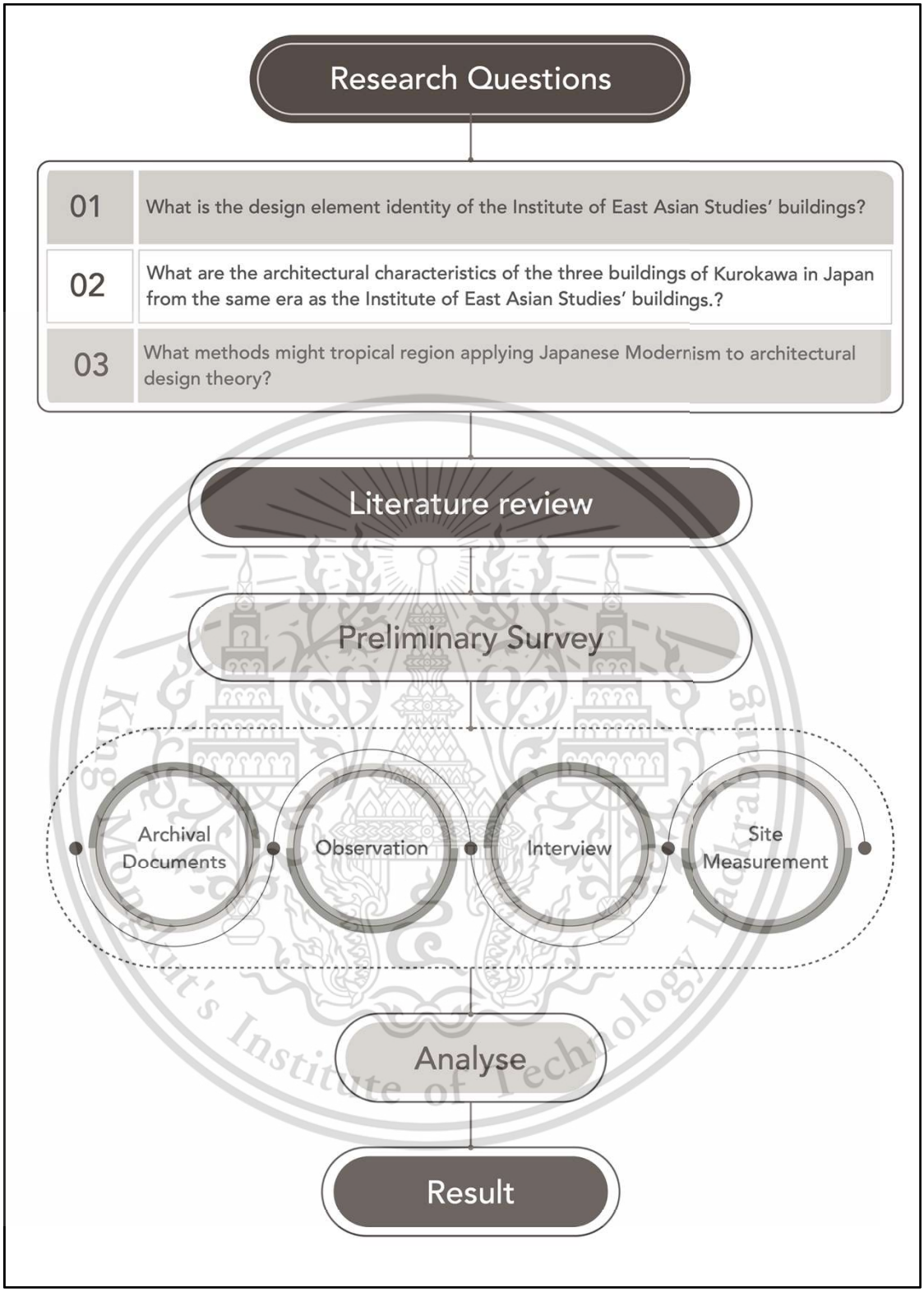


Figure 3. 1: Methodology Diagram

CHAPTER 4

PHYSICAL CONTEXT OF THE CASE STUDY

This chapter described the physical context of only Kurokawa's design in Thailand and Kurokawa's design in Japan at the same period. Those Kurokawa works included the Institute of East Asian Studies, Thailand; the National Museum of Ethnology, Osaka; the Saitama Prefectural Museum of Modern Art, Saitama; and the Nagoya City Art Museum, Aichi.

4.1 The Institute of East Asian Studies

Background

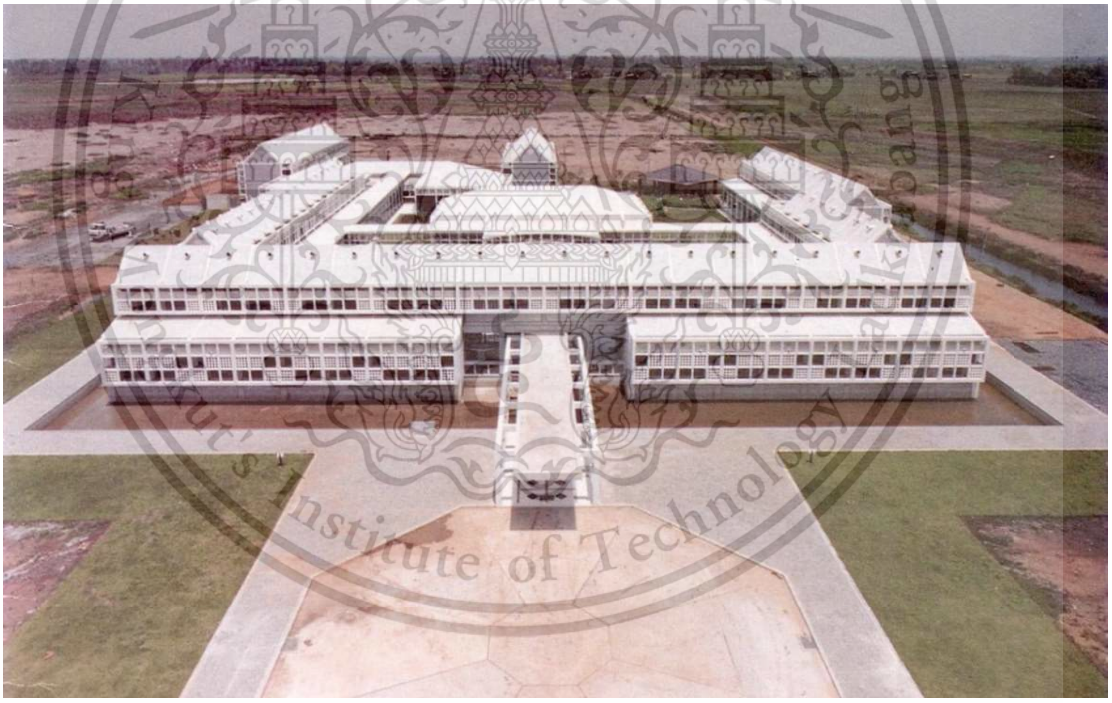


Figure 4. 1: The Institute of Japanese Studies (the Institute of East Asian Studies) Thammasat University, Rangsit campus

(Source: Booklet from the opening of the Institute of Japanese Studies)

The Institute of Japanese Studies (Figure 4. 1) in Thailand was established to serve Japanese research and studies activities at Thammasat University. It was meant

to be the first advanced Japanese language institute and the center to provide up-to-date information about Japan to the Thai public. The Institute is located in the Rangsit Campus of Thammasat University (Figure 4. 2) Pathum Thani province, the northern border of the Bangkok Metropolitan area (Figure 4. 3).

The Shimizu Construction company constructed the building compound with a budget of 1,150 million yen on the rice field of the Rangsit area. The Institute was among the very first buildings in the Rangsit campus of Thammasat University. After 12 months of construction, the Institute opened to the public in 1984 and transformed into the Institute of East Asian Studies in 1987 to provide education and information relating to East Asian culture to Thammasat University students and the public

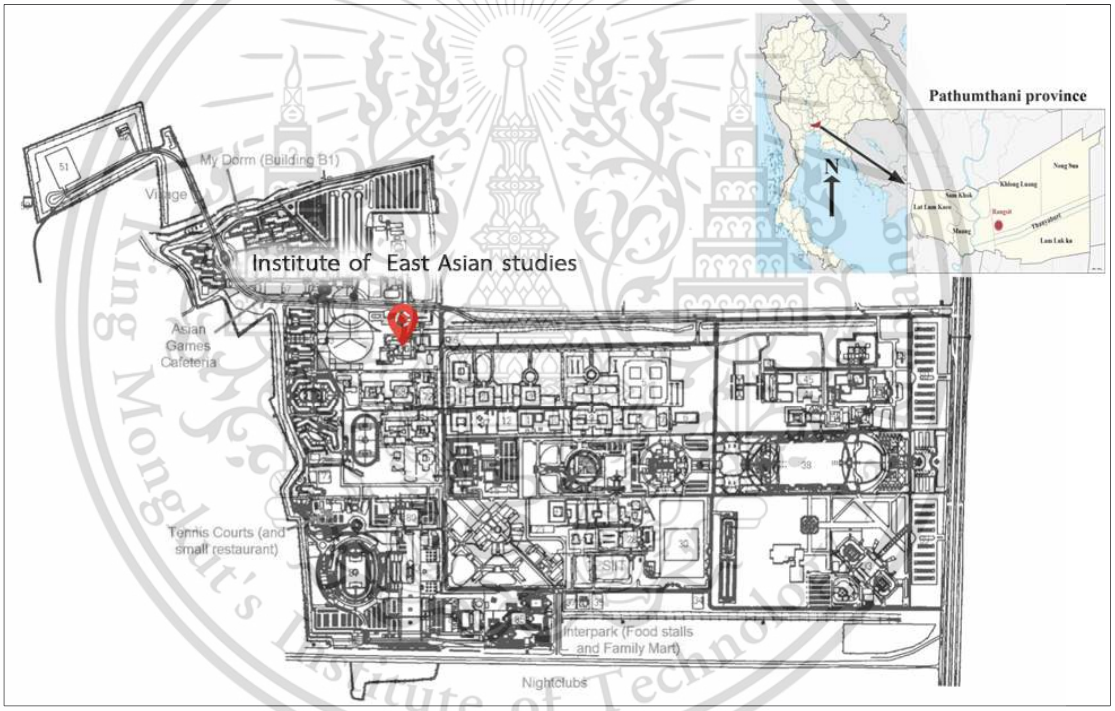


Figure 4. 2: Thammasat University, Rangsit campus

(Source: https://sandilands.info/sgordon/top-3-things-i-hate-about-thailand-2-beer-at-thammasat)

Figure 4. 3: Location of Thammasat University, Rangsit campus (Right)

(Source: https://sandilands.info/sgordon/top-3-things-i-hate-about-thailand-2-beer-at-thammasat)

Why and how Kurokawa was selected to be the architect for this project was not indicated in JICA's feasibility study. However, the report succinctly indicated the intention to combine traditional and modern design to express the modern outlook while preserving the Japanese appearance and atmosphere. The traditional characteristics of the building, including form and layout, were drawn from the Shinden Zukuri (寝殿造) and Garan Haichi (伽藍配置) layouts (Figure 4. 4). Situated behind the compound, Kurokawa added a traditional-looking teahouse with modern construction techniques and a Japanese garden to enhance the Japanese cultural experience for users.

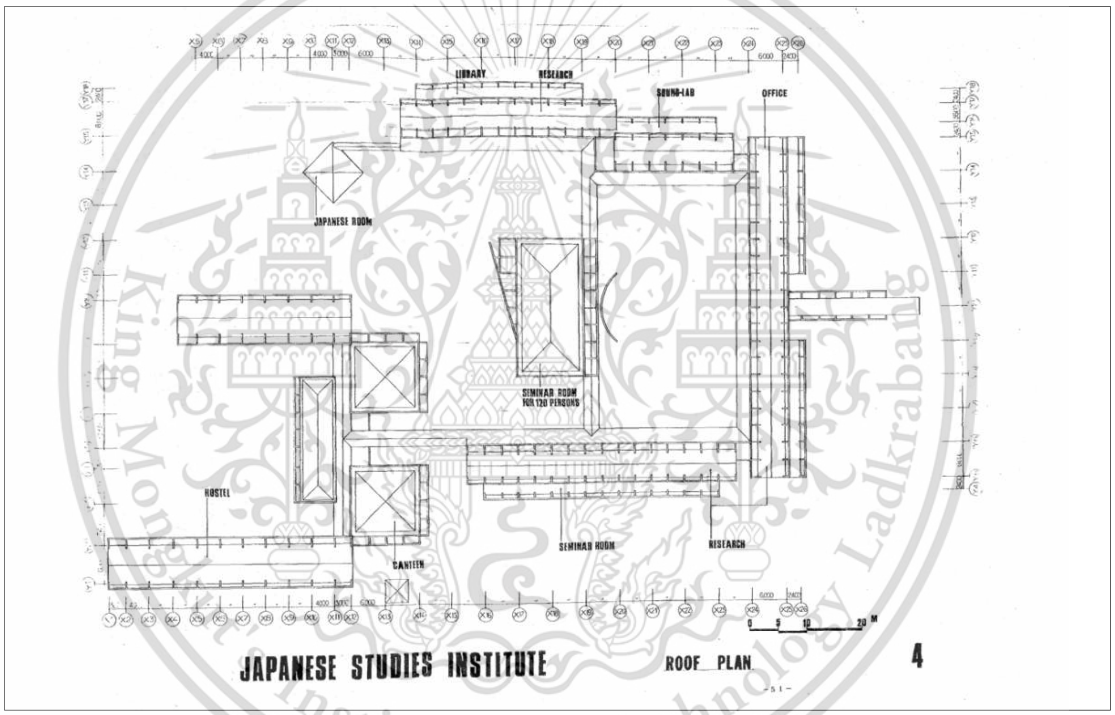


Figure 4. 4: Footprint of the Institute of East Asian Studies Site Plan showing.

(Source: Original footprint of the Institute of Japanese Studies)

Zoning

The two-story structure of the Institute of Japanese (East Asian) Studies offers 4,723.6 sqm. Area of usage to fulfill its intended purposes, the functions of the Institute consisted of offices, meeting rooms, a printing room, storage, a ballroom, a restaurant, a 120 sqm. seminar hall is fully equipped with a functioning translator booth, a 20-seat

library, a references room, publication shops, various size classrooms, laboratories, and a dormitory for researchers (Figure 21, 22, 23)

Building material.

The building's sloping roof was designed to support the weather in Thailand. The material used is concrete with thermal insulation. The outer wall is a two-layer reinforced concrete wall with exposed aggregate finish. The interior wall is a partition concrete block wall. The floor material is terrazzo. The Japanese houses in the project are all wooden works. Furthermore, conference rooms added sound-absorbing borders.

Figure 4. 5: Color of zoning

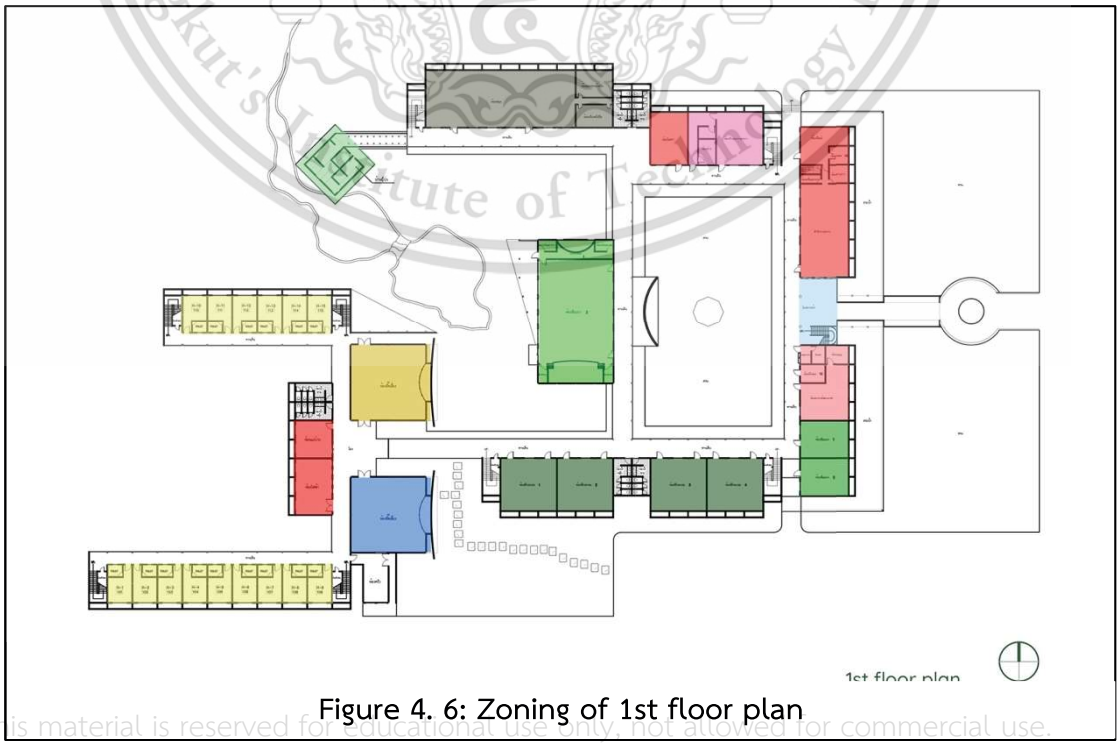


Figure 4. 6: Zoning of 1st floor plan

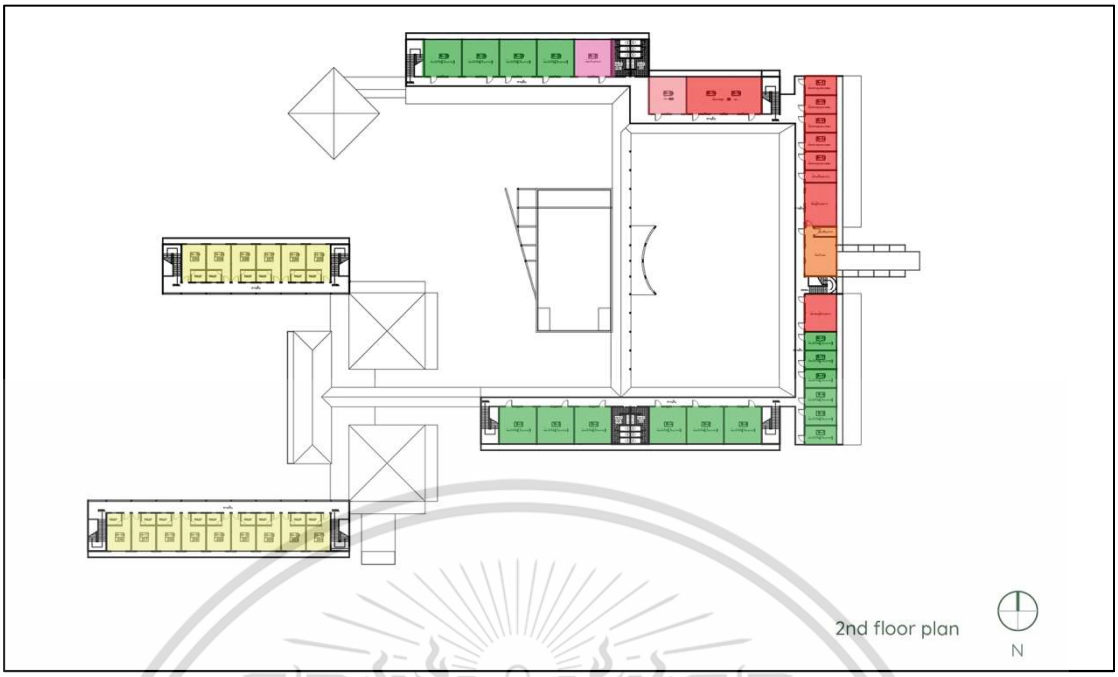


Figure 4. 7: Zoning of 1st floor plan

4.2 The National Museum of Ethnology, Osaka

Background

The Minpaku, Japan's National Museum of Ethnology (Figure 4. 8, 4. 9), was established in 1974 and welcomed visitors in 1977. It was the first National Museum of Ethnology that served as both museum and research center rather than a refurbishment of an already-existing building.

The National Museum of Ethnology features a laboratory concerning cultural anthropology and ethnology that was inaugurated as a part of the Expo'70 Commemorative Park and Minpaku. Since academics have studied every region of the globe using around 280000 locally sourced things, the museum presents and introduces numerous ethnic cultures and their daily living. The main building's exhibit features display several regions' cultures such as Oceania, America, Europe, Africa, and Asia, as well as displays the link of various cultures via music.

Figure 4. 8: The main entrance of the National Museum of Ethnology, Osaka

Figure 4. 9: The National Museum of Ethnology

Zoning

The 40,000 square meters (Figure 4. 10) of the museum's area is divided into 40 meters via 40-meter exhibit units by Kurokawa design and sparing space for future growth to the east and west wings. The 1600 square meters exhibition unit is square in design with a central courtyard (Figure 4. 11) that can serve queueing movement. Following the completion of Minpaku in 1977, the exhibition hall, auditorium, and unique exhibition hall were undergoing substantial expansion in 1979, 1981, and 1989. Since then, the museum has improved its display area and keeps repairing itself in the context of metabolism.

Building material

The project method is similar to the lattice-like structure of various cultures and civilizations, and the architectural concept of the building features highly flexible grids. The structure itself is a complex of many overlapping borders (Figure 4. 12). Extruded from structural steel are the outside walls and borders made of aluminum tubing, dramatically expressing flat roofs and floor lines. In contrast, the site has pleasantly undulated green slopes. The main highlight is the horizontality of the architecture. The building blends in with and highlights the show materials, colors are arranged in the Rikyu gray, a traditional hue in Japan.

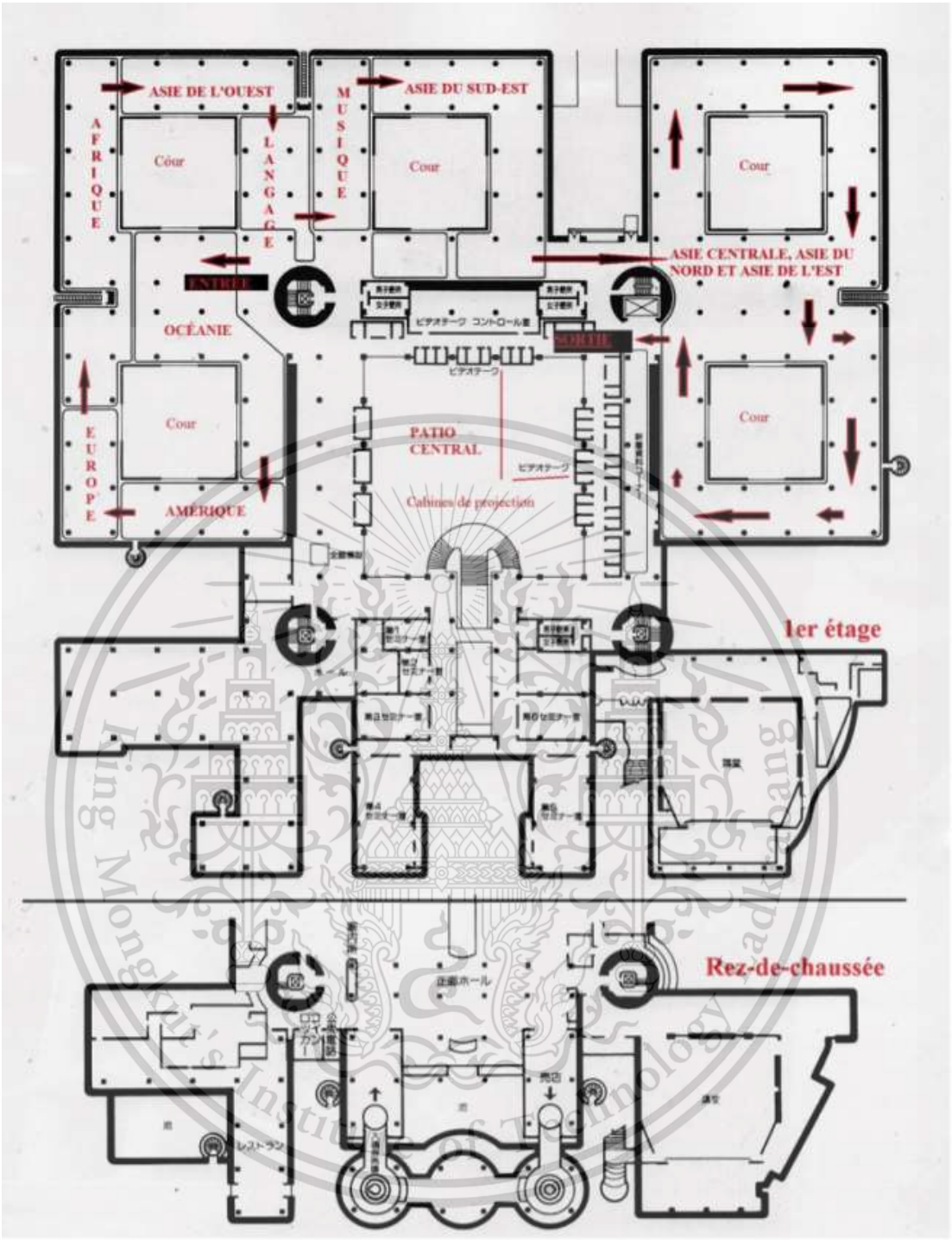


Figure 4. 10: The National Museum of Ethnology Planning

(Source: https://www.politika.io/en/article/denying-empire-the-national-museum-of-ethnology-in-japan)

Figure 4. 11: The National Museum of Ethnology's central cord

Figure 4. 12: The National Museum of Ethnology's Building material.

4.3 Saitama Prefectural Museum of Modern Art, Saitama

Background

On November 3, 1982, the Museum of Modern Art (Figure 4. 13), Saitama, opened amidst the greenery of Kita-Urawa Park. The first art museum was designed by Kurokawa Kisho and known as MOMAS (The Museum of Modern Art, Saitama). The museum's distinctive feature of "The Chair Museum" moniker with the interior furnished with many colors, sizes, and styles of chairs.

MOMAS hosts special exhibits that focus on specific subjects and showcase a collection of exquisite artworks by contemporary Japanese artists such as Urawa, as well as modern Western artists' masterpieces such as Picasso and Monet.

MOMAS also offers a variety of activities for people who appreciate art such as children's activities and chances for residents to exhibit their works. Bring a picnic lunch, having sunbathe in the park after visiting the Museum of Modern Art.

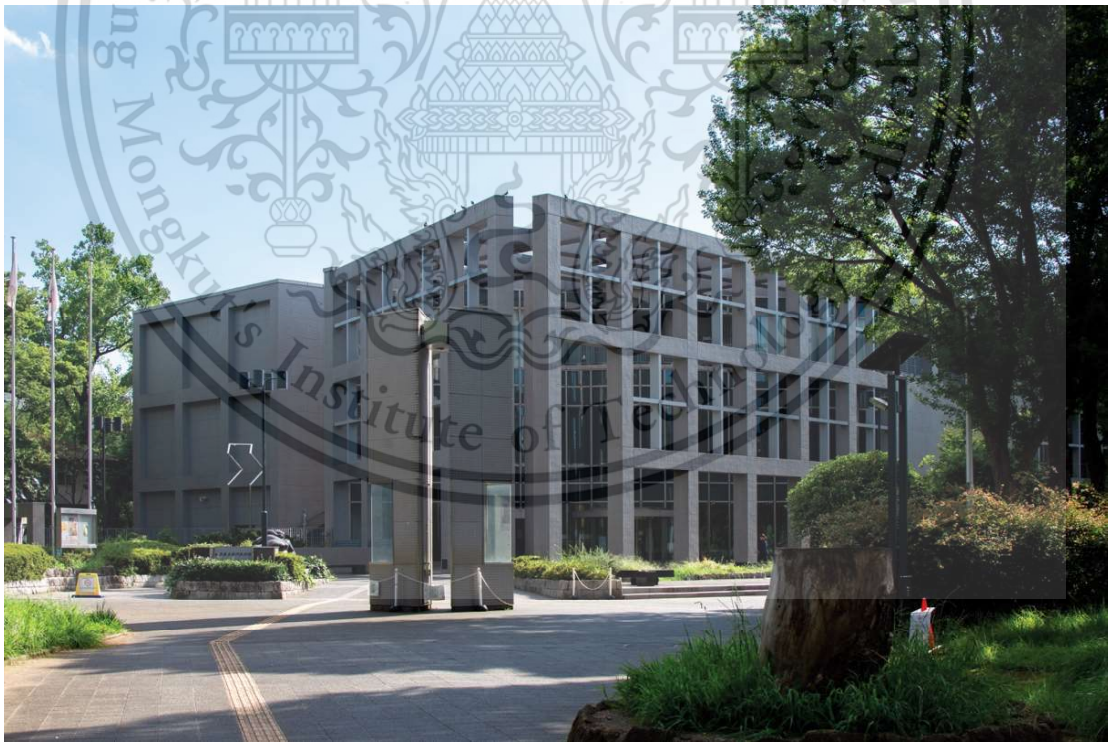


Figure 4. 13: The Saitama Prefectural Museum

Zoning

Constructed in the middle of Kita-Urawa Park, the museum of 15-meter height limit, designed to include the landscape's historically significant tree rows. The special exhibits are on the first and second floors of the building, while the museum's permanent collection is presented in the basement. A sunken garden is set up to connect the park (Figure 4. 14) and the hill to allow natural light in the lobby of the permanent collection exhibition.

In addition, to making the route easy to follow and enabling guests to view and be seen by visitors on the opposite side, the display pathway loops around the atrium. There are museum concert halls, lecture and meeting rooms, and workshops where parents and children can participate and appreciate the arts. Visitors can also enjoy the museum shop with art books and goods and dine in authentic Italian cuisine restaurants.

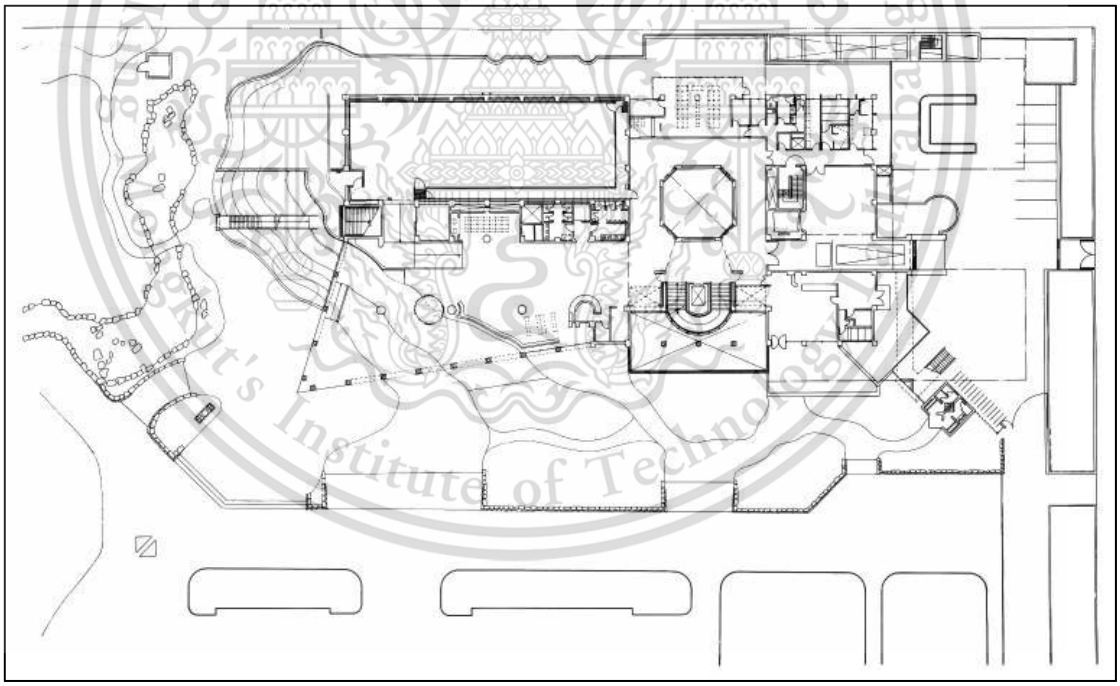


Figure 4. 14: The Saitama Prefectural Museum of Modern Art Planning

(Source: https://images.lib.ncsu.edu/luna)

Building material

Saitama Prefectural Museum of Modern Art's building has a grid-like general form, with a birdcage-like structure at the front porch and main entrance (Figure 4. 15) that serves as a transitional zone of interior and exterior. The building's façade curving wall, the wave-like glass softens the rigidness of the grid design.

Through a portion of this glass façade (Figure 4. 16, 4. 17), the second-floor galleries are exposed to natural light and a spectacular view of Kita-Urawa Park. The atrium in the middle of the structure opens from the first floor to the third floor and the glass ceiling that allows natural light is a special area for hosting museum concerts and exhibiting excellent acoustics and hanging artworks.

Figure 4. 15: The Saitama Prefectural Museum's façade

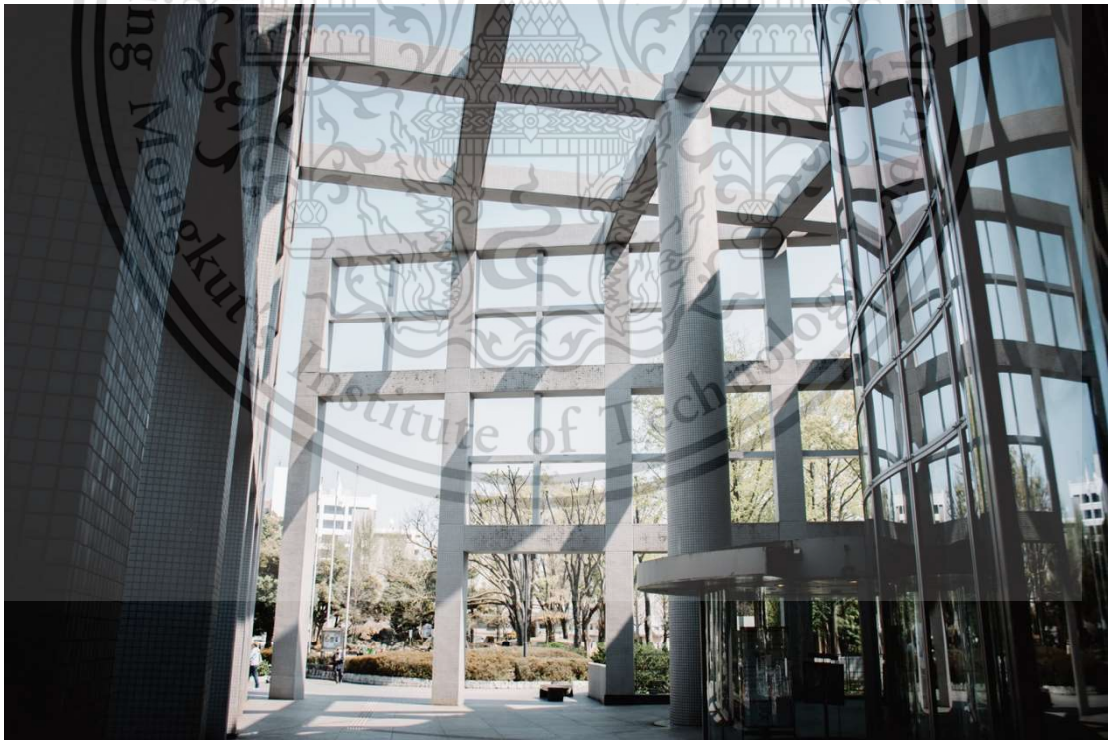


Figure 4. 16: The glass façade of The Saitama Prefectural Museum

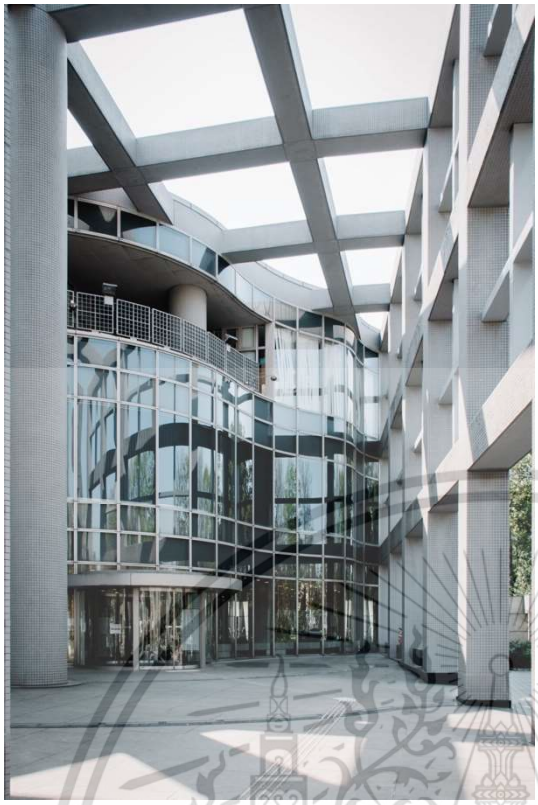


Figure 4. 17: Main Entrance

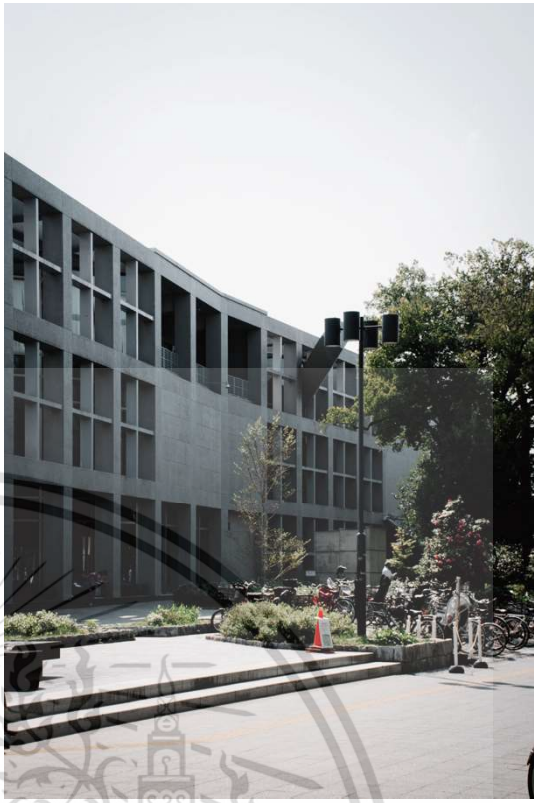


Figure 4. 18: The Façade of The Saitama Prefectural Museum

4.4 Nagoya City Art Museum, Aichi

Background

The Kisho Kurokawa-designed Museum (Figure 4. 19) debuted in 1988 in the tranquil surroundings of Shirakawa Park in the heart of Nagoya. The museum combines a Temporary Exhibition Gallery for one-time events, and traveling exhibits with a Permanent Collection Gallery that showcases some of the museum's approximately 6,000 works of art, including Modigliani's Girl with Pigtails.

In 1983, the Nagoya City Art Museum started amassing its collection. As a contemporary museum, the Nagoya City Art Museum's collection strategy is intended to track the development of regional creative and cultural endeavors. Based on this strategy, prominent artworks focusing on the artists of the Ise Bay region are called Nagoya's Cultural Zone. To follow each artist's artistic evolution, the well-known artists' masterpieces and art history have been gathered chronologically.

Figure 4. 19: Nagoya City Art Museum

Zoning

With over 7,230 square meters of space, the Nagoya City Art Museum consists of a gallery space hall, a temporary exhibition gallery, an auditorium, a library, a museum shop, a coffee shop, and other facilities provided by the museum. The central axis of the building runs directly from North to South, whilst the boundary to the west is formed by a beautiful tree-lined pedestrian road. An independent architectural structure consisting of posts, beams, and walls stands in front of the building as a symbolic gate and can be used for external displays (Figure 4. 20).

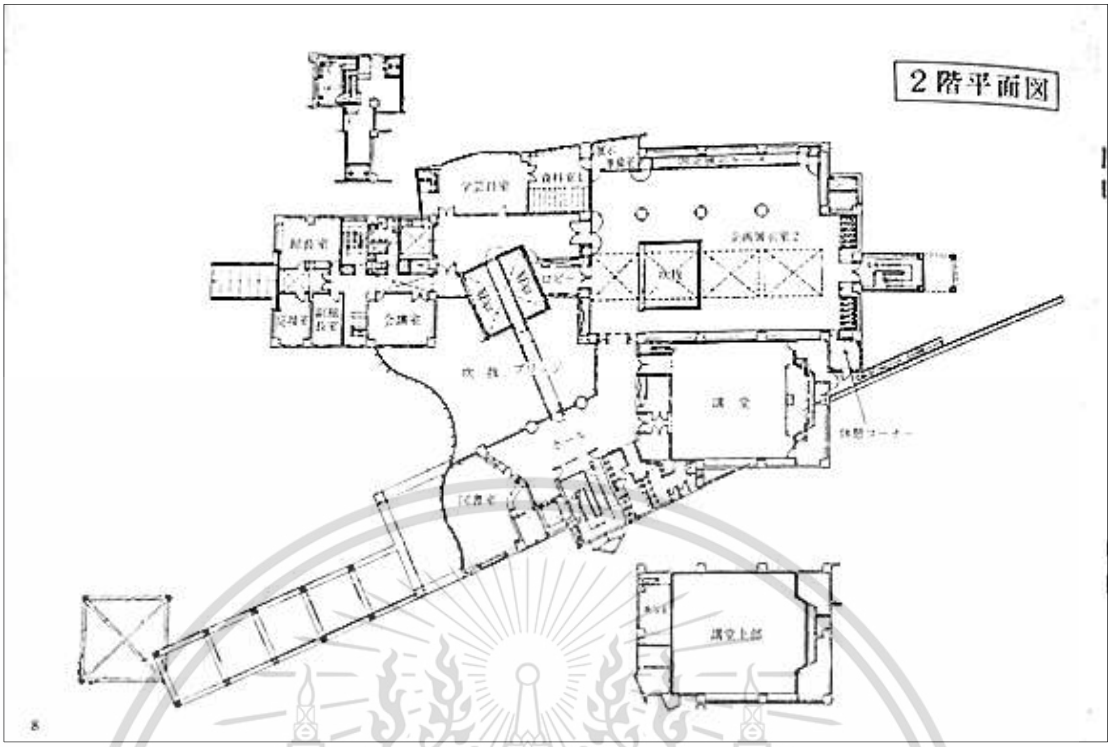


Figure 4. 20: The Nagoya City Art Museum Planning

(Source: https://page.auctions.yahoo.co.jp/jp/auction/q417389370)

Building material

With a symbolic gate and separate architectural structure of posts, beams, and walls sitting in front of the building (Figure 4. 21, 4. 22), the area can be used for outdoor exhibitions. A zone of the sizable sunken garden and the extended atrium/lobby in the basement with gently curved curtain wall, a façade that combines both conventional Japanese technology and contemporary expression created an unclear link between the outer and inner space.

Figure 4. 21: The Nagoya City Art Museum's facade

Figure 4. 22: The Nagoya City Art Museum (Back side)

CHAPTER 5

RESULTS

This chapter addresses the results of the study, which includes the architectural design element identity of the Institute of East Asian Studies' buildings, and architectural characteristics of the three buildings of Kurokawa in Japan from the same era (1970s to 1980s) as the Institute of East Asian Studies' buildings, and a Japanese modernism architectural conservation guideline applicable to tropical countries.

5.1 Architectural Design Elements Identities of the Institute of East Asian Study Building

5.1.1 Architecture planning

The East Asian Studies Center Complex is a classical Japanese-styled building with research and teaching facilities including an auditorium, a language lab, an audiovisual room, seminar rooms, researcher rooms, offices for administrative staff, and 30 twin-bed hostel rooms. The building is a 2-story integrating modern and ancient Japanese reinforced concrete construction surrounded by a lawn, garden, pond, and Japanese house (Figure 5. 1)

This building layout is called Shinden Zukuri, a style for Japanese nobles in ancient times, blended with Buddhist temple philosophy "Garan Haichi" or a building in the middle. The Institute of East Studies followed the Japanese tradition of Shinden Zukuri (寝殿造, Figure 5. 2) and Garan Haichi (伽藍配置, Figure 5. 3) layouts by putting the main conference room in the middle surrounded by other buildings on the four sides and connected by balcony. The majority of the buildings are positioned in the direction of the east-west axis of Thammasat University's Rangsit Campus Master Plan to allow better ventilation.

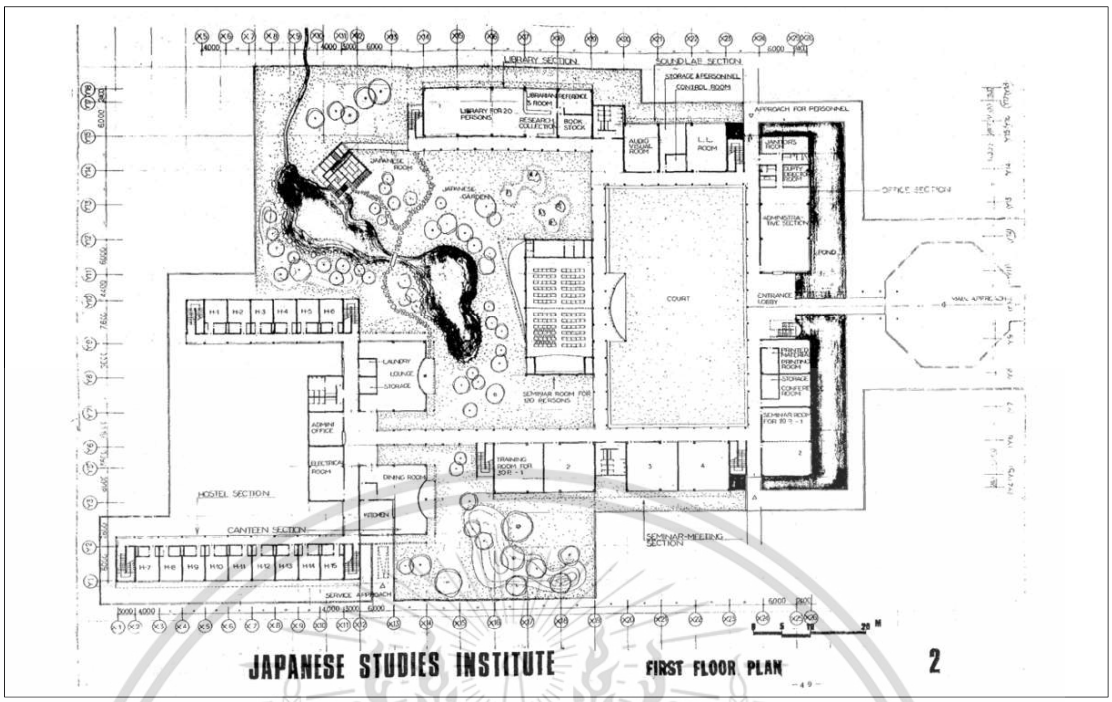


Figure 5. 1: Master plan of the Institute of East Asian Studies

(Source: Original footprint of the Institute of Japanese Studies)

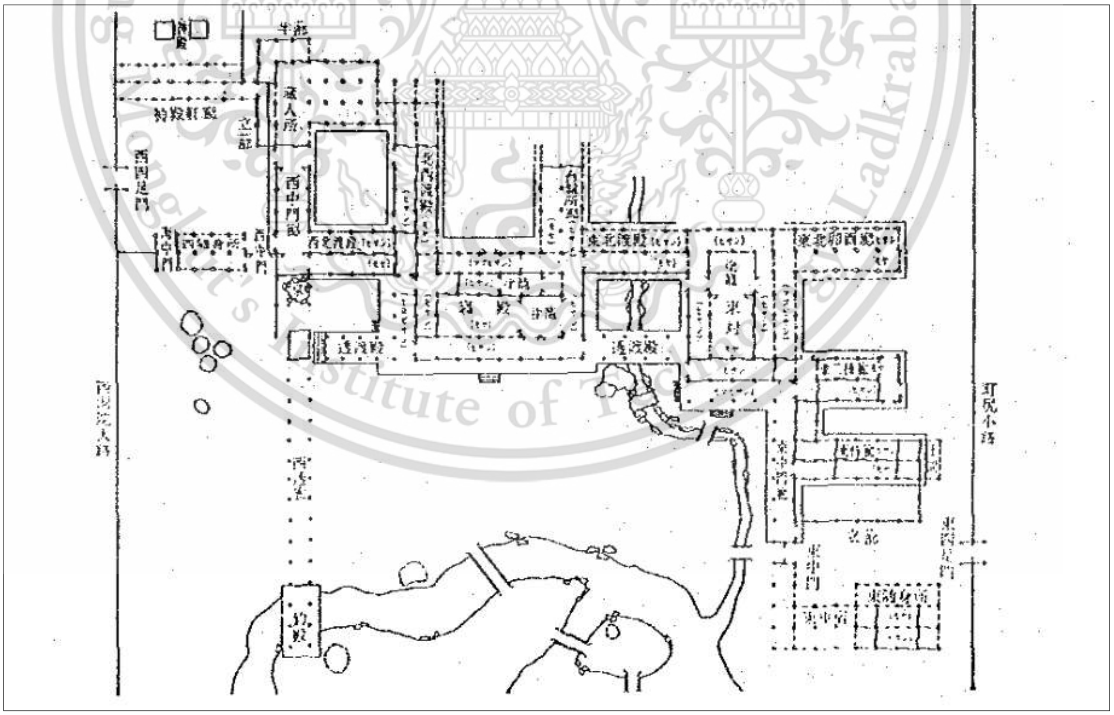


Figure 5. 2: The Shinden Zukuri (寝殿造) layout

(Source: JICA report, Basic design study report on the establishment of Japanese studies Institute of Thammasat University in the Kingdom of Thailand, p.27)

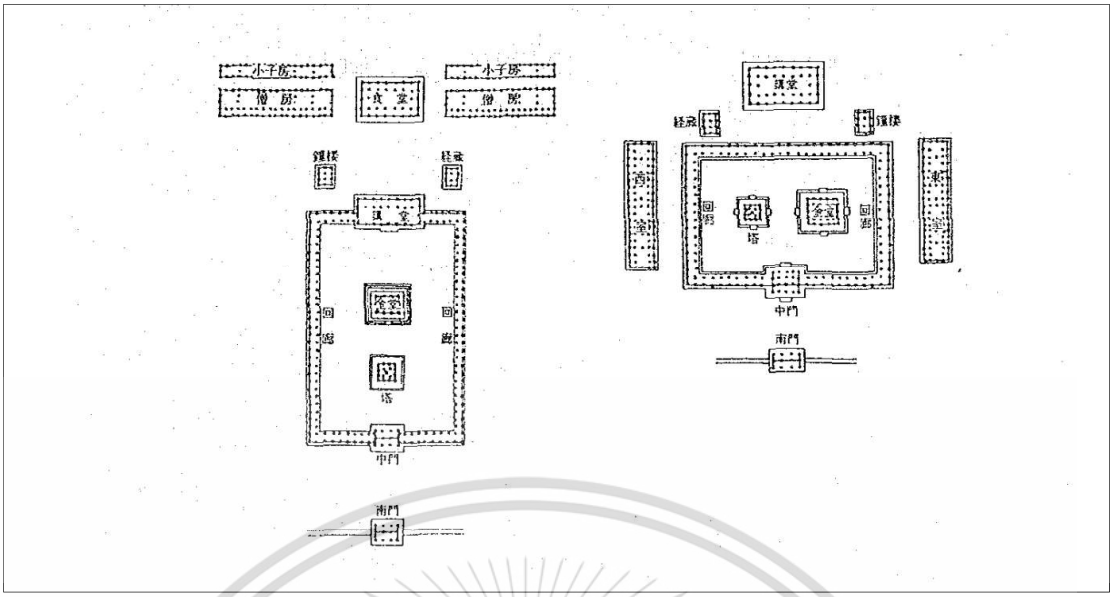


Figure 5. 3: The Garan Haichi (伽藍配置) layouts

(Source: JICA report, Basic design study report on the establishment of Japanese studies Institute of Thammasat University in the Kingdom of Thailand, p.27)

5.1.2 Design Characteristics

An outstanding characteristic of the building's exterior is lattice, and the 45-degree sloped roof creates a comfortable indoor environment against harsh sunlight and rain. A square grid-shaped lattice was also added to the façade and hall (Figure 5. 4).

Grid shape is referred to as Koushi (格子) and appears in the form of various objects within the institute such as seats, interior wall design, and floor design. The Koushi (格子) is an environmental controller in this project. This lattice also applies design elements found in traditional Japanese architecture. Small elements were added to the frame inside of this lattice square. The characteristics have been placed in the lower panel of the façade lattice such as the 5th, the 6th, and the 7th of the ninth channel, grids are alternately placed left and right next to each other. The upper layer is placed alternately in the 4th panel of the six slots.

There are four different grid types in the drawing footprints and the location of the grid is shown in Figure 5. 5. On the ground floor, six tiny square pieces were placed inside the frame of an A-type 3,000 × 3,000-millimeter square building. The majority of B-type apartments with 3,000 millimeters width x 2,000 millimeters height are located on the second floor.

Figure 5. 4: The facade lattice

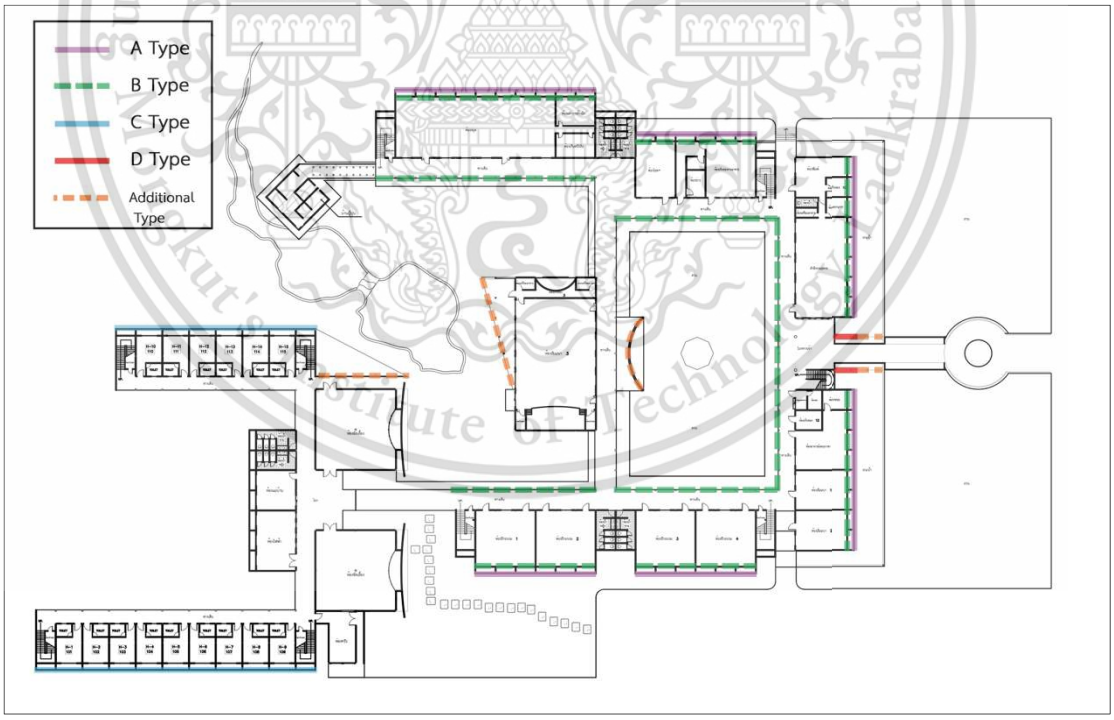


Figure 5. 5: The position of the grids

There are six little squares in the two C-type hostel buildings. The first building consists of 8 rooms and 12 rooms in the other building. The grids are 4,000 millimeters in length x 5,000 millimeters in height and separate lines of 2,000 millimeters from the bottom frame.

Finally, a D-type design was applied on both sides of the hallway's main entrance. The grid of D-type is a square grid of 3,000 millimeters x 3,000 millimeters in width. All of the grid wall designs are shown in Table 1.

Besides the four types of grids mentioned above, other types of grids are not distinguished from each other but are adjusted to enlarge the grid size or to reduce the elements (Table 2).

Table 5. 1: The Grid wall detail design

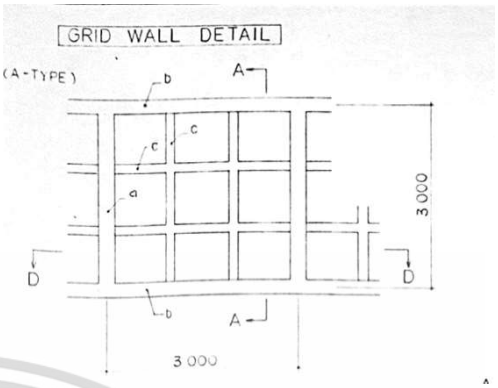
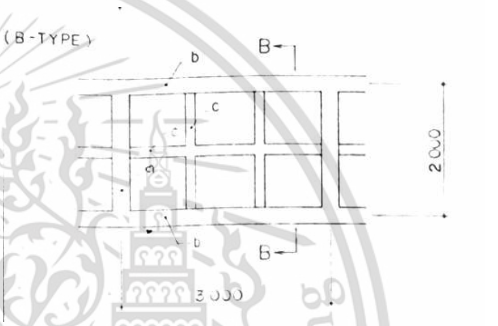
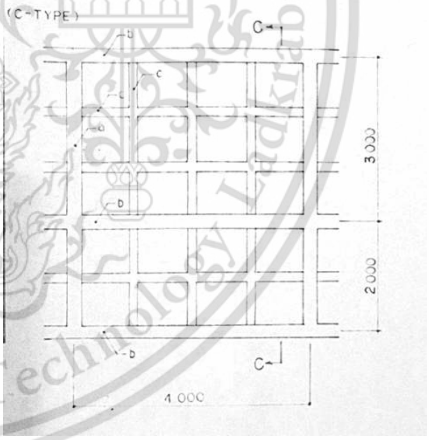
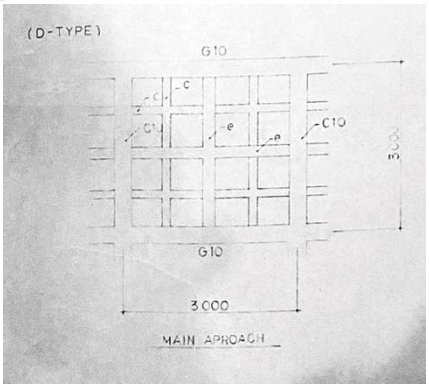
Type	Location	Dimension	Construction Drawing
A	The façade of 1st floor	Center to Center, 3000 × 3000-millimeter square	
B	The façade of 2nd floor	Center to Center, 3000 × 2000-millimeter square	
C	The façade of Hotel Building	Center to Center, (Above) 4000 × 3000-millimeter square/ (Below) 4000 × 2000-millimeter square	
D	The main entrance hallway	Center to Center, 3000 × 3000-millimeter square	

Table 5. 2: Grid wall design of the Institute of East Asian Studies

Type	Location	Dimension	Construction Drawing
D(A)	The main entrance hallway	Center to Center, 3000 × 3000-millimeter square	
	The façade of 120 pax meeting building	N/A	
	The façade of 120 pax meeting building	N/A	
	The façade of restaurant building	N/A	

5.2 Common Architectural Characteristics of Kurokawa's designs from the Same Era (1970s to 1980s) as the Institute of East Asian Studies

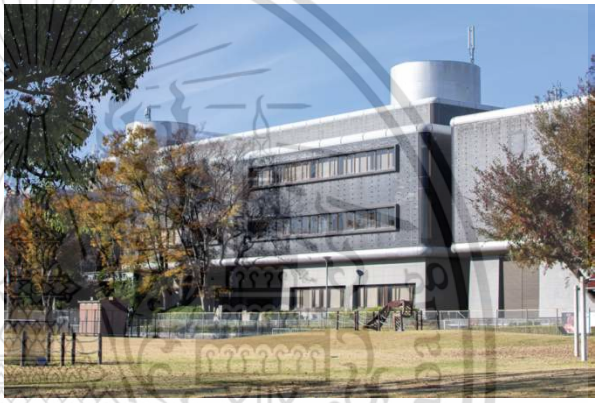
Kurokawa's designs besides the Institute of East Asian Studies and review in the literature included the National Museum of Ethnology, Osaka (1974); Saitama Prefectural Museum of Modern Art, Saitama (1982); and Nagoya City Art Museum, Aichi (1988). From the review, the four of Kurokawa's architectural works are explained in terms of the modular systems, interpolation of organic forms, and comparison of the four designs.

5.2.1 The modular systems

Modular or sectional form of design is a popular system applicable in Modernist architecture. Kisho Kurokawa employed a modular system to generate a flexible design of buildings' scale corresponding to human beings. Table 3 reveals the stacking of rectangular modular components on the façade facing the same way.

The East Asian Studies Building design is the ornamentation of the buildings with tiny rectangular grids both on the front and neighboring structures. *The National Museum of Ethnology* displays material elements of the facade—Saitama *Museum of Modern Art* design employed square forms of various sizes such as visible colored square façade. There is a grid structure at the main entrance decorated with a birdcage-liked building on the terrace. To welcome visitors, the *Nagoya Museum of Art* put table-style decorations in front of the main entry area.

Table 5. 3: Application of modular system to design.

Architecture	Location	Figure
The Institute of East Asian Studies	Pathum Thani, Thailand	
The National Museum of Ethnology	Osaka, Japan	
Saitama Prefectural Museum of Modern Art	Saitama, Japan	
Nagoya City Art Museum	Aichi, Japan	

5.2.2 Interpolation of organic forms

This study focused on Kurokawa's designs of learning centers such as educational institutes and museums. Most of the four designed complexes are located near the city's central park. As a result, the green space is configured and integrated with components of designed structures. In addition, the floor layout of two designs is visible from the main entrance and reception hall, and one building has a wave-liked façade (Table 4).

Table 5 presents Kurokawa's signature of distinctive solid rectangular form in the majority of his designs. The Institute of East Asian Studies' structure grid is positioned behind the main conference. The National Museum of Ethnology façade decorated with squares arrangement (no picture). Saitama Prefectural Museum of Art and Nagoya City Art Museum have rectangular forms on both sides of the main entrances of the hallways.

Table 5. 4: Interpolation of organic form to design.

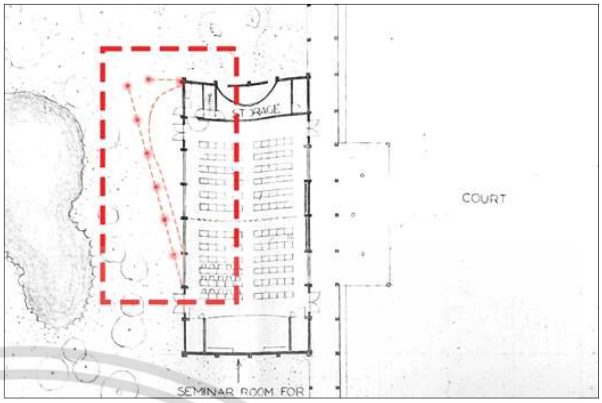
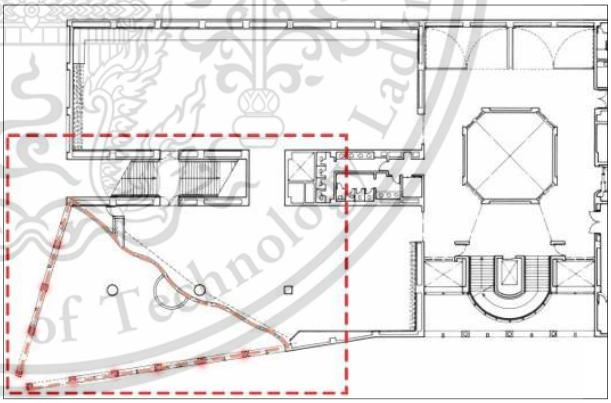
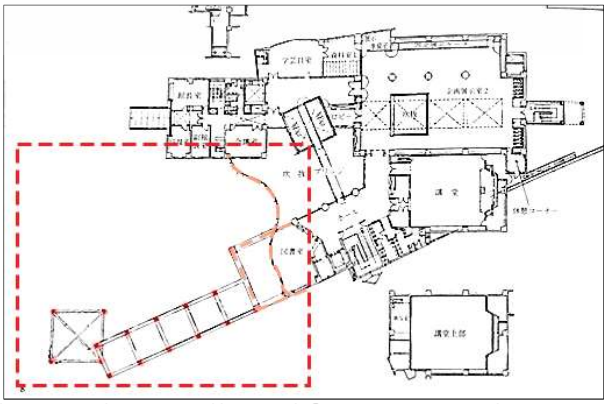
Architecture	Location	Figure
The Institute of East Asian Studies	Pathum Thani, Thailand	
The National Museum of Ethnology	Osaka, Japan	N/A
Saitama Prefectural Museum of Modern Art	Saitama, Japan	
Nagoya City Art Museum	Aichi, Japan	

Table 5. 5: The comparison of shapes and symbolics.

Architecture	Location	Figure
The Institute of East Asian Studies	Pathum Thani, Thailand	
The National Museum of Ethnology	Osaka, Japan	N/A
Saitama Prefectural Museum of Modern Art	Saitama, Japan	
Nagoya City Art Museum	Aichi, Japan	

5.2.3 Comparison of Kurokawa's four designs

Besides the Institute's logo on the roof, the Institute of East Asian Studies layout put an octagonal stone slap in the center of the lawn representing Japanese beliefs. The complex also applied "Shinden Zukuri" and "Garan Haichi" by constructing a significant building in the middle, surrounded by other buildings on four sides that are connected by a balcony (Table 6).

The National Museum of Ethnology design resembles a structure surrounding the central area exhibiting the museum's history and background. The installation of ethnic history perfectly blended with the building's exterior.

Saitama Prefectural Museum of Art and Nagoya City Art Museum employ traditional Japanese techniques and colors with Western architectural forms to fuse Japanese architecture or culture with modern buildings. The contemporary building has a torii gate (鳥居の引用) affixed to it (Table 6).

Table 5. 6: Comparison of Kurakawa's four designs incorporating local culture.

Architecture	Location	Figure
The Institute of East Asian Studies	Pathum Thani, Thailand	 

Table 5. 7: Continue.

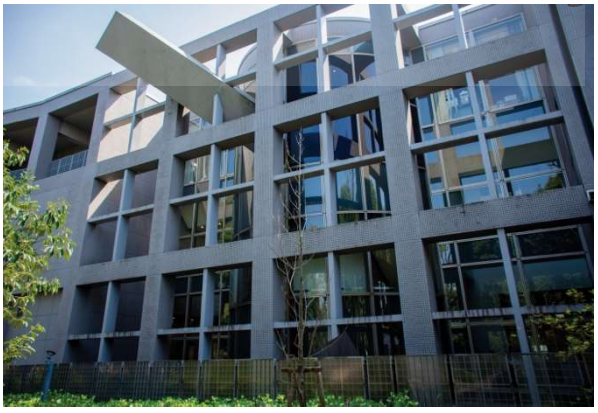
Architecture	Location	Figure
The National Museum of Ethnology	Osaka, Japan	 
Saitama Prefectural Museum of Modern Art	Saitama, Japan	 

Table 5. 8: Continue.

Architecture	Location	Figure
The Nagoya City Art Museum	Aichi, Japan	   

5.3 Japanese Modernism Architectural Conservation Guideline Applicable to Tropical Countries

Japanese modernism architectural conservation guidelines applicable to tropical countries concluded from this study including submission of 45-degree sloping roofs resistant to heavy rain in tropical areas. In addition, besides aesthetic physical, and energy saving; glass skylight and UV-cut shading panels would be installed on the roof to reduce the direct heat of all-year-round sunlight to the building. The material used in the construction project would also consider the qualification of heat protection.

The Institute of East Asian Studies was designed as an educational complex that accommodated staff and trainees, therefore; the design has differed from museum design. Besides the special design to reduce direct heat from sunlight, the buildings were designed to install air conditioning in the first place. For better ventilation and heat reduction, the buildings are located in the direction of the east-west axis. Additionally, the ventilation system of the rooftop ventilation pipe lineup on the building roof was set to remove hot air from the building.

In addition, it is interesting that the decoration of ponds beside the buildings in Japanese Modernism in Japan is not only for physical beauty in Thailand, but the ponds also help reduce heat from the buildings (Figure 5. 6). This signature is also found in the designs of the Princess Maha Chakri Academic Center, Bangkok; and the Environmental Research and Training Center, Pathum Thani. In contrast to the structures in the case studies, ponds appear as decorations in Japanese architecture. The landscape mentioned above design pond could still be seen at the Institute of East Asian Studies in the Japanese tea house area (Figure 44).

The institute has operated since 1984, during the past years, renovation of the constructs to accommodate the changing users' behaviors and changing environment of the area is necessary. However, to conserve the original architectural design mentioned above, considering significant signatures and elements of Kurokawa's works is essential. After the great flood in 2011, the restoration of the institute preserved the original characteristics of the architecture and got a preservation award from the Association of Siamese Architects.

Figure 5. 6: The Institute of East Asian Studies' pond

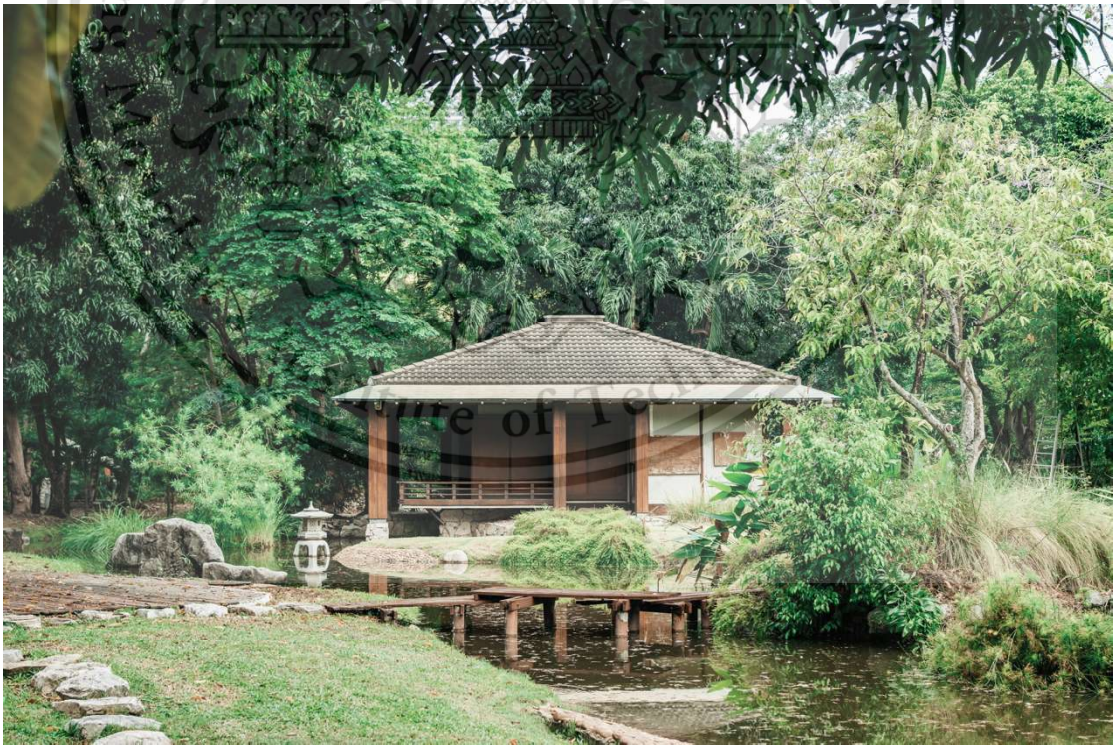


Figure 5. 7: The Japanese tea house

CHAPTER 6

CONCLUSION AND DISCUSSION

6.1 Conclusion

The physical context of Kurokawa's design in Thailand and Kurokawa's design in Japan during the same period - the Institute of East Asian Studies (1984), Thailand; the National Museum of Ethnology (1977), Osaka; Saitama Prefectural Museum of Modern Art (1982) Saitama; and Nagoya City Art Museum (1987), Aichi, can be concluded in terms of common characteristics.

These Japanese Modernism architecture designs are similar in the application of geometric shapes (modular or rectangular), especially square shapes in grid form and curl elements of grid inserted into facade design. Metabolism and symbiosis philosophy are also evident in the design concept by contextual integration of utilization for living things.

Kurokawa's designs integrate Japanese modernism of modular concept, metabolism and symbiosis philosophy, and regionalism notions into his works. Therefore, from the study, four Kurokawa works share common characteristics, first; the modular systems create flexible and human-scale designs showed in application of various sizes of square grids.

Second, the application of organic shapes and forms of wave-like grids reflected the natural world and helped to create a more harmonious relationship between humans and the built environment. The wave-like grid is usually located at highlighted spots such as main hall entrances and reception rooms.

The third submitted regionalism concept of blending local cultural and Japanese historical elements into designs. Kurokawa applied the traditional characteristics of "Shinden Zukuri (寝殿造)" and "Garan Haichi (伽藍配置)" layouts to all of his architectural designs with main construction in the middle.

6.2 The Application

It is evident from the case study of Nagoya Art Museum that principles of Japanese modernism architectural design concepts implemented in tropical locations such as the Institute of East Asian Studies, Thailand, followed the criteria of adopting roof features with ventilation pipes for the cooling system (Figure 45), and ponds situated in front of the buildings.

Figure 6. 1: The ventilation pipe

6.3 Discussion

6.3.1 Common characteristics of Japanese modernism architectural designs in Thailand

From JICA reports and previous research, Japanese modernist architectural design in Thailand such as Kasetsart University Kamphaeng Saen Campus's Central Laboratory and Greenhouse Complex (1978); the Princess Maha Chakri Academic Center, KMITL (1984); the Institute of Japanese Studies (1984); and the Environmental Research and Training Center (1989); were reviewed and compared with Kurokawa's designs – the Institute of East Asian Studies. The common characteristics of the designs included the physical structure of the buildings and the building's corridor (Figure 46-50).

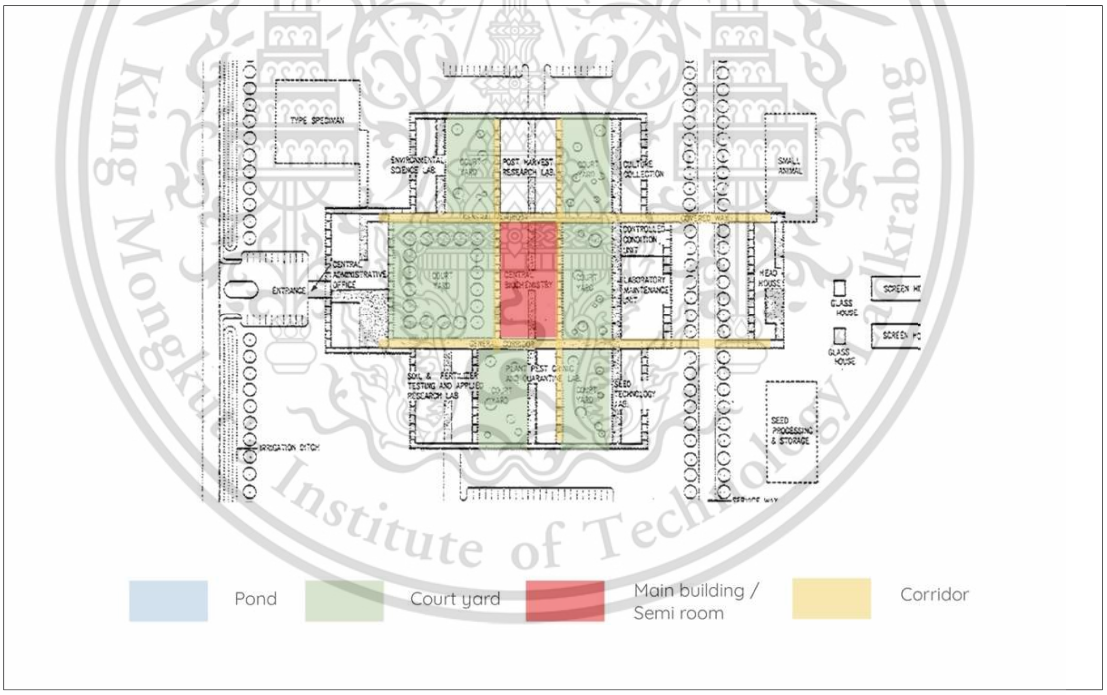


Figure 6. 2: Central Laboratory and Greenhouse Complex.

(Source: Modified from JICA report, Preliminary Design for Central Laboratory & Greenhouse Complex of Kasotsart University Kamphaengsaen Campus in the Kingdom of Thailand, 1978, p.61)

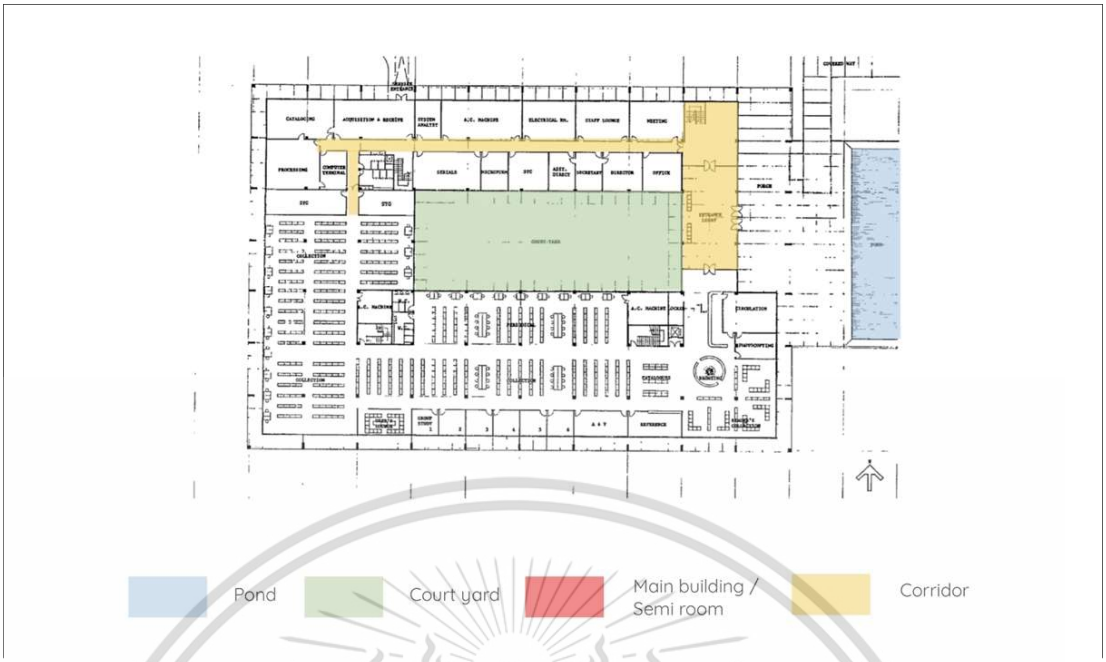


Figure 6. 3: The Asia Institute of Technology's Central Library Building Plan.

(Source: Modified from JICA report, Preliminary design of the library & media building Asian Institute of Technology, 1978, p.88)

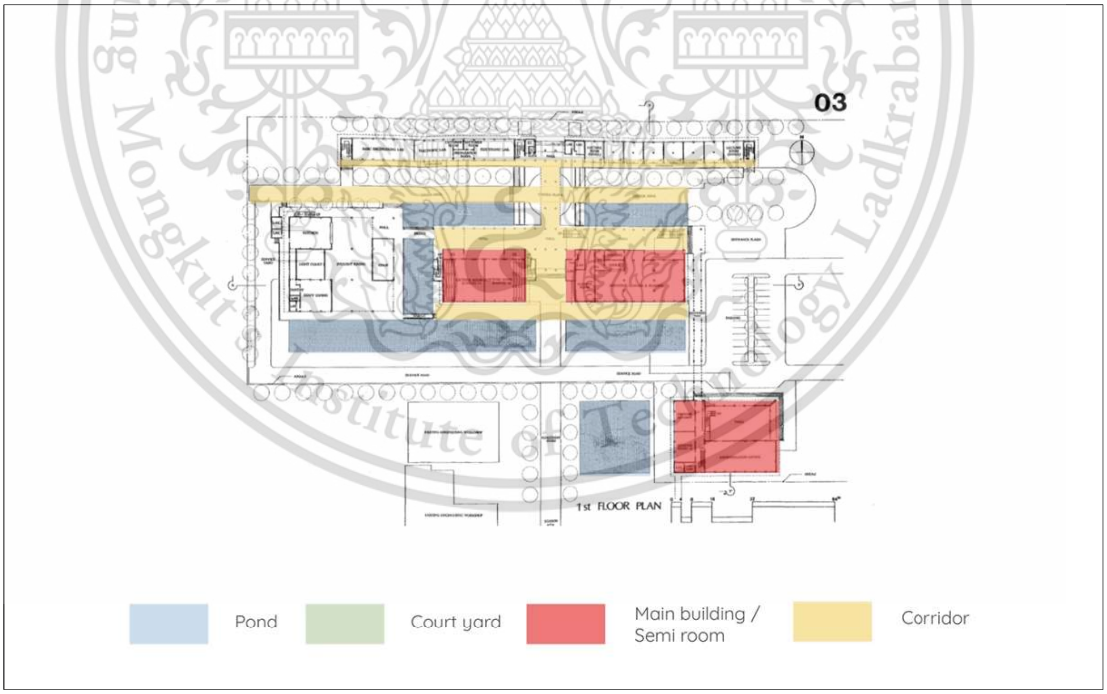


Figure 6. 4: The Princess Maha Chakri Academic Center, KMIYL planning

(Source: Modified from JICA report, Basic design study on the construction of the lecture room building King Mongkut's Institute of Technology in the Kingdom of Thailand, 1983)

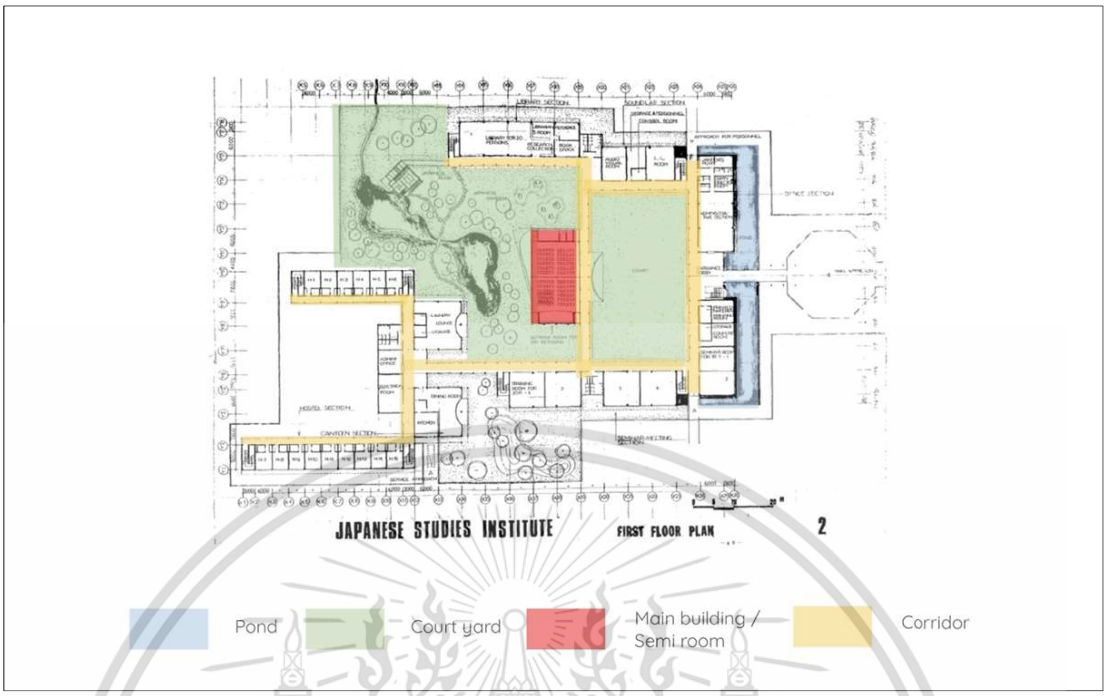


Figure 6. 5: The Institute of Japanese Studies planning

(Source: Original footprint of the Institute of Japanese Studies)

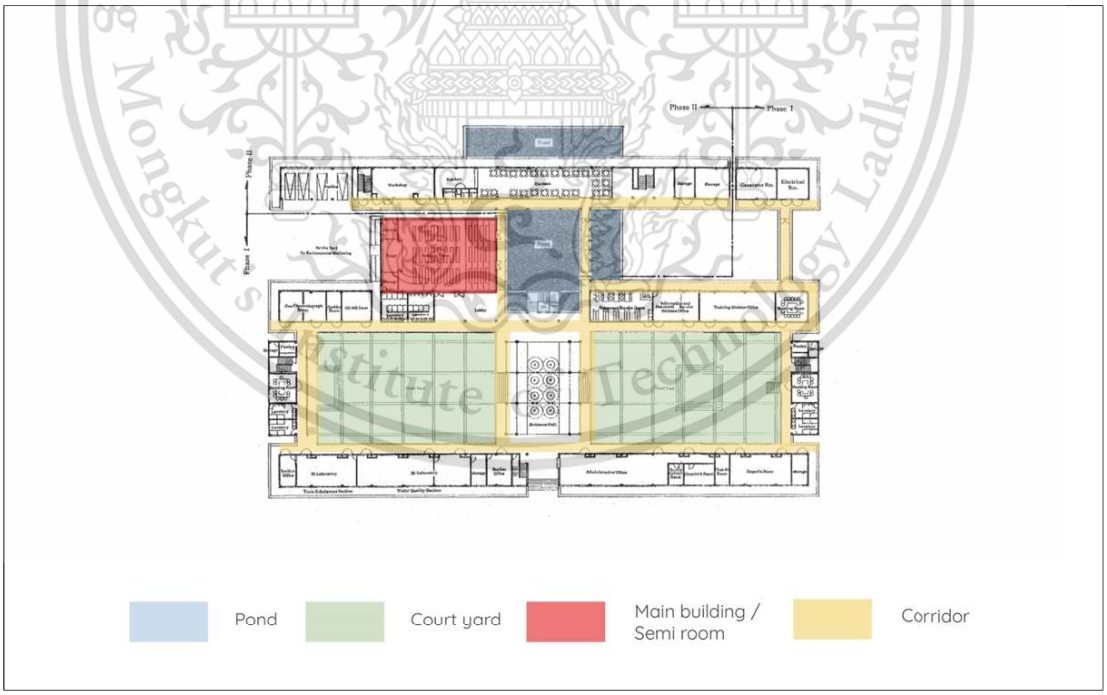


Figure 6. 6: Environmental Research and Training Center planning

(Source: Modified from JICA report, Basic design study report on the project for the establishment of the environmental research and training center in the Kingdom of Thailand, 1989, p.138)

The common characteristics of the Japanese modern designs are the main structure located in the middle of the complex, the central space designated as a courtyard for multiple activities, and an Engawa-traditional Japanese house hallway situated outside's corridor on the east-to-west axis. Additionally, buildings in the complex are connected by corridors for easy access.

Figure 51 presents the Institute of Asian Studies' main building situated in the middle of the complex and visible from the entrance or "inverted focus" design concept. Semi-outdoor – Engawa corridors connect buildings and space (Figure 52). The Institute building is concrete construction, and the exterior material is exposed aggregate finish in a white color tone (Figure 53). Terrazzo was used as the flooring material.

Additionally, the physical structure of the building is grid-based. The Institute of East Asian Studies and the Environmental Research and Training Center design are identical.

Figure 6. 7: The main building of the Institute of East Asian Studies

Figure 6. 8: The corridor of the Institute of East Asian Studies

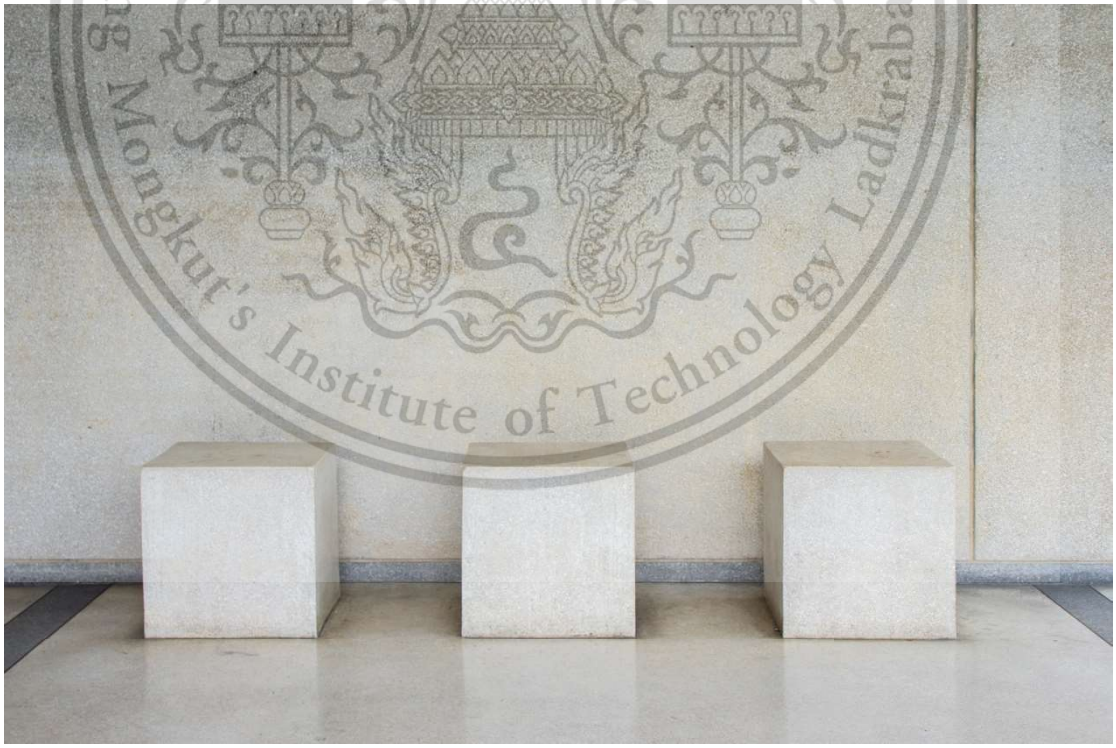


Figure 6. 9: The pubic seating of the Institute of Japanese Studies

6.4 Limitation

1. A limitation in the literature review occurred because of flooding in 2011, many reports, documents, and original photos were lost.

2. Equipment limitation, besides the variety of equipment in qualitative research; the quality of equipment such as unique camera lenses are essential. Therefore, affects data collection.

3. Because of multiple locations abroad. Data collection in various geographical contexts might be challenging and limited.

6.5 Further Study

There are many gaps in Japanese architecture in Thailand and Southeast Asia research that would benefit from further analysis.

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APPENDICES

APPENDIX A

A semi-structured interview

สาขาสถาปัตยกรรมภายใน คณะคณะสถาปัตยกรรม ศิลปะและการออกแบบ
สถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง และ
Architecture & Building Engineering, Engineering University of the Ryukyus, Okinawa

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แบบสอบถามนี้เป็นส่วนหนึ่งของวิทยานิพนธ์ Approach to the Restoration of Kisho Kurokawa's Institute of Japanese Studies at the Thammasat University in Thailand

โดย นางสาวศศิภา จันทะ **รหัสนักศึกษา** 62602060 **(** Name : Sasipa Chantha Student code : 218548C)**อาจารย์ที่ปรึกษา (สจล.) : ผศ.ดร.พิยะรัตน์ นันทะ**
เบอร์ติดต่อ: 084 111 4555 Email: piyarat.na@kmitl.ac.th
Supervisor (University of the Ryukyus): Assoc.Prof. Toru IRIE

ส่วนที่ 1 ข้อมูลเบื้องต้นของผู้ให้สัมภาษณ์
คำชี้แจง ข้อมูลจากการสัมภาษณ์ในครั้งนี้จะไม่ได้รับการเปิดเผย หากผู้ให้สัมภาษณ์ไม่ยินยอม และหากมีการนำไปตีพิมพ์ ฯลฯ ผู้วิจัยจะนำข้อมูลฉบับนั้นมาให้ผู้ให้สัมภาษณ์ตรวจสอบก่อนนำไปเผยแพร่

ชื่อผู้ให้สัมภาษณ์ นายอภินันท์ พงศ์เมธากุล
ตำแหน่ง สถาปนิก
สัมภาษณ์เมื่อวันที่ วันพุธที่ 12 พ.ค. 2564 **สัมภาษณ์เมื่อเวลา** 13.00 น. (เวลาไทย)
สถานที่สัมภาษณ์ Online (Zoom Application)

1. ประวัติการศึกษาและการทำงานของ อาจารย์อภินันท์ พงศ์เมธากุลโดยสังเขป
(อาจมี CV ประกอบ หากอาจารย์สะดวกรบกวนขอ CV ของอาจารย์ สำหรับการบันทึกข้อมูลในครั้งนี้)

ปัจจุบัน นายอภินันท์ พงศ์เมธากุล เป็นสถาปนิกอิสระ งานออกแบบส่วนใหญ่ในปัจจุบันเป็นงานสถาปัตยกรรมไทยร่วมสมัย เนื่องจากว่าสมัยเรียนได้ศึกษาก็เริ่มมีความสนใจในงานสถาปัตยกรรมไทย นอกจากนี้ยัง
เป็น life coach ตำแหน่งสูงสุดก่อนออกมาเป็นอาชีพอิสระคือ ผู้ช่วยอธิการบดี สภาบันเอเชียตะวันออกศึกษา

ส่วนที่ 2: ข้อมูลเกี่ยวกับสถาบันเอเชียตะวันออกศึกษา มหาวิทยาลัยธรรมศาสตร์

2. ในช่วงเวลาใกล้เคียงกันกับการก่อสร้าง สถาบันเอเชียตะวันออกศึกษา Kisho kurokawa ได้สร้างศูนย์ญี่ปุ่นศึกษาที่ Beijing, China และ Berlin, Germany อาจารย์มีความเห็นในด้านแนวความคิดในการออกแบบอย่างไร กับอาคารทั้งสามสถานที่นี้ และคิดว่าอาคารมีความคล้ายคลึงหรือแตกต่างกัน

1985 : The Institute of East Asian Studies, Pathumthani, Thailand

1985-1988 : Japanese-German Center of Berlin, Berlin, Germany

1987-1990 : Chinese-Japanese Youth Center Beijing, CHINA

อย่างไร

Picture Chinese-Japanese from the website: http://www.china.org.cn/english/features/Exchanges/206357.htm

Picture Japanese-German from the website: https://www.archinform.net/projekte/7568.htm

โดยส่วนตัวของอาจารย์ ตั้งแต่เริ่มต้นเข้ามาอยู่เป็นส่วนหนึ่งของสถาบันเอเชียตะวันออกศึกษา ไม่ได้อยู่ในส่วนของการออกแบบ เพียงแต่ว่าได้เข้ามาเป็นผู้บริหารในขณะที่เป็นสถาปนิกอยู่ จึงได้รับโอกาสจากผู้อำนวยการสถาบันให้ดูแลตัวสถาปัตยกรรมในขณะเดียวกัน

และเมื่อกล่าวถึงงานของคุโรคาวาตามข้อที่ 2 นี้ เห็นได้ชัดว่ามันแตกต่างกันโดยสิ้นเชิง จากความเห็นส่วนตัวนั้นคิดว่า คุโรคาวาน่าจะมองถึงบริบทของสถานที่นั้นมากกว่า ด้วยตัวสถาปัตยกรรมของที่ไทยนั้นบริบทตอนแรก พื้นที่บริเวณนั้นเป็นเพียงทุ่งนาเรียกบริเวณแถวนี้ว่าทุ่งรังสิต และยังกล่าวได้อีกว่าสถาบันญี่ปุ่นศึกษาเป็นอาคารแรกๆของมหาวิทยาลัยธรรมศาสตร์ ปัจจุบันถึงชื่อทางการจะเปลี่ยนไปตามเงื่อนไขของมหาวิทยาลัยที่ต้องการขยายการศึกษาโดยเพิ่มเติม ภาษาจีน ภาษาเกาหลีเข้ามาในสถาบัน แต่คนส่วนใหญ่ยังเรียกอาคารนี้ว่า “อาคารญี่ปุ่นศึกษา”

กลับมาที่สามอาคารตามรูปดังกล่าว จากการสัมภาษณ์นี้ไม่ได้มีข้อมูลที่ลงลึก แต่จากความเห็นส่วนตัว คิดว่าน่าจะออกแบบให้มีความสอดคล้องกลับบริบท ตัวผมเองไม่ได้มีข้อมูลเกี่ยวกับการเดินทางมาดูสถานที่ของคุโรคาวาที่ประเทศไทย แต่โดยรวมแล้วจากพื้นฐานการเรียนสถาปัตยกรรมรวมไปถึงการออกแบบจะวิเคราะห์จากบริบทสถาที่

3. นอกจากศูนย์ญี่ปุ่นศึกษาแล้ว ช่วงเวลาใกล้เคียงกัน Kisho Kurokawa ได้ออกแบบ พิพิธภัณฑ์ที่จังหวัด Saitama และ Nagoya ซึ่งมีลักษณะที่ใกล้เคียงกับอาคารเอเชียตะวันออกศึกษา อาจารย์มีความเห็นในด้านแนวความคิดในการออกแบบ อย่างไร กับอาคารทั้งสามสถานที่นี้ และคิดว่าอาคารมีความคล้ายคลึงหรือแตกต่างกันอย่างไร

1985 : The Institute of East Asian Studies, Pathumthani. Thailand

1978-1982 : Saitama Prefectural Museum of Modern Art, Saitama , Japan

1983-1987 : Nagoya City Art Museum, Aichi, Japan

Picture Saitama Prefectural Museum from the website: https://www.timeout.com/tokyo/art/the-museum-of-modern-art-saitama

Picture Nagoya City Art Museum from the website: https://matcha-jp.com/th/place/ChIJiaAgDi13A2ARt6jZobbCNuw

จากการดูรูปข้างต้น ในความคิดเห็นส่วนตัวนั้น ผมมองว่าเหมือนกันหรืออาจจะเรียกว่าพี่น้องทางสถาปัตยกรรมเลยก็ว่าได้ ผมคิดว่าน่าจะเป็นเพราะเวลาที่ใกล้เคียงกันและเมื่อเปรียบเทียบกับงานของผมเองนั้นเมื่อช่วงนั้นใช้ผมชอบระบบไหนในการออกแบบ ผมก็จะใช้ระบบนั้น และจากการที่ดูรูปนั้นจะเห็นได้ชัดว่ามีเฟรม มีกริดในใช่อาคารต่างๆนี้ ผมดูลักษณะตามรูปนี้ ผมเชื่อว่าเป้นไปในลักษณะเดียวกัน หรือว่ามีเทคนิคในการออแบบไปในทิศทางเดียวกัน ผมคิดว่าน่าจะเป็นความคิดที่ต่อเนื่องกัน ไม่เหมือนอย่างกับข้อก่อนหน้านี้

4. อาจารย์ได้เข้ามาเป็นส่วนหนึ่งในการปรับปรุงอาคารเอเชียตะวันออกศึกษาได้อย่างไร และตั้งแต่เมื่อไร

เมื่อได้รับโอกาสมาเป็นส่วนหนึ่งสถาบันเอเชียตะวันออกศึกษาประมาณก่อนน้ำท่วมใหญ่ 1 ปี และเมื่อเกิดเหตุการณ์น้ำท่วม และในนามสถาปนิกจึงเป็นจุดเริ่มต้นให้เข้ามารีโนเวทสถาบันหลังน้ำท่วม ระยะเวลที่ใช้ในการรีโนเวทใช้เวลาประมาณ 1 ปี รวมระยะเวลาเครมประกัน

5. สภาพตัวอาคารก่อนอาจารย์อภินันท์เข้ามาปรับปรุงมีสภาพเป็นอย่างไร (อาจมีรูปภาพประกอบ รบกวนขอรูปภาพหากอาจารย์มี จะได้ทำการบันทึกไว้ หรือหากต้องการให้ทำเรื่องติดต่อขอข้อมูลจะต้องทำอย่างไร)

ผมได้ส่งเป็นไฟล์รูปมาให้

6. เมื่อเข้ามาเป็นส่วนหนึ่งในการปรับปรุงอาคารเอเชียตะวันออกศึกษา

- **กระบวนการในการปรับปรุงอาคารเป็นอย่างไร**
- **ใช้ระยะเวลาในการปรับปรุงเวลาเท่าไหร่**
- **งบประมาณในการปรับปรุงประมาณเท่าไหร่**
- **ผู้รับเหมาเป็นใคร**
- **รวมไปถึงเงื่อนไขในการปรับปรุงอาคารเป็นอย่างไร**

- กระบวนการในการปรับปรุงเริ่มต้นจากการยื่นเครมประกันเพื่อประเมินราคาในการปรับปรุง
- ระยะเวลาในการปรับปรุง อย่างที่กล่าวไว้ก่อนหน้านี้คือ ประมาณ 1 ปี
- งบประมาณผมได้ส่งรายละเอียดให้อีกที
- สำหรับผู้รับเหมาคือ บริษัทผู้รับเหมาในประเทศไทย
- ข้อจำกัดหรือเงื่อนไขในการปรับปรุง อย่างที่กล่าวไปข้อแรกเป็นเรื่องของงบประมาณที่จำกัดในการปรับปรุง ต่อมาเป็นเรื่องระยะเวลาเนื่องจากมีกำหนดสัมมานา นานาชาติ แต่เนื่องการยื่นขอเบิกเงินประกันใช้เวลาค่อนข้างนานจึงทำให้ระยะเวลาในการปรับปรุงค่อนข้างกระชั้นชิด วันกำหนดสัมมานาคือวันที่ 23 -24 กุมภาพันธ์ 2556

7. ในการดำเนินการปรับปรุงที่อาจารย์เป็นผู้ดูแล ส่วนใดของอาคารที่ได้รับการปรับปรุงบ้าง

- **โครงสร้าง (Structure)**
- **วัสดุ (Material)**
- **รายละเอียด (Detail)**
- **ประโยชน์ใช้สอย (Function)**
- **ทางสัญจร (Circulation)**
- **ระบบอาคาร (Building System)**
- **งานตกแต่งภายใน (interior design)**
- **(อาจมีรูปภาพประกอบ รบกวนขอรูปภาพหากอาจารย์มี จะได้ทำการบันทึกไว้ หรือหากต้องการให้ทำเรื่องติดต่อขอข้อมูล จะต้องทำอย่างไร)**

-โครงสร้างอาคารไม่ได้ปรับปรุงอะไร หลังจากน้ำท่วมเพราะโครงสร้างเดิมแข็งแรงมาก เพียงแค่ขัดล้างทำความสะอาด คราบน้ำท่วมเท่านั้น

- วัสดุที่เห็นได้ชัดคือห้องประชุมใหญ่ แผงส่วนล่างได้รับความเสียหาย และลักษณะผนังใหม่ที่มาปรับปรุงหากถามว่าทำไมถึงเป็นรูปแบบนี้ มีเหตุผลมากมายแต่ขอละไว้ คือเนื่องไม่สามารถทำแบบเดิมได้ เพราะรูปแบบเก่างบประมาณค่อนข้างสูง แต่ตามงบประมาณที่ได้ ผนังนั้นยังกันเสียงและสามารถถอดออกได้ แบบต้นฉบับ อ้างอิงถึงแผ่นวัสดุเก่าคือแผ่นไม้ที่ถอดออกได้ ข้างในเป็นใยแก้วสำหรับซับเสียง แต่ส่วนวัสดุใหม่เป็นผ้าที่ด้านในบุวัสดุซับเสียง และสำหรับผ้าเพดานในห้องประชุมใหญ่นี้เป็นของเดิม เพราะไม่ได้รับความเสียหาย เวทีในห้องประชุมใหญ่ถูกปรับเปลี่ยนตามการใช้งาน ซึ่งปัจจุบันเป็นรุ่นที่3 แล้ว

- วงเวียนด้านหน้าทางเข้า เดิมทีไม่ได้มีแต่แรก เพิ่งมาทำก่อนน้ำท่วม และหลังน้ำท่วมมีหินตกแต่งเพิ่มเข้ามาและบังเอิญตัวผมมีโอกาสได้ไปญี่ปุ่น สองถึงสามครั้ง ความเข้าใจนส่วนใหญ่นึกถึงญี่ปุ่นจะนึกถึงภูเขาไฟฟูจิ หินก้อนนี้เลยเป็นตัวแทนที่อุปมาอุปมัยของภูเขาไฟฟูจิ

- ระบบที่เพิ่มเติมเข้ามา แต่เดิมบ่อน้ำบริเวณด้านของอาคารที่ไม่ได้มีระบบหมุนเวียน แต่หลังจากเหตุการณ์น้ำท่วมทำเกิดน้ำเสีย ผมเลยเพิ่มเติมระบบน้ำพุเข้าไปเพื่อให้น้ำหมุนเวียน

- การปรับเปลี่ยนที่เกิดขึ้น แต่เดิมผมมีโอกาสได้ไปศึกษางานที่ญี่ปุ่น ที่เกียวโต พบหมู่บ้านโบราณที่เป็นอาคารอนุรักษ์ โดยภายนอกจะอนุรักษ์และภายในเปลี่ยนหมด ผมเลยยึดหลักแนวคิดนี้ตั้งแต่นั้นตลอดมา ส่วนข้างในเปลี่ยนไปตามพื้นที่ใช้สอย

- สำหรับระบบแอร์ของอาคาร จากอายุการใช้งานเดิมมันนาน ถึงเวลาต้องเปลี่ยนทั้งหมด

-ระบบไฟฟ้า มีการเพิ่มเติมจากเดิมมา ทั้งเพิ่มความสว่าง และเปลี่ยนของเดิม

-ระบบของอาคารญี่ปุ่นที่น่าสนใจ ผมมองว่าเป็นเรื่องระบบระบายอากาศ โดยอาคารนี้เป็นอาคารคอนกรีต แลมีท่อระบายอากาศออกมา

8. จากการลงพื้นที่ของผู้วิจัย สังเกตุพบว่ามีการติดตั้งตัวตะแกรงภายในช่องสี่เหลี่ยมรอบๆของ facade อาคาร (เมื่อเทียบกับแบบพิมพ์เขียวแล้ว เหมือนไม่ได้มีมาตั้งแต่ต้นที่สร้างอาคาร) อาจารย์พอทราบหรือไม่ว่าตัวตะแกรงภายในช่องสี่เหลี่ยมนั้น มีตั้งแต่เมื่อไร / เป็นวัสดุอะไร /มีเพื่ออะไร

ตัวตะแกรงนี้ไม่ได้มีมาตั้งแต่แรก แต่มีมานานแล้วไม่ทราบว่าเมื่อไหร่ ตะแกรงนี้มีไว้เพื่อกันฝนสาดเข้ามาบริเวณทางเดินของอาคาร เพราะทางเดินอาคารมีวัสดุพื้นเป็นเทอรอซโซ่ถึงแม้ว่าการสร้างอาคารจะมาพร้อมกับพรมที่ไว้สำหรับปูเดินช่วงเวลาฝนตก แต่ไม่เพียงพอ พื้นทางเดินนั้นยังลื่นอยู่ สิ่งจึงมีเพิ่มเข้ามา

9. หลังจากที่ได้ปรับปรุงอาคารเอเชียตะวันออกศึกษา อาจารย์ในฐานะที่เป็นสถาปนิก/นักออกแบบ คิดว่าอาคารนี้มีจุดเด่นและจุดด้อยอย่างไรบ้าง

ผมคิดว่าจุดเด่น ผมสาทารถเครมได้ว่าในการปรับปรุงครั้งนี้ ผมยังรักษาตัวสถาปัตยกรรมเดิมไว้โดยการให้เกียรติสถาปนิกผู้ออกแบบ

สำหรับจุดด้วย บางอย่างไม่สามารถปรับเปลี่ยนได้ อย่างเช่นกับพื้นหินขัดค่อนข้างลื่น เวลามีน้ำหกหรือฝนสาดทำให้ลื่นมากๆ โดยเจตนาของผมแล้วอยากเปลี่ยนพื้นมากๆ พายายามจะทำมาช่วงนึง ด้วยเหตุผลเรื่องความปลอดภัยเพียงแค่เปลี่ยนวัสดุแต่รูปลักษณ์ยังคงไว้เหมือนเดิม ผลได้ล้มเลิกความคิดนี้ไปด้วยคนเก่าคนแก่ที่อยู่ที่สถาบันอยากให้เก็บ และคงการออกแบบนี้เอาไว้ นอกจากนี้สิ่งที่ท้าทายมากกว่านั้นคือ บริเวณด้านหน้าทางเข้าจะมีสะพานโค้งเล็กๆ ซึ่งเป็นพื้นหินขัด ด้วยตัวผมเองยังไม่เข้าใจในงานดีไซน์ในบริเวณนี้ เวลาฝนตกคนที่เดินบริเวณตรงนี้ลื่นอยู่เป็นประจำ

อาคารหลังนี้ค่อนข้างมีความเป็นส่วนตัวและมีความโดดเด่นมาก เมื่อสำรวจจากแบบพบว่ามีทางเดินบางส่วนที่ไม่ได้ถูกสร้างขึ้นมา ด้วยตัวผมเองผมอยากสานต่อให้เกินขึ้นและข้อด้วยใหญ่คือผมไม่สาใรถทำตามแบบที่ขาดหายไปให้ครบถ้วยได้ และการรักษาหรือเทคนิคในการดูแลตัวอาคาร อาจจะไม่เหมือนในสมัยก่อน ด้วยตัวผมเองไม่รู้ค่อยเทคนิคของทางญี่ปุ่นมากนัก ทำให้ไม่รู้หลักในการอนุรักษ์ที่แท้ของญี่ปุ่น อยากปล่อยไปตามสภาพและคอยรักษาทำความสะอาดเท่านั้น หรือต้องทำความสะอาดให้พื้นผิวมัน

สวยงามใกล้เคียงของเดิม เพราะการออกแบบของผมนั้นมีการออกแบบที่สามารถปล่อยให้ธรรมชาติเป็นตัวปล่อยให้งามในอีกรูปแบบหนึ่ง

10. อาจารย์มีความคิดเห็นอย่างไร เกี่ยวกับอาคารเอเชียตะวันออกศึกษาเกี่ยวกับเรื่องโครงสร้างและวัสดุที่ใช้ตั้งแต่แรกเริ่มจนถึงการปรับปรุง มีความเหมาะสมกับอากาศและบริบทในไทยหรือไม่ อย่างไร

จากที่กล่าวมาขอเริ่มต้นที่โครงสร้างก่อนนะครับ อย่างแรกขอชื่นชมอาคาร ตัวโครงสร้างอาคารค่อนข้างออกแบบมาดี และความแข็งแรงทนทานนั้นเมื่อเปรียบเทียบกับบริเวณถนนโดยรอบจะเห็นได้ชัดว่าตัวอาคารไม่ได้ทรุดลงไป สำหรับตัววัสดุก็มีความคงทน ด้วยระยะเวลาอาคารที่อยู่มาขนาดนี้แทบจะไม่มีปัญหาอะไรเลย รวมไปถึงงานไม้ภายในโครงการก็เช่นกัน

หากถ้าถามว่าเข้ากับบริบทในประเทศไทยนั้นไหม อันดับแรกการออกแบบไม่ได้ตอบโจทย์ในเรื่องของเวลาฝนตกทั้งชั้นบนและชั้นล่าง โดยชั้นบนบางทีน้ำท่วมขัง ชั้นล่างค่อนข้างลื่น หลักๆ เป็นเรื่องของวัสดุของพื้นเท่านั้น ในเรื่องของความร้อนภายในอาคาร เนื่องจากว่าแบบเดิมถูกออกแบบมาให้อาคารได้มีระบบปรับอากาศอยู่แล้วจึงไม่ได้มีปัญหา ส่วนเรื่องความชื้นในอาคารไม่รวมเหตุการณ์น้ำท่วม ไม่ได้พบการรายงานเกี่ยวกับความชื้นภายในอาคารเลย

11. เนื่องจากอาคารเอเชียตะวันออกศึกษาได้รับรางวัลจากสถาปนิกสยาม อาจารย์พอทราบหลักเกณฑ์การให้รางวัล (รางวัลอนุรักษ์ศิลปะสถาปัตยกรรมดีเด่น ประจำปี 2560) ว่าทางคณะกรรมการมีแนวทาง / เกณฑ์ในการพิจารณาให้รางวัลอาคารนี้อย่างไร

เกณฑ์มรการรับรางวัลผมจะส่งรายละเอียดให้อีกที การรับรางวัลตัวผมมีการเสนอเค้าและได้รับการติดต่อเข้ามาเช่นกัน สำหรับเกณฑ์ในการพิจารณา เป็นตามเอกสารที่ตามฟอร์ม เพื่อบอกเล่าคุณค่าทางสถาปัตยกรรมระหว่างไทยกับญี่ปุ่น มีคุณค่าทางสังคมอีกด้วย

12. ในฐานะที่เป็นสถาปนิก อาจารย์คิดว่าอาคารหลังนี้
มีเอกลักษณ์ที่บ่งบอกความเป็นญี่ปุ่นหรือไม่ อย่างไร
เอกลักษณ์ที่กล่าวมาได้บ่งบอกความเป็น Kurokawa หรือไม่ อย่างไร

ผมมองว่ามันชัดเจนเรื่องรูปแบบเมื่อเอางานของสถาปนิกมาเปรียบเทียบ ในครั้งแรกที่มอง ไม่ได้ชัดเจนว่างานแบบนี้คือลักษณะของการออกแบบแบบญี่ปุ่น แต่เมื่อมาตรวจสอบดูในดีเทลการออกแบบรายละเอียดอาคารต่างๆรวมไปถึงขนาดของห้องต่างๆค่อนข้างเล็ก เมื่อบอกภาพรวมอาจจะไม่เห็นชัด แต่รูปแบบนี้ก็ไม่ใช่ลักษณะการออกแบบของไทยเหมือนกันในยุคสมัยนั้น

และเมื่อกล่าวถึงคุโรคาวา กล่าวได้ว่าอาคารหลังนี้เป็นอีกหนึ่งกรณีศึกษาในด้านของงานสถาปัตยกรรมญี่ปุ่นในไทย และรูปแบบงานของคุโรคาวา

13. ในฐานะที่อาจารย์เป็นสถาปนิกผู้ออกแบบและได้ปรับปรุงอาคารเอเชียตะวันออกศึกษา อาจารย์ได้พบปัญหา หรือการเรียนรู้อะไรบ้างจากอาคารหลังนี้

สิ่งที่ได้เรียนรู้จากสถาปัตยกรรมนี้ เนื่องจากผมได้มีโอกาสเป็นส่วนหนึ่งในการออกแบบ ผมพายายามศึกษาลักษณะสถาปัตยกรรม และรักษาให้ได้มากเหมือนเดิมที่สุด แต่ปัญหาที่พบคือเป็นสิ่งที่ค้านกับตัวเองว่าต้องการรักษาให้เหมือนเดิมแต่เรื่องของวัสดุที่พื้นมันไม่ค่อยปลอดภัย เนื่องจากผมเคยเจอเหตุการณ์ที่คนล้มแล้วไปโรงพยาบาล แต่กระนั้นกาก็ยังหาวิธีแก้ไม่ได้ แต่พายายามจะเตือนและบอกทุกคนในทุกครั้งว่าระวัง

14. อาจารย์มีข้อคิดเห็นหรือข้อเสนอแนะที่เกี่ยวข้องกับอาคารเอเชียตะวันออกศึกษาเพิ่มเติมหรือไม่อย่างไร

อาคารหลังนี้เป็นอาคารญี่ปุ่นศึกษา เนื่องจากว่าสถาบันเอเชียตะวันออกศึกษาเป็นเหมือนหนึ่งหน่วยงานที่เข้าไปอยู่ในอาคารหลังนี้ด้วยเหตุผลของด้านการจัดการของมหาวิทยลัย ผมของไม่ก้าวล่วงนะครับ แต่ถ้าเป็นไปได้นอนาคต ถ้ามีโอกาสทางสถาทูต ทางญี่ปุ่น รวมไปถึงทุกคนที่เกี่ยวข้อง ให้ข้อมูลหรือโอกาส ผมคิดว่าอาคารหลังนี้น่าจะกลับไปสู่การเรียนรู้แบบญี่ปุ่นแบบ 100% จะดีมาก เพราะว่าลักษณะของอาคารก็ดีเหมาะกับการศึกษาเกี่ยวกับญี่ปุ่น เรียนรู้เรื่องเกี่ยวกับญี่ปุ่นเพียงอย่างเดียว ตัวเอเชียตะวันออกศึกษาจะอยู่ที่ไทยก็ได้ หากคนไทยต้องการไปเรียนหรือศึกษาอย่างถ่องแท้ ในบรรยากาศและบริบทแบบอาคารนี้น่าจะเป็นเรื่องดี ในมุมมองผม ผมเห็นแล้วมีความสุขครับ

ขอขอบพระคุณที่สละเวลาในการให้ข้อมูลเพื่อประโยชน์ทางการศึกษา

APPENDIX B

Additional Pictures

Figure 1: The Institute of East Asian Studies' core yard

Figure 2: The Institute of East Asian Studies' corridor

Figure 3: The Institute of East Asian Studies' Decorative Pond

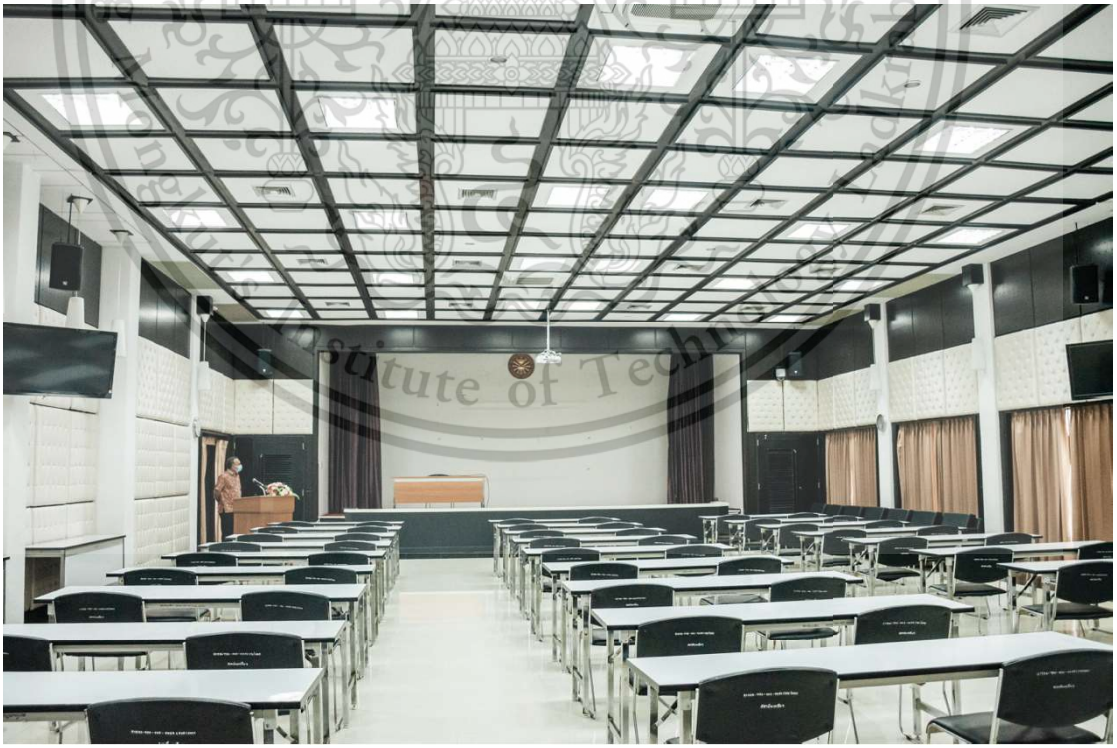

Figure 4: The interior of the Institute of East Asian Studies Conference Hall

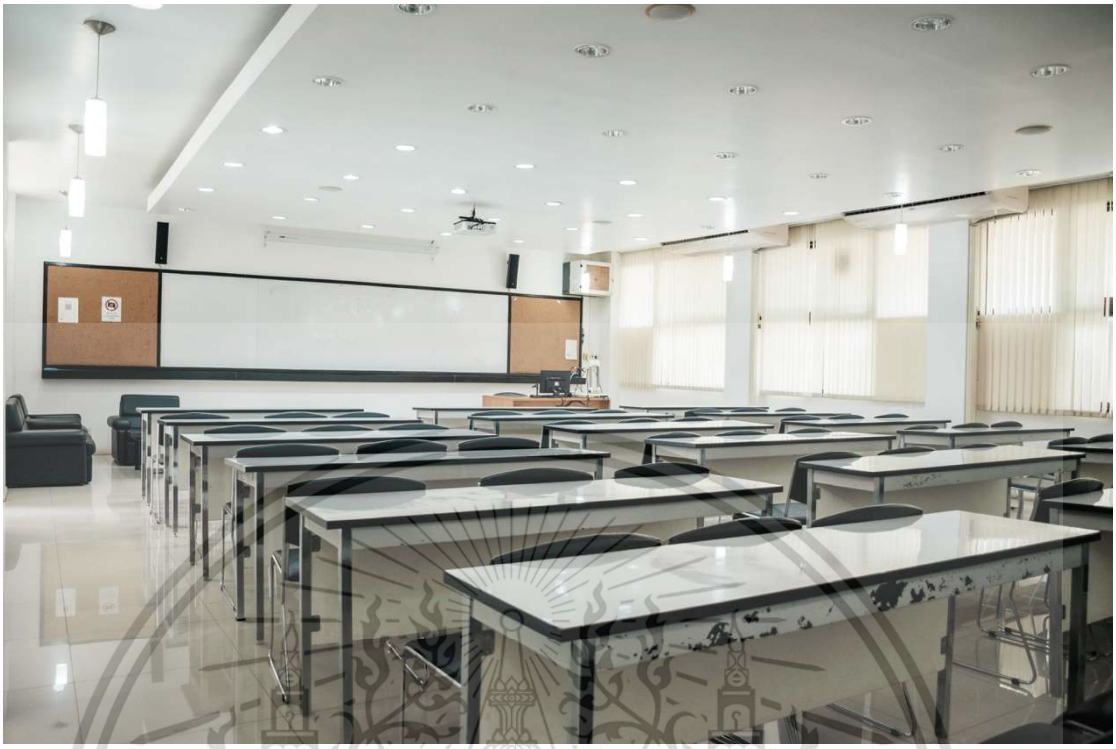

Figure 5: The interior of the Institute of East Asian Studies' seminar

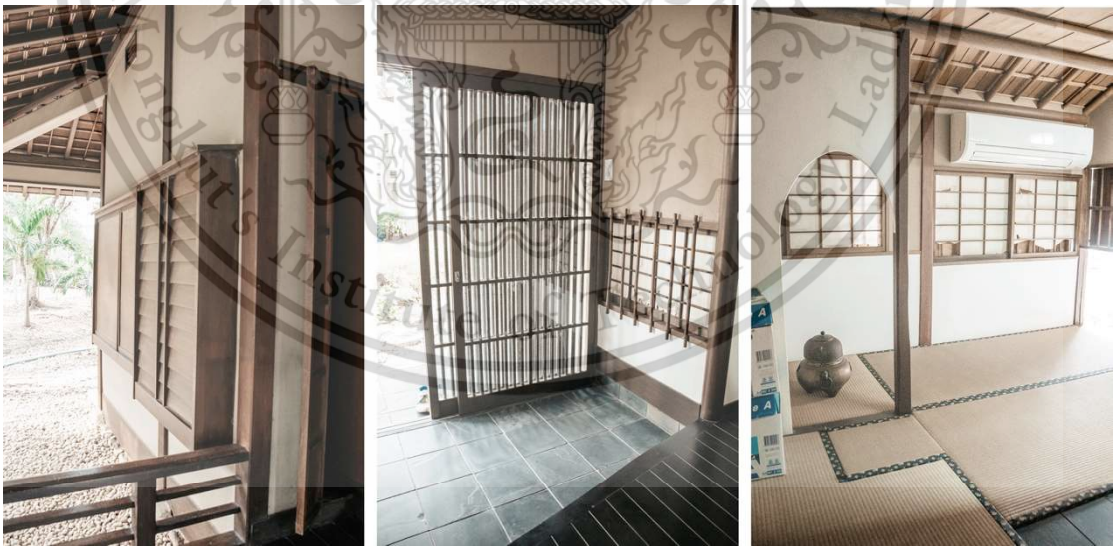

Figure 6:The interior of the Institute of East Asian Studies' tea house

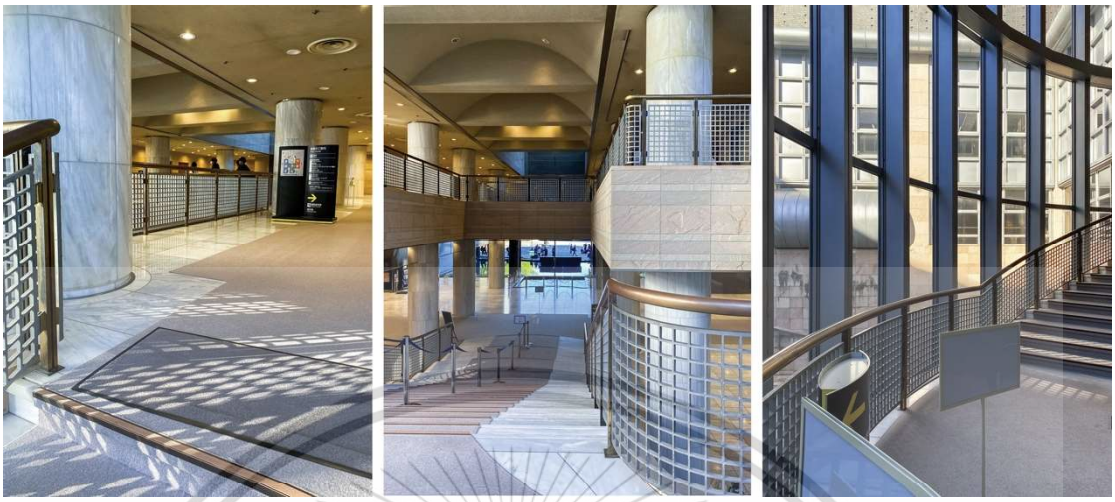

Figure 7: The National Museum of Ethnology's interior

Figure 8: The National Museum of Ethnology's interior

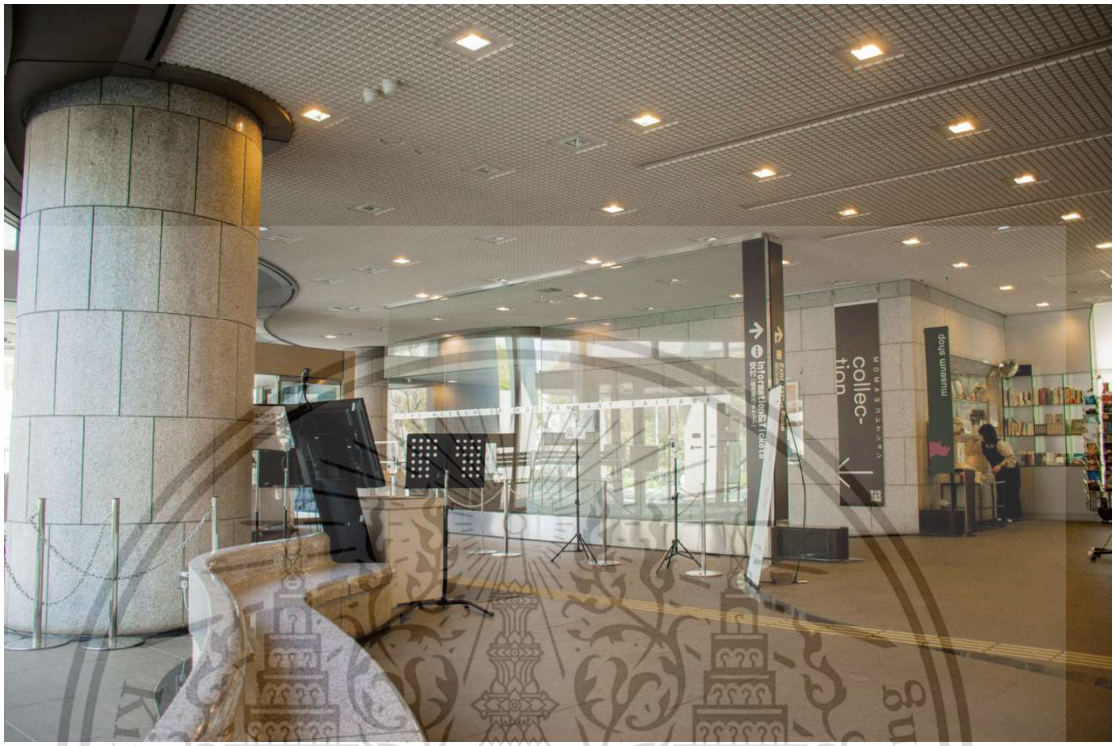

Figure 9:Saitama Prefectural Museum of Modern Art's waiting area

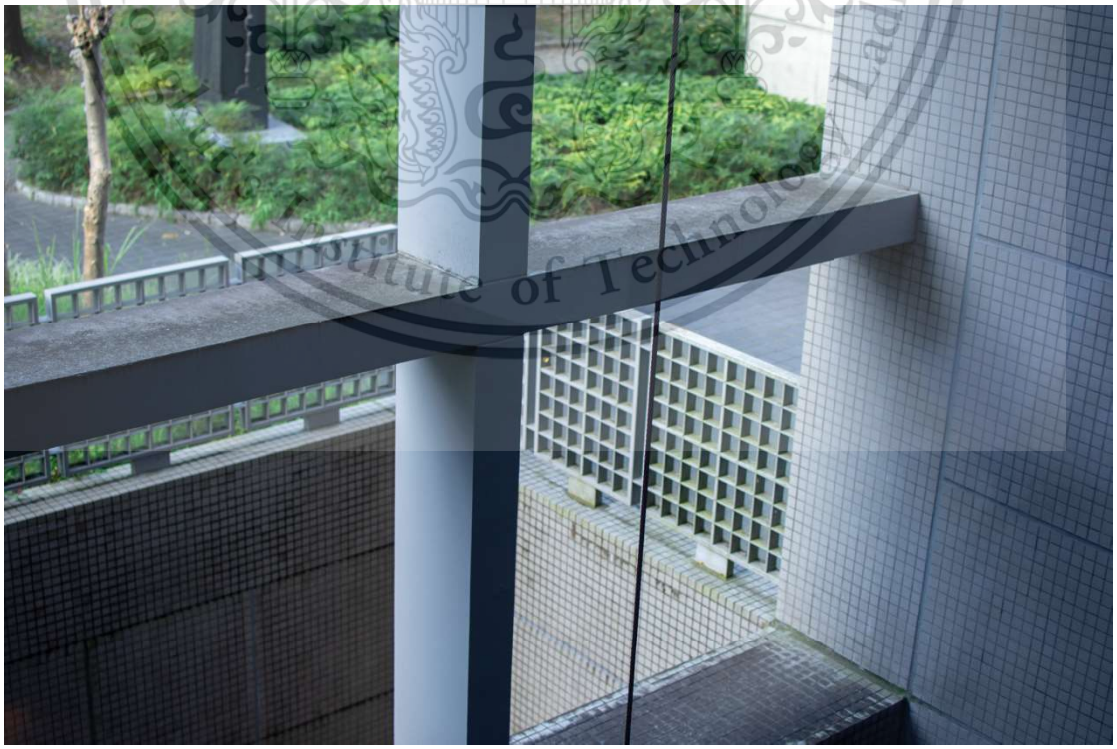

Figure 10: Saitama Prefectural Museum of Modern Art's material

Figure 11: Saitama Prefectural Museum of Modern Art's side view

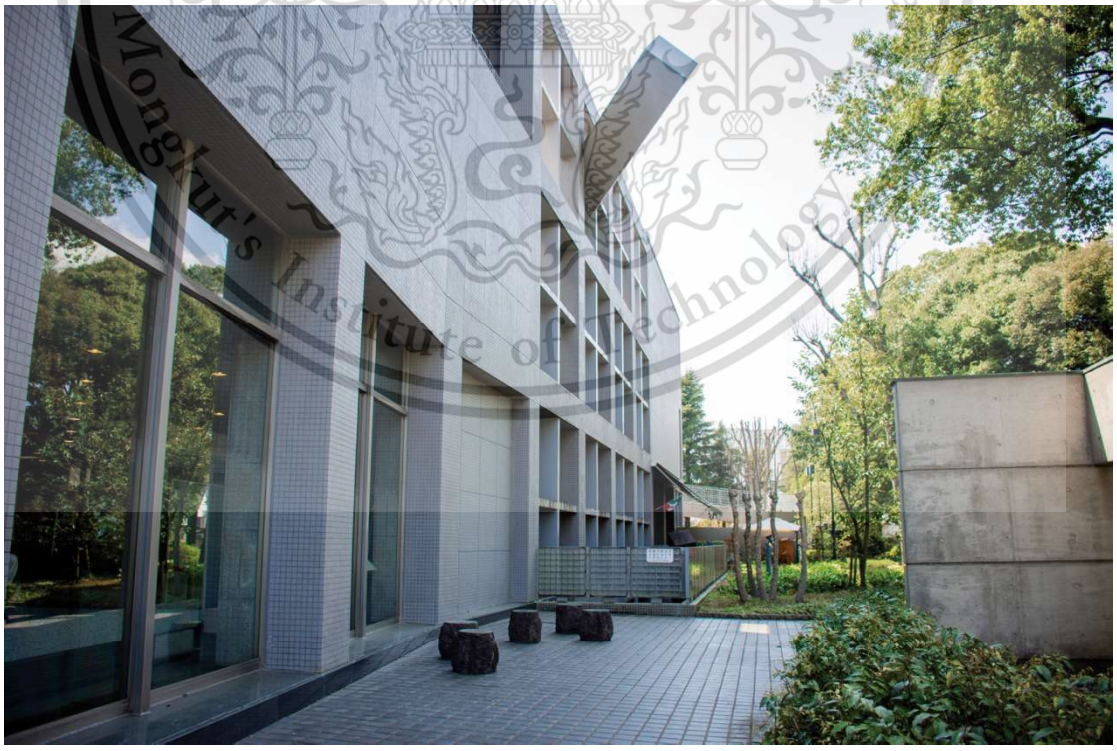

Figure 12: Saitama Prefectural Museum of Modern Art's side view

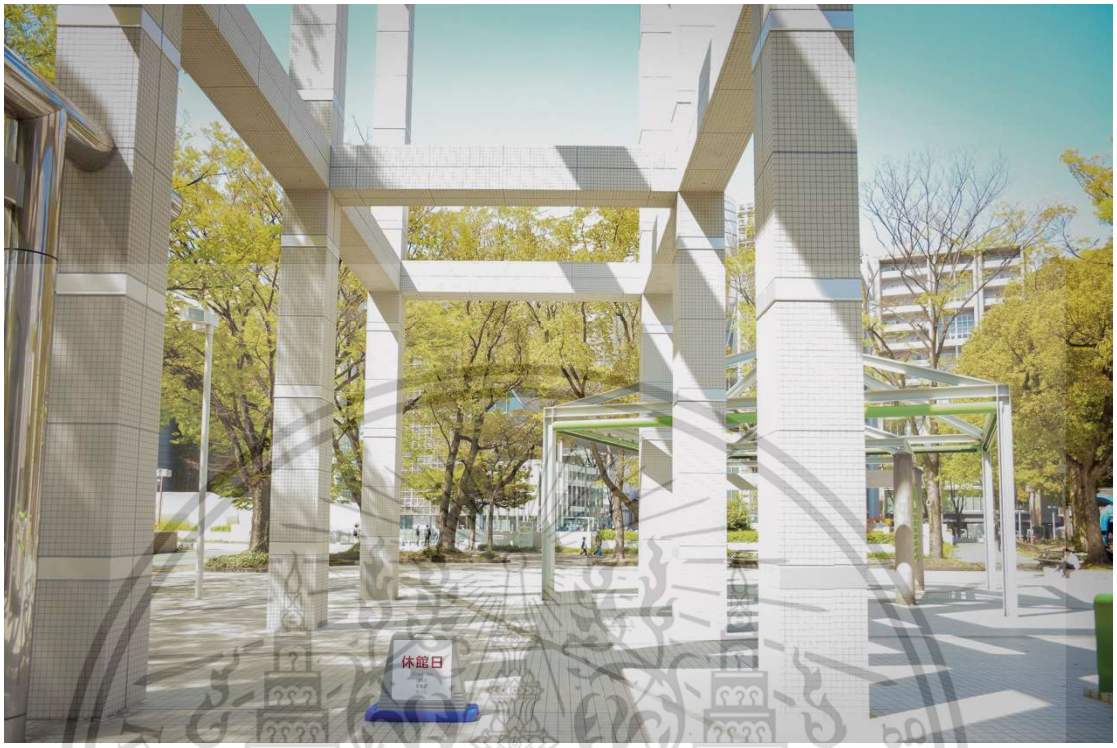

Figure 13: The Nagoya City Art Museum’s entrance

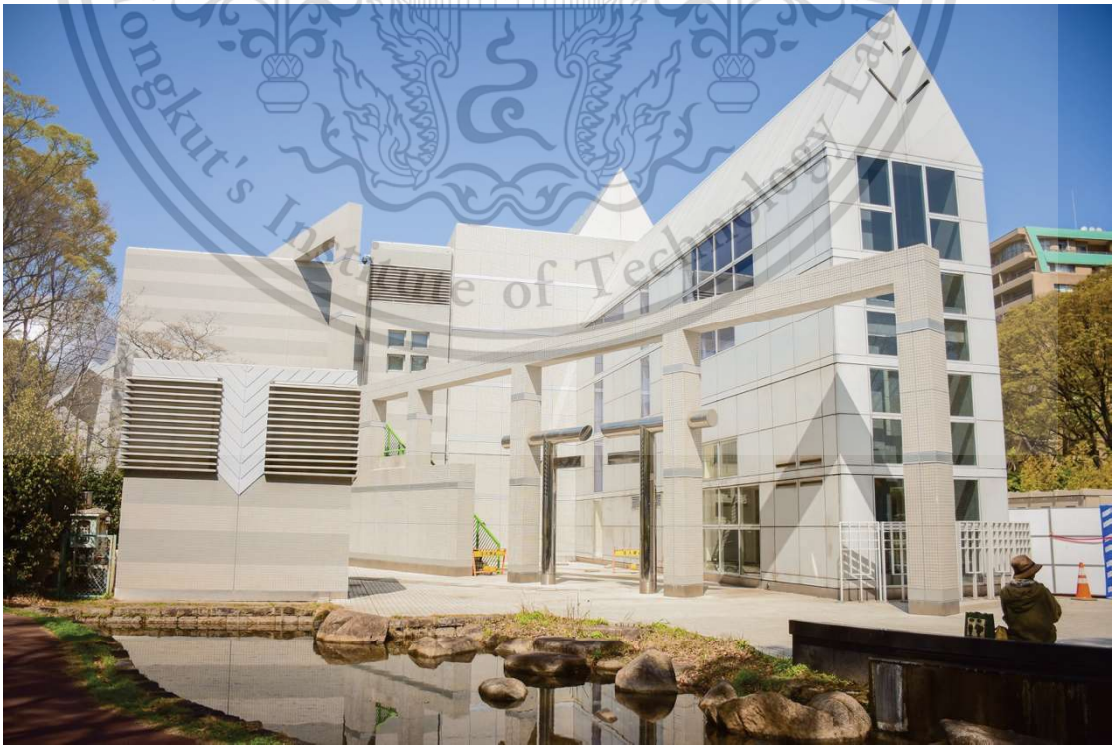

Figure 14: The Nagoya City Art Museum's back side view

Figure 15: Entrance landscape of the Nagoya City Art Museum

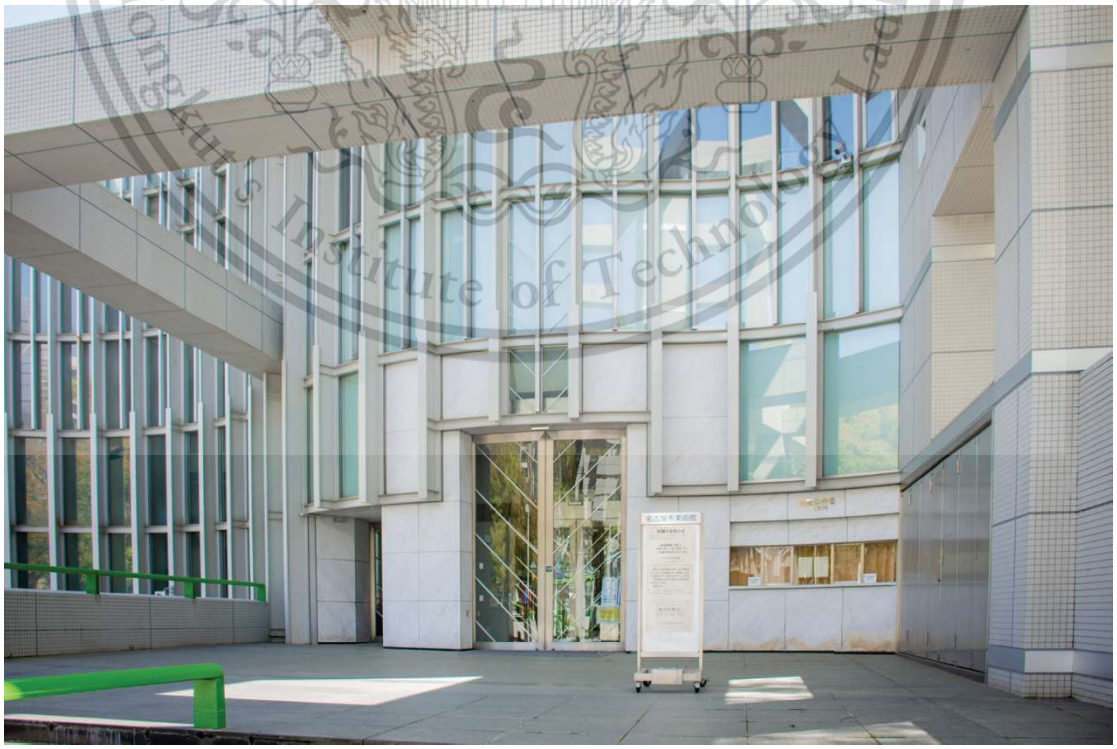

Figure 16: The Nagoya City Art Museum's facade

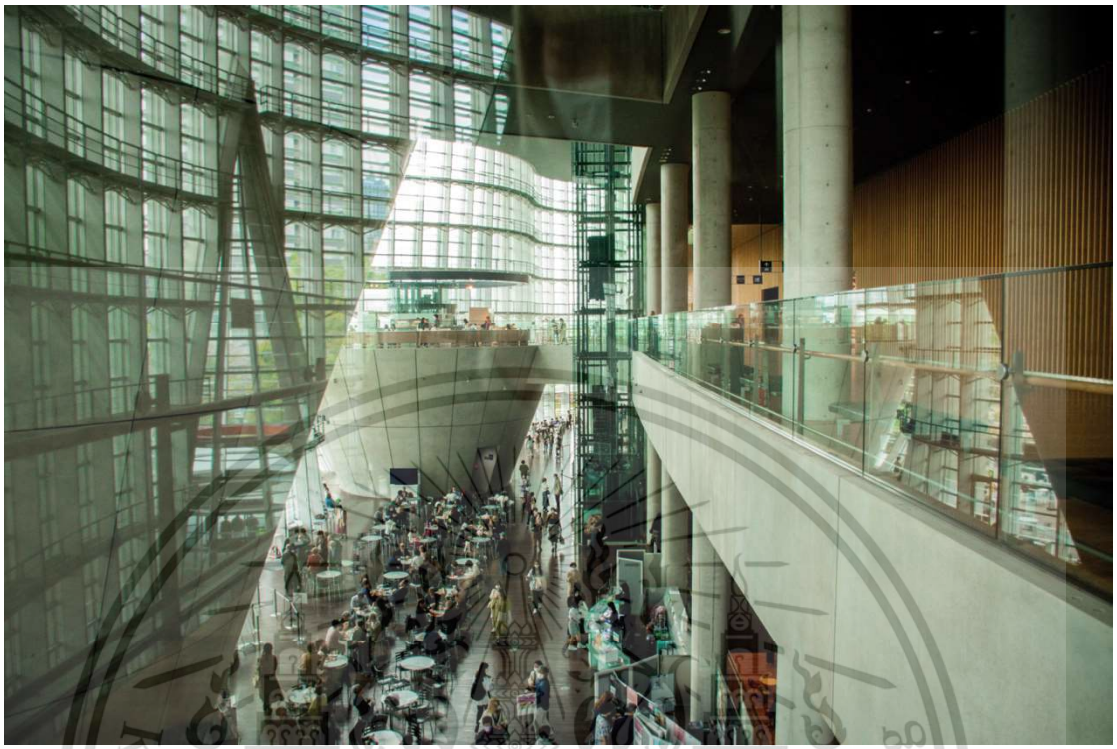

Figure 17: The National Art Center, Tokyo's interior space

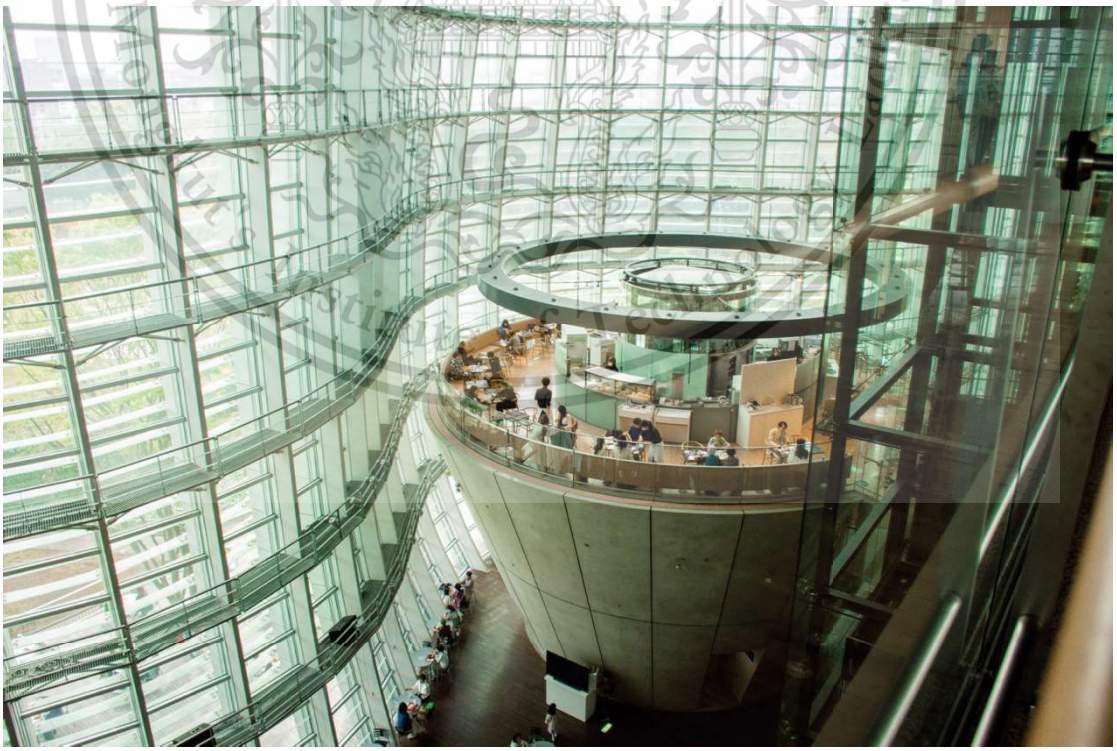

Figure 18: The National Art Center, Tokyo's interior space

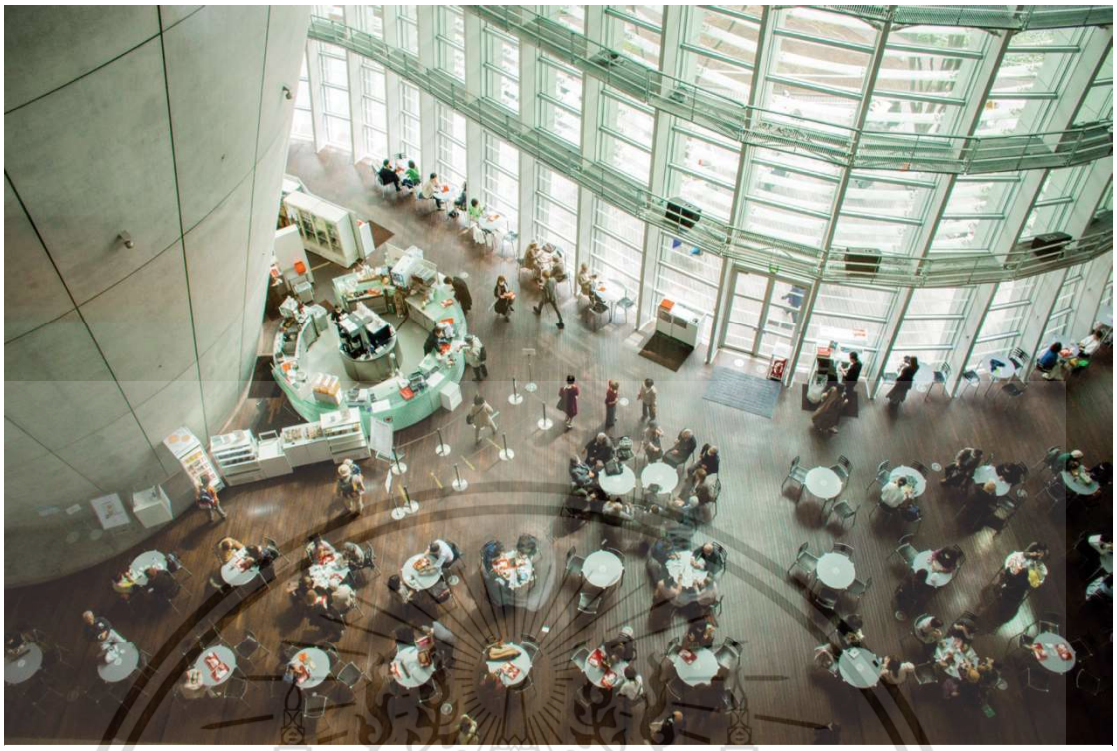

Figure 19: The National Art Center, Tokyo's interior space

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2023-Present	Interior designer at HA Design & Associates Company Limited

Research

2022	Chantha Sasipa, Toru Irie, Haruno Kinjo, Nanta Piyarat. (2022). The Study of the Architectural Design Philosophy, “The Restoration, and the Recognition of the Institute of East Asian Studies Compound, Thammasat University, Rangsit Campus, Thailand.” 2022 年度日本建築学会大会.
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