

Chapter 5 – Study of Theory

5.1. Study of Design Accentuation – Organic Style and Sustainable Concept

5.1.1. Interpretation and Elaboration

This civet coffee industry focused on achieving harmony of nature life and sophisticated life, that one of them usually left behind in a design. It is a must for a building to always preserve energy and maximize the renewable natural energy such as natural light and natural ventilation etc.²⁰

“**The organic style and sustainable concept**” can be applied as an accentuation in this project. The organic style follows the nature form without leaving the function of the building, supported by sustainable strategies for site and buildings will be an enormous design in Bedono sub-district.

- Organic Style / Organic Architecture

Organic Style / Organic Architecture is a term coined by Frank Lloyd Wright to describe his approaches to architectural design. Wright disagree with “form follow function” in an architectural approach and argued that “**form and functions are one**”.

Organic architecture strives to integrate space into a unified whole. Frank Lloyd Wright was not concerned with architectural style, because he believed that every building should grow naturally from its environment.

From *An Organic Architecture*, 1939, by Frank Lloyd Wright:

“So here I stand before you preaching organic architecture: declaring organic architecture to be the modern ideal and the teaching so much needed if we are to see the whole of life, and to now serve the whole of life, holding no 'traditions' essential to the great TRADITION. Nor

²⁰ http://en.wikipedia.org/wiki/Organic_Architecture

cherishing any preconceived form fixing upon us either past, present or future, but - instead - exalting the simple laws of common sense - or of super-sense if you prefer - determining form by way of the nature of materials..."

Organic architecture can be translated into usage of materials, motifs and basic ordering principles continue repeated throughout the building as a whole.

The concept not only refers to the buildings but also the natural surroundings. It needs to be carefully thought that both of the buildings and natural surroundings should be designed as if it were a unified organism. List of rules towards organic architectural design according to *Gaia Charter*.

"Let the design:

- Be inspired by nature and be sustainable, healthy, conserving, and diverse.
- Unfold, like an organism, from the seed within.
- Exist in the "continuous present" and "begin again and again".
- Follow the flows and be flexible and adaptable.
- Satisfy social, physical, and spiritual needs.
- "Grow out of the site" and be unique.
- Celebrate the spirit of youth, play and surprise.
- Express the rhythm of music and the power of dance."

Just as in Nature, Organic Architecture involves a respect for natural materials, wood should look like wood, blending into the surroundings

for example, a house should be of the hill, not on the hill, and an honest expression of the function of the building.

- Sustainable building²¹

Sustainability means capacity to endure, in architecture the word can describes how building and its environmental systems remain diverse and productive over-time.

Sustainability is a way of life affecting a relationship we have with the global and local environment.

There are actions for industrial building to achieve sustainability such as:

- Design for minimum waste
- Lean construction and minimize waste
- Minimize energy in construction and use
- Do not pollute
- Preserve and enhance biodiversity
- Conserve water resources
- Respect people and local environment
- Monitor and report

Materials, energy and water are three main resources required to construct and run buildings. A sustainable building design approach has to consider these three resources.

Sustainable material selection process:

- Minimizing the need for materials : build only when necessary, build small, design for effective use of materials, design for durability and reduced maintenance

²¹ Sassi. Paola, Strategies for Sustainable Architecture, 2006, New York : Taylor and Francis Inc.
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- Use existing materials: reuse existing buildings, reuse existing building components, use recycled materials
- Selecting materials: Specify renewable materials with short regeneration cycles, specify plentiful resources and avoid scarce resources, specify materials associated with low manufacturing pollution, specify materials that do not pollute indoor air, select locally produced materials requiring minimal transport.
- Material disposal and waste minimization: segregate timber, inert, metal and soil waste during construction and demolition and ensure their recycling, arrange for excess material ordered and where possible waste material to be taken back by material suppliers, include recycling provisions in buildings.

Sustainable technologies are available such as natural ventilation, natural lighting, PV, wind energy, geothermal energy, bio fuel, heat gain and loss control, etc.

5.1.2. Precedent

International Coffee Plaza – Richard Meier and Partners

This building is a headquarter of an international green coffee service group Neumann Kaffe Grupe (NKG) located in Hamburg's Hafen City. The site of the new building is a part of a redevelopment initiative of the post-industrial port into a business, commercial and cultural center.

Strict municipal zoning and sustainability challenged the architects and the client in their attempts to develop both a modern, sleek design and a green, sustainable building.

New mechanical systems and facades were designed to reduce energy consumption while maintaining natural ventilation and daylight accessibility in the working environment. The south and west elevations are designed with

vertical rotating louvres that minimize heat gain and provide shade for the users.

The elliptical 8,000-sq-meter tower is a trademark Richard Meier & Partners design that includes a white and transparent glass facade, a light-filled atrium and office space. The tower is mixed use with eleven of the twelve floors housing offices. The additional penthouse, labeled the “sculptural roofscape” will provide additional conference rooms. The ground level houses an elegant restaurant. Parking and technical spaces are housed in the additional three subterranean levels. The adjacent office buildings are each 5,000 square meters and are comprised of six floors, a roof terrace, underground parking and ground floor retail space. The building also includes a collection of large-scale sculptures and paintings, including the largest bronze coffee bean.²²

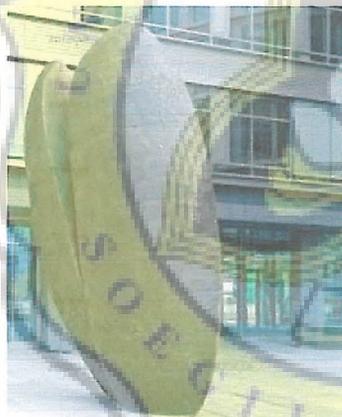


Figure 59: Extra large coffee bean sculpture International Coffee Plaza Plan

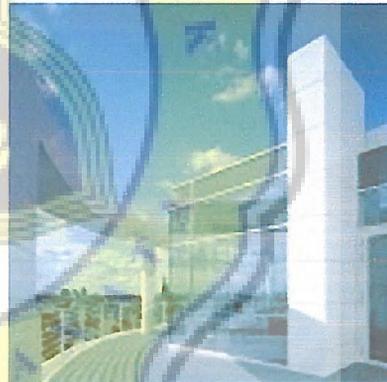


Figure 60: International Coffee Plaza upper floor

5.1.3. Design implementation

The organic style combined with sustainable building concept has been chosen as the accentuation of the project. I conclude that the style and

²² <http://www.archdaily.com/84965/international-coffee-plaza-richard-meier-partners/>
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concept can tune in well to achieve an extra-ordinary civet coffee industry design. And it will bring challenge to force the nature to unite with sophisticated technology.

Design criteria:

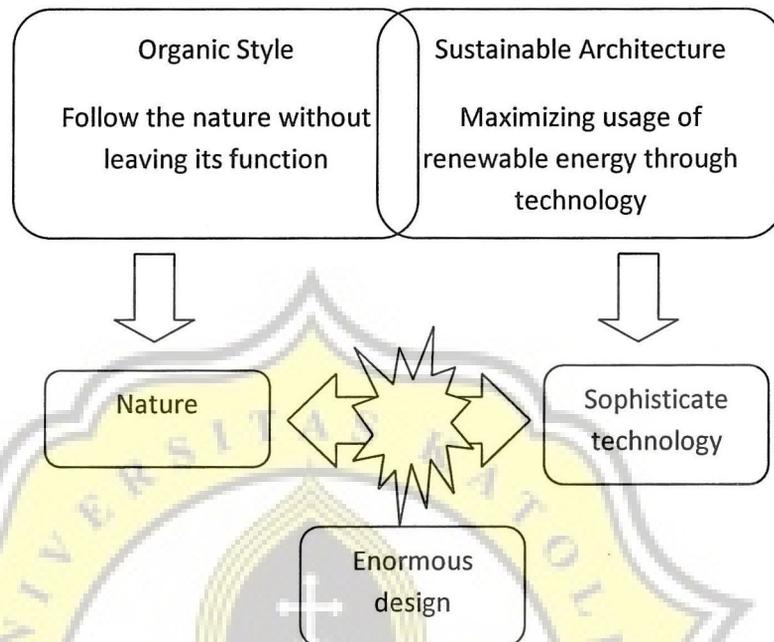


Diagram 16: Implementation diagram

5.2. Study of Core Issue – Creating Good Integration among Buildings and Functions Through Well Designed High-Class Coffeehouse

5.2.1. Interpretation and Elaboration

The design issues that can be found in this project are:

- Capability of the building to house all of manufacturer equipment
- Expressing the class of commodity which produced by this complex through its style and design
- Achieving harmony of nature and technology through building plot

Integration among buildings uses Frank Lloyd Wright's Organic Architecture Philosophy. The conversation below can be used as a solution for those issues.²³

MacDonald: So the natural thing is the universal thing

Wright: That's right, the universal thing is the natural thing

The universal thing mentioned above is not about bees and trees and the sound of water falling over rocks. The universal thing refers to everything that is continually there and present.

Another Wright's statements about organic architecture that can help the integrating all buildings is:

The site is all important and your sympathetic appreciation of the site and understanding of it as it appears in the building is a measure of your success.

From statement above, the site will be the most important thing in making the integration of this complex so that the design should be carefully appreciating the site and understands it.

5.2.2. Precedent

Ludlow Chocolate Factory²⁴

This simple and elegant architectural proposal is conceived within a long narrow burgage plot of Ludlow's strict urban grid. It is composed of three elements, manufactory, garden and residence. The manufactory and residence are set at either end of the burgage plot and are separated by a secret garden, which provides ingredients for chocolate. The manufactory fronts Ludlow's market place which is a source of inspiration for the apprentices, whilst the residence peers out of the town towards the

²³ Meehan, Patrick J. AIA. "The Master Architect, Conversation with Frank Lloyd Wright"

²⁴ http://www.presidentsmedals.com/Project_Details.aspx?id=2343&dop=True

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Temevalley, providing a retreat and a place where the craftsman can welcome the connoisseurs of other gourmet foods. The elements share a continued materiality and circulation so that the mind may be consumed by a constant need to learn.

The manufactory at ground level accommodates the creative processes, which are contained in transparent space, whilst the tasting rooms are removed and placed at the first floor level. The creative level will expose apprentices to the entire 'bean to bar' process, whilst the tasting level will give the apprentices a means to reflect on the chocolate created. The tasting level accommodates both public and private rooms so that their innovations in chocolate can be tested in the company of the public and other chocolate



Figure 61: Ludlow Factory

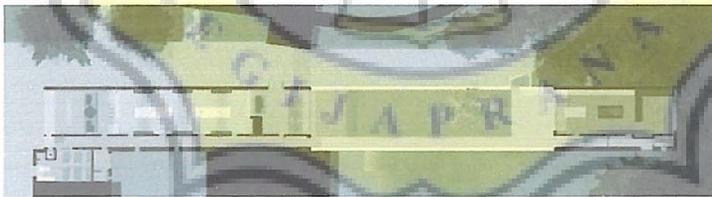
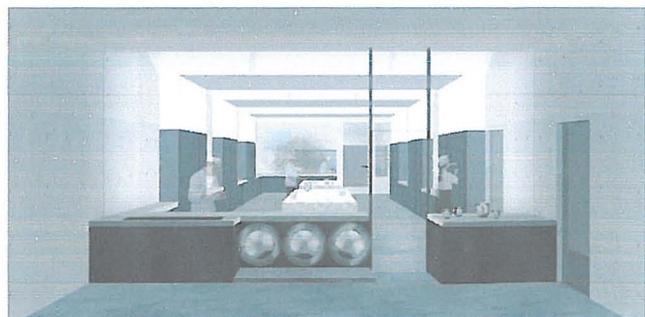


Figure 62: Ground Floor Plan

Figure 63: Ludlow Factory – housing equipment



5.2.3. Design implementation

The core issue that will be implemented to this project is the building plot and order. The problem is to create a bond between nature based facilities and sophisticate based facility.

The building plot is designed with well integration among buildings.

The building design is designed for achieving harmony between factory and plantation which are connected through the coffee house

So, the core issue is to create a good integration among the factory, plantation and conservation through well-designed high-class coffeehouse.

