

“Office Design concentrated in sustainability and technology neglecting that the endpoint is designing for the people.”

- Kay Sargent, the director of workplace strategies at Lend Lease

## I. Introduction

In the Philippines, it lacks culturally specific architecture; most buildings are heavily influenced by foreign and western design washing out Filipino heritage although not completely. Kut-Kut, the Lost Filipino Art is defined by the Arlington Heights Memorial Library as an exotic Philippine art form based on early century techniques -- sgraffito, encaustic and layering. The merging of these ancient styles produces a unique artwork characterized by delicate swirling interwoven lines, multi-layered texture and an illusion of three-dimensional space. This definition of Kut Kut, is a great metaphor for the Filipino people. Through hundreds of years under different colonizers, Filipino's have become a blend of Spanish, American and Asian culture. By exposing the employees and the employer to Filipino culture, it would give a sense of pride missing in a Filipino's urban life. The following are the objectives of the urban smart green office concept:

1. Creating harmonious and beneficial relationship between public and private space  
Public Space is the key to a healthy community as it boosts socialization, the need of man for interaction and so the designers understand the great importance of public spaces to the building. The giant staircase adjacent the site's park is to provide the people direct access while the terraces and vertical garden serves as an extension of the park.
2. Uplift the Working environment of Filipinos through cultural and social space  
According to Robert Young, the concept of culture is easily dissolved, undifferentiated and uncontainable. What comprises culture is below the level of conscious awareness. Without culture, a workplace in general become a chore and shows operating losses. Financial analysts say that the financial performance of the 100 best companies rely on great workplace culture. It improve the turnover rates, employee morale and ultimately increasing annual profit.
3. Encourage a positive lifestyle and promote healthy habits for the Filipino employee through a green and sustainable environment  
A green and sustainable environment help regulate air quality and climate, reduced heat build-up, and cool urban hot spots. This increases privacy and tranquillity by acting as acoustical barrier; enhance self-esteem, stress reduction by helping them cope with the pressures of work thus letting perform better. Health benefits include lowering of blood pressure, reduce muscle tension, improve attention and reduce feelings of fear and anxiety. By providing open terraces, planter box as a divider and providing natural light and ventilation instead of a normal office atmosphere, better atmosphere for working is created.

## II. Design Considerations

- A. Circulation – Accessibility is defined as the extent to which a consumer or user can obtain a good or service at the time it is needed; it is also the ease with which a facility or location can be reached from other locations

Strategy: Private zones are separated from public ones for functional zoning. Flexible plan in both workspace and collaboration was chosen for the benefit it provides in both concentration and performance. The core is located at the center so that it is most accessible.

- B. Vistas- Visual access must be made available to all users. Landscaping should be within the line of sight of the users. As the site allows numerous vista points, the office can capitalize on this.

Strategy: Vistas – visual comfort enhances the information process of the users while being inside a cubicle thus increasing performance value.

- C. Building character – As part of the objectives of the design, it is very important for the cultural identity of the place to be incorporated in the design as it attracts the public to enter.

Strategy –The transition of cultural and green space draws the people towards the building while it creates sense of pride thus improve self-esteem of the workers.

- D. User Experience – to let the working Filipino experience the office that appeals to them.

Strategy: The atrium adjacent to the lobby gives the entrance grandeur and light atmosphere as the public enters. Agile workspace provides the working Filipino their own personalized space without crowding them. The Collaboration Space gives the workers a public place to relax while have impromptu conversations.

### III. Design Strategies

It is important for a sustainable urban office building to have high functionality for its building components. Most buildings in Manila is made of steel, concrete and glass. There is an emphasis on the texture of the materials lessening the use of paint, cladding or other chemicals as the appearance should speak for itself and be tectonically honest. The solar shading reduces the need of active cooling while its design is inspired by the Kut-kut art. The building is covered by light colors as it reduces the temperature of the building significantly lowering the heat island effect. The reflective and green roofs reduces water run-off, regulates room temperature, thus minimising building footprint and greenhouse gas emissions. The structure made use of monsoon windows which can be operated as an alternative instead of using air-condition. This is made possible through orienting the building along the east west axis. These double-glazed windows, air tight building shell, ventilation plant and the concrete temperature control reduces heat and ensure the indoor stay in healthy conditions. Solar Panels generate renewable energy on site saving on electricity costs.

Although the Open Office is a trend nowadays, studies show that this layout is bad for the productivity of the employee and the employer. However, the main point of open office is collaboration of ideas which could be done through creating paths for chance meetings. The chance encounters are necessary to increase familiarity and to hopefully create conversations that lead to solutions. As stated

by Sargent, offices should be designed for human potential where vertical and horizontal corridors are at the center to create chance meetings. Collaboration Spaces which includes nooks and conference rooms are directly found adjacent to the core. The interiors made use of natural light and ventilation while light shelves provide extra and store light.

The structure boasts of 15-20 meter spans through the use of post-tensioned flat slabs reducing the cost of building materials by 60% and also enhancing flexibility for office space planning. Organic waste from canteen and other kitchen areas is pumped through a vacuum system towards a container recycling it into a fertiliser or for the manufacture of biogas. Recycling stations for non-biodegradable are provided within strategic locations around the building. Innovative aerators were placed inside the low-flow faucets of kitchens, toiletries and showers inside the structure. In a study, it has been said that pipes from the roof capture almost 3 million litres of water annually, more than enough to provide the toilets' flush. During the night, the cooling tower passes the cooled water along the PEX pipes embedded in the concrete slabs, lowering the temperature of concrete. The building utilities management shuts off the light when no one uses a space.

#### IV. Materials

- A. Bamboo –source is located 13 kilometers from the site which is 22 minutes travel via vehicle. It is used for ecological purposes such as soil stabilisation and erosion prevention on hill slopes and verges. It is a very important forestry plant which is harvested from existing natural forests, plantations, and mixed agroforestry systems. Bamboo culture is an option for conserving and protecting tropical forests while creating enduring supplies for the wood and cellulose industries.

There has been a growing awareness in recent years that bamboo is a vital component of development and an effective means to improve the livelihoods of rural poor people. Over 600 million people generate income from bamboo; hundreds of millions of people in the world live in bamboo houses. A great part of the bamboo that is used is harvested by women and children, many of whom live below subsistence levels in developing countries.

Bamboo is a natural vehicle for development because rural people generally have adequate access to it. It can be easily grown and harvested in the perimeter of forest areas or under agroforestry schemes. Bamboo agroforestry requires only a modest capital investment and generates steady income to farmers. In many parts of the tropical world the rural poor are dependent on bamboo for their shelter and for every-day utilities.

- B. Natural Stones – the source is located 20 kilometers from the site which is 34 minutes of travel via vehicle. Good for natural temperature check and strong against earthquake movements. It provides better aesthetic detail.
- C. Solar Panels - The creation of solar energy requires little maintenance. Once the solar panels have been installed and are working at maximum efficiency there is only a small amount of maintenance required each year to ensure they are in working order. They are a silent producer of energy. There is absolutely no noise made from photovoltaic panels as they convert sunlight into usable electricity.

There are continual advancements in solar panel technology which are increasing the efficiency and lowering the cost of production, thus making it even more cost effective. During operation solar electricity power plants produce zero emissions.

- D. Double Glazed Windows- The airtight construction of double glazed windows creates thermal insulation. This reduces the flow of incoming and outgoing heat. Less energy is used to heat up or cool down the space, resulting in lower energy bill. Moisture on a warm surface forms droplets of water, which freeze into frost. This can make the room feel colder, which forces the people inside to adjust the heat. The air between the two panes of glass, plus the airtight seal, prevents condensation from building up by blocking moisture in cold weather.

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