Bahay two dominant climatic conditions that one must

Design, Architecture

Bahay kubo: challenge of sustainability in the contemporary period The bahay kubo is facing continuous threats to its survival. Socio-economic and socio-cultural principles encouraged by modern developments are a making strong impression on the Filipino vernacular households. While residential units should transform to suit the changing needs of the Filipino society, changes ushered by modernization are often disconnected and unfitting because of the inappropriate use of new materials making it unsuitable for the vernacular bahay kubo. ClimateOne of the characteristics of the traditional bahay kubo is that it was designed with a deeper understanding of the environment and with the utmost respect for the natural habitat, best reflected in the climatic design of this humble dwelling.

The Philippine climate is considered tropical with high humidity throughout the year and an average temperature of 77. 9 °F. Typhoon and monsoon rains are two dominant climatic conditions that one must first understand in building the traditional dwelling. With the ever-changing climate, it is a challenge for designers and homeowners to keep and maintain the traditional dwelling (Pilatowicz, 1995). The design of the modest dwelling cannot sustain the strongest typhoons that hit the archipelago. The past decade the intensity and wind speed of the typhoons that landed on the Philippine shores has doubled, the devastations are incomparable. Though this native dwelling is made of organic and readily available materials, rebuilding is becoming difficult and costly. Thermal comfortIn the Philippines, humidity, glare and high temperature are among the causes of climatic discomfort.

These factors can be controlled with proper natural ventilation in a built environment (Ruff, & Olson, 2009). The bahay kubo was designed to provide natural cooling through adequate ventilation using fully operable windows at body level, likewise, open interior spaces with minimal partitions allow good ventilation in the house. The high pitched roof gives ample space to ventilate and by utilization of a thatch roofing as a building material that has low thermal capacity allows to cool the house naturally. Moreover, the expanded eaves were designed for effective sun-shading and control for solar radiation.

As a result, the bahay kubo exhibits effective cross ventilation features than the contemporary concrete and glass houses. The Bahay kubo uses primarily ventilation and a sun-shading mechanism to provide climatic control for the interior environment. In the warm and humid tropical climate of the Philippines, these are the most effective means for climatic comfort in a house. Modern materialsThe changes of the bahay kubo structure are making an impact on the modern development and utilization of building materials. Coherent and holistic design principles of the traditional dwelling are being substituted and disintegrated by a more modern and consumer-driven influence. Modern materials like, corrugated sheets, asbestos, cement and glass has considerably altered the shape of a bahay kubo. Metal sheets are replacing the thatched roofing, creating a very hot interior environment and high thermal conductivity on the summer months and colder and noisy interiors on a rainy season. Concrete, on the other hand, has provided the bahay kubo a sturdy column and flooring that can withstand strong winds,

but it created a solid-looking structure, completely indistinguishable from the light and airy traditional dwelling.

The increasing dependence on modern materials has altered how the traditional bahay kubo has evolved. From a green and sustainable structure to technology dependent dwelling. The once available materials for bahay kubo that are organic and renewable are becoming scarce. Most of the materials which could be gathered freely from the surroundings are no longer accessible because of constant clearing of the natural environment to accommodate new development. Moreover, because of the fading popularity of the traditional dwelling to the younger population, the artisans involved in the building of a bahay kubo has started to diminish. In conclusion, we continue to understand how human activity influences our natural and built environment. In order to accommodate new understanding of different perspectives on how humans adapt and evolve, one must have an open mind (Rider, 2005).

It is imperative to look back at history and the development of the built environment to usher new renewal of interest in the traditional and vernacular design and architecture. One lesson that can be learned on this exercise is to acquire and adopt the promise of a sustainable dwelling from our vernacular architectural heritage in a modern context. While the poor climatic design is attributed to the unfitting usage of materials, such materials should be demystified and local materials and craftsmen should be promoted.