# NOVEL TEMPERATURE MEASUREMENT AND PROFILING SYSTEM FOR BIOCLIMATIC BUILDING MATERIAL

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## ABSTRACT

*Energy in building has a lot of purpose. One of it is to condition the space for thermal comfort. For hot and humid country like Malaysia, the excess heat that is transferred into a building and increases the internal temperature causes much discomfort. In order to maintain the thermal comfort, this excess heat must be extracted out from the building space. Material for the building envelope plays a very important role to influence the rate of heat transfer. Understanding the thermal behavior will enable engineer to select suitable materials and to design the optimum dimension for building walls from energy efficient perspective. This research project is able to display the thermal behavior of building material under the influence of solar radiation. The temperature profile will display the thermal behavior of building material.*

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# CHAPTER 1

## INTRODUCTION

### 1.1 Overview

Building industry is the symbol of development and civilization. Buildings evolve from not depending on energy to very dependant on energy. Building services like air conditioning, lighting, lift and fan uses energy, thus without energy most buildings cannot function and provide the comfort and quality living.

Buildings similar to KLCC Twin Tower, without enough energy will be inhabitable, while a traditional building (Figure 1.1) uses very minimum energy. If not enough effort to conserve energy and practice effective energy efficient strategies during design stage, the future generation may have to live in houses similar to the traditional building of the 19$^{th}$ century below.

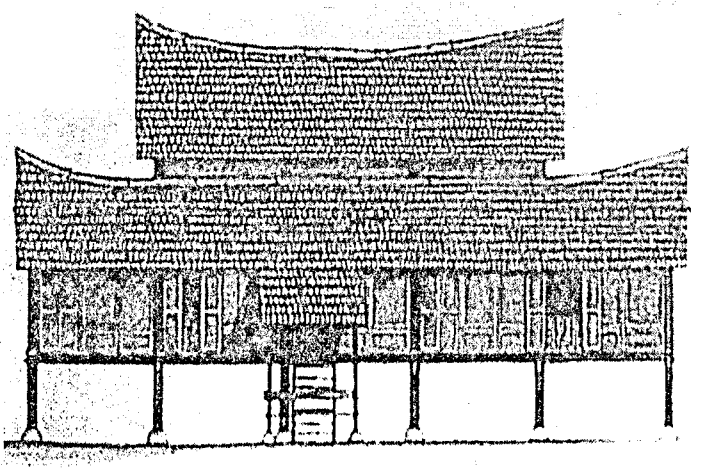

Figure 1.1: Typical Traditional Malay House in the 19$^{th}$ Century