

UNIVERSITI TEKNOLOGI MARA

**PROPOSING CLIMATE RESPONSIVE DESIGN
THROUGH SUSTAINABLE APPROACH CASE STUDY
AT TANJUNG LEMAN BEACH RESORT, MERSING,
JOHOR**

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ABSTRACT

A climate-responsive design response the weather conditions in the precise area where the area is propoposed. Climate responsive design takes into consideration seasonality, the direction of the sun (sun path and solar position), natural shade provided by the surrounding topography, environmental factors (such as temperature, wind, rainfall, humidity) and climate data (temperature, historical weather patterns, etc.) to design comfortable and energy efficient homes. This study, it will examine the responsive and sustainable landscape design of Tanjung Leman Beach Resort towards vibrant tourism spot. The physical character will emphasize on the function of open spaces, spatial linkages and preservation of natural features. The methodology of this study involves the implementation stages of secondary data such as future plan from local authority and existing data from previous researchers. The primary data has been identified through observation and data recorded method. All collected data are synthesised and identified the potential area to be developed and preserve. Based on the strategy and design ideas inspired from concept of "Bliss by Breeze" that has been transform into physical form in designing the open spaces to be more functional, systematic spatial linkages, and preservation of natural features as well as provide cool and comfort outdoor environment and save energy. Proposing climate responsive and sustainable landscape design through enhancing the spatial form and character will give a positive impact to the local and tourist through their experience that to be enjoyable and memorable. Hopefully, this project can be used as a design guidelines for stakeholders in proposing the responsive design and to give better performance of the human comfort and energy efficient for resort that located at coastal area in tropical environment.

Keywords: Climate responsive, design, landscape, comfort, and open space

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

The environment issue for design strategies in coastal areas to adapt and response to climate change has become a global major concern. The harm caused by flooding and sea level rise had been seen directly in coastal cities and regions, threatening the sustainability of cities, public infrastructure, and coastal wetlands. This usually affects thermal comfort and energy efficiency and carbon emissions in the local environment in these areas. Proper planning of outdoor areas can help decrease energy consumption for cooling by minimizing the adverse effects of certain climatic variables (Misni, 2012).

In an increasingly urbanized and pressurized world, coastal and marine environments are becoming extremely important in providing outdoor space and incentives for leisure, contemplation and physical activity. The layout among both water and land provides clean air, natural sunlight, long-range views of landscapes and seascapes, and generally the rhythmic sound of waves meeting the shore and continually changing the rising and falling of the tide. These provide such a soothing contrast to the busy city life and a setting for a wide variety of active and passive leisure activities.

Resort is a place where people often go, customarily or generally, for rest or recreation as on holiday. With changes due to development in air transport, this gives access to the tourists from all over the world to stay at resorts located at more distant areas. Resort also a place frequented for holidays or recreation or for a specific purpose. Coastal areas are vulnerable to climate change effects. Sea-level rise and strong storms can lead to the erosion and flooding of these critical areas but also the loss of natural environment.