

**CENTRE OF STUDIES FOR BUILDING SURVEYING
FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING
UNIVERSITI TEKNOLOGI MARA**

**SUSTAINING GREEN ROOF THROUGH MAINTENANCE PRACTICE
IN HIGH RISE RESIDENTIAL BUILDING IN SHAH ALAM**

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**“I hereby declare that this academic project is the result of my own research
except for the quotation and summary which have been acknowledged”**

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ABSTRACT

Green roofs have been established for over 100 years globally and they have been become one of the key elements in urban area in the past few decades. Green roof had been implemented in residential building and act as a place for social purpose. But, to compare in Malaysia, the adaptation is still low as well as the study about green roof were few in numbers. Many scientific researches focus on its cooling performance, efficiency and survival rates of plants. This research involves discovering how the green roof was maintain in high rise residential building in Shah Alam. The goal is toward providing the effective maintenance practice of green roof. This has been done by examining the green roof through condition assessment and verbal information gained through semi-structured interview at the three chosen case studies. The case study are high-cost, high rise residential building located in Shah Alam. Upon analysing of these data, it becomes clear that green roof maintenance were carried out in two aspects, the vegetation maintenance on the green roofs and the structural maintenance of the green roof. Vegetation is the key element in installing green roofs. It also provides some factors in choosing suitable plants on rooftops, factors including species that are drought tolerant, solar radiation tolerant, and cooling ability of plants. The structure on the other hand play major role in the stability and resistance. The two element which required attention are cracks and water ponding. In addition, green roofs maintenance play a critical role in improving the green roof that will ensure the proper operation of green roof. This research recommend and highlights the importance of the revolution in the implementation of the green roof itself and on improving the maintenance practice currently done.

CHAPTER 1

INTRODUCTION

1.1 Introduction

Green roofs are defined as an extension of a roof in a livelihood arrangement. Leila (2010) stressed that this concept of green roof where plants are not embedded in the 'ground but green space can be below, at or above soil. The green roof system comprises a high quality a lightweight growing medium, drainage system, waterproofing membrane and root barrier system, filters fabric, and plants (Harriman, 2012). Green roof systems can be modular layered systems already prepared in trays, including drainage layers, growing media and plants, or, each component of the system can be installed separately on top of the structure (Leila, 2010).

Leila (2010) and Townshend (2007) both had agreed that green roofs provide many economic, social and environmental benefits. The subcategories have been produced with the apprehension that many of these benefits could fit in several or all three classes. The benefits have been subdivided here to highlight significant aspects of these benefits. These