

UNIVERSITI TEKNOLOGI MARA

**MONITORING OF LANDSLIDE AND
CHANGE DETECTION USING
REMOTE SENSING IN PAHANG**

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ABSTRACT

Regarding to the landslide which had been struck in Pahang during the monsoon season on 11 November 2015, some precautions should be made to avoid loss of human lives and property damage in the possibility area. The occurrence of landslide can be avoided by updated the changes of surface. It is important to detect the different moreover on the dramatic changes. Many changes detection was in range of 10 ten years, but in this study, the period of time is within 4 years. Therefore the objectives of the study is to investigate the spatial probability of landslide in two locations which are in Km 16 of Panching – Sg. Lembing and Km 52.4 of Lebuhraya Kuala Lumpur – Kuantan, Pahang within the year 2012 till 2016 by validate the factor of landslide and change detection by using remote sensing image. It is also to compare the change detection within these two location which are agriculture and forestry area. The change detection was analyzed by the SPOT 5 and SPOT 6 images with the application of powerful software, Erdas Imagine 2014. The analyze point was referred to the overall classification accuracy and Kappa quality. The overall classification accuracy is for all images are more than 50% while the Kappa quality is variety which is good, very good, excellent and poor. In some part of the study area, the changes is because of the raising standard of living such as replanting. It's a must to enhance and develop the economy, but it needs to be in coordinating and planning also. In this cases, the changes are regards to the increment and decrement of the area in hectare, ha.

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Peace upon Prophet Muhammad s.a.w (ﷺ)

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CHAPTER 1

INTRODUCTION

1.1 Background

Pahang, the biggest state in Peninsular Malaysia with the area of approximately 35,965 km² can be generally divided into three sections which are the highlands, the rainforest and the coastal areas. Basically, rainfall and logging activities in the forest can cause a landslide and once it has occurred, the cost to recondition is very high even it happened in a small scale. The landslide will become a tragedy when it occurs in the urban areas or in the areas where there are many people use it such as the main roads. The landslide can cause the loss of lives, homeless, loss of income due to property damage, and disturbing the eco system.

A landslide normally occurs in a hilly and mountainous area where there is a slope failure. One of the factors of landslide is deforestation without control for replantation purpose. It takes quite some time to replant the trees, thus leaves the land in the open space area and exposes it to the agents of erosion. Therefore the structure of the soil becomes loose and unstable since there is no protection such as turfing crops,