

FLOOD DAMAGE ANALYSIS FOR KG. DATUK DAGANG, KLANG



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5.2 Enhanced Executive Summary

Geographical Information System (GIS) application in flood management are largely utilised by the authorities around the world. GIS operations improve the efficiency of flood disaster monitoring and management in tropical countries like Malaysia. In this study, Geographic Information System (GIS) method is selected over other approaches namely; Penning-Rowse & Chatterton and Narabeen Lagoon Floodplain Risk Management Plan. The study area, Kg. Datuk Dagang is located in area of South Klang. This area is near to the Klang River and has high potential of flooding. The focus of this study is to estimate flood damage at Kg. Datuk Dagang, Selangor on buildings and roads using Geographic Information System (GIS). This study has managed to quantify for flood damage costs for the lengths of inundation of 100 m through 300 m from the river. It is proven that the damage costs increase proportionally with the increase of the lengths of inundation.

5.3 Introduction

5.3.1 Background of Study

Malaysia has an equatorial climate with constant high temperatures and a high relative humidity. The climate is influenced by the northeast and southwest monsoons. The northeast monsoon, prevailing between November and February, brings heavy rainfall predominantly to the east coast of Peninsular Malaysia and to Sabah and Sarawak. Rain bearing winds also come with the southwest monsoon from April to September through rainfalls. There are, in addition, two transitional periods between the monsoons (inter monsoon) when convectional thunderstorms are common. The annual average rainfall is 2420 mm for Peninsular Malaysia, 2630 mm for Sabah and 3830 mm for Sarawak, with heavier precipitation recorded in the east coast of Peninsular Malaysia and the coastal regions of Sabah and Sarawak. The west coast of Peninsular Malaysia on the other hand is affected from September to November during the inter monsoon period when convectional thunderstorms become prevalent. Such storms bring short but very intense rainfall which severely overloads the drainage systems, causing localized "flash" floods. As reported by Hamzah (2005) reports that Malaysia experiences major flood event since 1926 until now.

Major floods, even extraordinary floods, are a part of the natural environment. They have always occurred and few regions of the world can claim to be free of their threat. Floods are one of the most destructive of natural disasters and it has rendered many millions of people homeless for the past three decades. Humanity has lived with floods for centuries but the impact of floods was never felt to the same extent in the past as is experienced now. It is certain today that floods resulting in significant inundation cause larger disasters than they were in earlier times. With increasing flood levels and rise in property values the cost of damage is increasing relatively with time. Flood occurrences seem to be getting more frequent in recent years especially in some cities like Kuala Lumpur, Selangor, Penang and Kuching where rapid urbanization is taking place. The Department of Irrigation and Drainage in Malaysia has estimated that about 29000 sq.km, or 9% of the total land area and more than 4.82 million people (i.e. 22% of the population) are affected by flooding annually. The damage caused by flooding is estimated to be about RM915 million (Ghani, Zakaria & Falconer, 2009).

Nowadays, country is entered into the new era of information technology. Thus it is necessary to adopt more systematic approach and