CHAPTER 1

INTRODUCTION

1.1 Introduction

Malaysia has an equatorial type of climate which is with the high temperature and also high humidity. So, the climate in Malaysia can be considered influenced by the northeast and southwest monsoon. Rain that including the winds also comes along with the southeast monsoon which occur in April to September. Although this situation occurs but generally less impact than during the northeast monsoon which occur in October to March. In Malaysia, between middle of October until March the climate of the eastern part of peninsular is affected by the monsoon season or rainy season. During this monsoon season, this area will experienced heavy rainfall.

In Malaysia, floods can be classified into two categories by Department of Irrigation and Drainage (DID) which are flash flood and monsoon flood (DID 2002a). There are several factors contributing to the agriculture and environment. The impact of disaster is flooding problem ranging from topography, different due to its intensity and coverage area. Natural geomorphology, drainage, engineering structures and disasters are happened every year and their impact and climate. . Flood is a natural disaster that caused by the climatological factors which is climate factors, rainfall distribution, winds movements and also the topography of the place. Severe weather condition which cause the heavy rain, such as thunderstorm, tropical waves, tropical storms and also hurricanes can lead to flooding. Most floods are caused by storms in which a lot of precipitation falls in a short period of time, of both types of rainfall, convective and frontal storms. Intensity and duration of the rain are the most influencing factors for flood hazards.

Kelantan is one of the largest states in Peninsular Malaysia occupying the large Kelantan river basin (KRB). The total area of Kelantan is 15,022 km^2 or 4.4% of the area of Malaysia. The Kelantan River catchment is located in north eastern and is one of the major rivers in Malaysia, frequently affected by flooding events. It is the longest river in Kelantan State at 248 km and drains an area of 13,100 km^2. The KRB is one of the largest basins in Malaysia which is known to be flood prone. During end of 2014, heavy rainfall had been occurred for several days that lead to disastrous flooding in several parts of the east coast state of the KRB. The flood was considered to be the greatest in history that happens in the Kelantan Rivers and its tributaries which drain 13,100 km^2 watersheds affecting more than 200, 000 people.

Figure 1.1 shows the condition of the Sultan Muhammad IV's stadium in Kota Bharu being flooded in December 2014 while Figure 1.2 and 1.3 shows the affected area in Kampung Tiong, Gua Musang and Kuala Krai respectively.

Figure 1.1 Sultan Muhammad IV's stadium, Kota Bharu

Source: Mstar (2014)

Figure 1.2 Flood in Kampung Tiong, Gua Musang

Source: Bernama (2014)

Figure 1.3 Flood in Kuala Krai

Source: Sensasi2020 (2014)