1.1 INTRODUCTION

Water is an essential element in the maintenance of all forms of life, and most living organisms can survive only for short periods without water. Although the surface of our planet is nearly 71% water, only 3% of it is fresh. Of these 3% about 75% is tied up in glaciers and polar icebergs, 24% in groundwater and 1% is available in the form of fresh water in rivers, lakes and ponds suitable for human consumption (Dugan, 1972).

Water quality can be measure of the compatibility of water for a particular use based on selected physical, chemical and biological characteristics. For each intended use and water quality benefit, there may be different parameters best expressing the quality of water. Water quality is important in drinking water supply, irrigation, fish production, recreation and other purposes to which the water must have been impounded.

Definition of “Anthropogenic” is relating to or resulting from the influence of humans on the nature or human activity such as logging, mining, artificial construction like construct the dam, construction activities, agricultural and industrialization. Meanwhile, “Disturbances” means a change in the position, arrangement and the act of disturbing something or the interruption of a settled and peaceful condition. Anthropogenic disturbances on water quality is the human activities that are change the quality of water.

Impact of an anthropogenic disturbances have led to increased river pollution, degradation of environment and bad impacts on living and non-living resources. River
ecosystems are influenced by human activities which are often change the timing or amount of stream flow, increase runoff, erosion, and sedimentation, alter water temperature and chemistry, and introduce contaminants. Contamination of water resources affects standards of human life by lowering its quality and normal functioning, (Falcone et al., 2010).

The status of water quality in Malaysia has always been a reason for concern for several publics, local authorities and government agencies. Besides, our government advised us that we should protect the water resources as water is an essential and valuable resource for our health, communities and lives. Water qualities of rivers are the one of the most common issues in Malaysia. Many rivers in Malaysia are generally considered to be polluted including Sungai Nyior, Pahang.

In Malaysia, there is already a standard that concerning the classification of water quality issued by DOE in relation to water quality. NWQS and WQI which is good water quality benchmarking tools so that river water quality preservation efforts can be executed seamlessly.

1.2 PROBLEM STATEMENT

Nowadays, the condition of water pollution in Malaysia is becoming more serious because the water quality is declining due to the anthropogenic activity that was carried out. As Malaysia is fast becoming an industrial country, many of the rivers have become contaminated due to the many wastes that have been discharged into the rivers. Although water pollution is an age old problem but in this modern age, the variety wastes have polluted our water resources so much so that about 70% rivers and streams not only of Malaysia but of all the countries contain polluted waters. The pollution of the river is apparently obvious because it could easily be judge by the colour, look and odour of the river.

Sungai Nyior has been chosen for the study of water quality because of its importance and function to the communities. This river serves as extremely important
natural resources for the people living around the area. This river before it became the location for finding the crabs and fishing for the fisherman and residents.

According to Sinar Harian Newspaper (2016), the river was suspected polluted due to the anthropogenic activities. The residents around the area also complained about the river that is so much polluted because the water turns black and odour. Water polluted affect the local residents such fishing at the river. They are concerned with the situation and wants immediate action taken to address them.

![Figure 1.1](image)

**Figure 1.1**: The current physical water of Sungai Nyior.

*Source: Sinar Harian Newspaper, 23 March 2016.*

From the physical observation, one can assume that something is not right with the current water quality condition of this river. The issues will be questioned as well as how bad is the current water quality condition? What are the required pollution sources that need to be further inspected and controlled? These questions will be answered when the investigation and research was carried out for this study area.