CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

Bauxite mining has become a contentious issue in Kuantan, Pahang. Since Indonesia stopped producing and exporting bauxite ores to China, Malaysian miners take over the labor and later become the world’s top producer beating China itself for nearly half of its ore supply. In 2013, around 100,000 tonnes of bauxite are exported and it increased to approximately 2.5 million tonnes in a year. The exports of bauxites hit a high mark of 20 million tonnes in 2015. Bauxite is a mixture of hydrous aluminium oxides, aluminium hydroxides, clay minerals and insoluble materials such as quartz, magnetite, hematite, siderite and goethite. It is the world’s main source of aluminium and commonly found near the surface.

Open-cast bauxite mining affect the Pahang province for months. The most famous excavation area is Felda Bukit Goh, Gebeng Kuantan. Unregulated mining of bauxite gives crucial impact to the serving community. Out of 236 active mine sites, only 36 are legal. This means that, for one legal site excavated, another six are being dug up. Red cuts in the hills are seen behind the east coast town of Kuantan. Tonnes of bauxite are transported from mine sites to Kuantan port daily, resulting the country roads to be clogged
by large lorries, damaged by potholes and covered by red residues from ores. In addition, nearby rivers and sea are also stained red with pollution if there is heavy rain.

1.2 PROBLEM STATEMENT

Many of the environmental impacts of mining are related with the release of harmful elements from mine waste. If uncontrolled disposal of mine waste occurs, turbidity in receiving waters will increased or with the release of significant amount of potentially harmful elements, acidity or radioactivity. These contaminants may spread to the pedosphere, biosphere, atmosphere and hydrosphere and cause environmental effects (Lottermoser, 2007). The drawbacks from excessive mining are air pollution, water pollution, ecosystem degradation and brought discomfort to population.

Felda Bukit Goh is known for its active bauxite mining activities for the past three (3) years. Most of it is illegal mining. For months, certain area in the district have suffered serious air pollution problems from the red bauxite debris and residue that are largely released to the surrounding by the processing plants or leaked during transported to the Kuantan Port. The nearby community experience health deterioration such as asthma and eye irritation.

Figure 1.1 : Air Pollution (Sources: Malaysia Kini)
Besides, water pollution also occurred. If mine waters are released into local water bodies, the environmental imprint depends on the quality of the effluent. Bauxite wastes are dumped on the ground. Its toxic chemicals will be diffuse to the underground water table along with rainwater. Precipitation of dissolved constituents may results in abundant mineral coatings. Hence, the receiving waterways will eventually increase in acidity and contaminated the main water source.

![Image of water pollution](image)

**Figure 1.2**: Water Pollution (Source: New Straits Time)

Next, ecosystem degradation. Malaysian Society of Marine Sciences chairman Dr Harinder Rai Singh stated that the bauxite contaminated red sea off the Pahang coastal area is bound to be a ‘dead sea’ for up to three (3) years. The aquatic life would be severely affected as sedimentation of bauxite can clog the gills of fish and the breathing system of the clams. A study is done towards the fishes back in August 2015 at the affected area, and it contained 100 time more from the permissible level designated in 1985, which is only 11.85 mg/L.