# A COMPARISON BETWEEN DRINKING WATER QUALITY AND REVERSE OSMOSIS: A CASE STUDY IN SEKOLAH KEBANGSAAN GUAR PERAHU AND SEKOLAH KEBANGSAAN MENGKUANG

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## TABLE OF CONTENTS

## ABSTRACT

Nowadays, water was supply to primary schools in good condition whether that school is locating at urban or rural area. The scope of this research is covering only the rural area school of Bukit Mertajam, Pulau Pinang. That school is Sekolah Kebangsaan Guar Perahu and Sekolah Kebangsaan Mengkuang. That school was chosen because it is locating at rural area and considering about attitude of students such as they not take a good care about healthy, drinks water through from pipes and so on.

The main purpose of this study is to study the quality of clean water supply to Sekolah Kebangsaan Guar Perahu and Sekolah Kebangsaan Mengkuang, to determine the quality of water produce by Reverse Osmosis to differentiate between clean water supply in both of schools and to propose safe drinking water in Sekolah Kebangsaan Guar Perahu and Sekolah Kebangsaan Mengkuang.

In order to fulfill the objectives of this study, some steps have been taken such as make data collection of the National Standard Drinking Water Contaminants at PBA for comparison between research results, taken sample of clean water supply from Sekolah Kebangsaan Guar Perahu and Sekolah Kebangsaan Mengkuang at rural area and sample of water from Reverse Osmosis and the sample collected is used to analyze their contaminant by using laboratory test to determine and quantify the quality of water.
Average values of pH for SKGP and SKM is around 7.39 and average values for RO is 7.96. Conductivity is 34.9 µS/cm and 109.47 µS/cm. SS is 0 mg/l and 11.67 mg/l. VSS is 0 mg/l and 12.5 mg/l. BOD5 is 0.411 mg/l and 0.266 mg/l.

From result and discussion section, it can show clearly all the parameters was tested such as pH, SS, VSS, Conductivity and BOD5 is comply the WHO Standard and National Drinking Water Contaminant range.

# CHAPTER 1

# INTRODUCTION

## 1.1 Background

According to *Government of Housing and Local,* definitions rural areas comprise open country and settlements with fewer than 2,500 residents. Urban areas comprise larger places and densely settled areas around them. Urban areas do not necessarily follow municipal boundaries. They are essentially densely settled territory as it might appear from the air. Most countries, whether metropolitan or non-metropolitan, contain a combination of urban and rural populations.

Water is one of our most precious resources. It is essential for life. We need it as a raw material for agriculture and industry. It plays an important role for amenity and recreation, for fisheries, tourism, wildlife conservation and habitat protection. The creation of a "rural water district" is often the starting point for a public water supply system. A rural water district is a legally authorized organization created to provide and sell water to consumers.

And the focus for this research is supplying clean water supply to schools at rural area. The children of today will be the future generations of tomorrow. By focusing on children today and by giving those tools and knowledge to change their behaviour, future generations can be stronger and healthier. Schools being the ideal setting for promoting learning and the health of children can serve as a community model for health and environmental care. (Deepa Narayan, 1995)