ASSESSMENT OF WATER RESOURCES IN NAIC, CAVITE

THESIS

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ASSESSMENT OF WATER RESOURCES IN NAIC, CAVITE

Undergraduate Thesis
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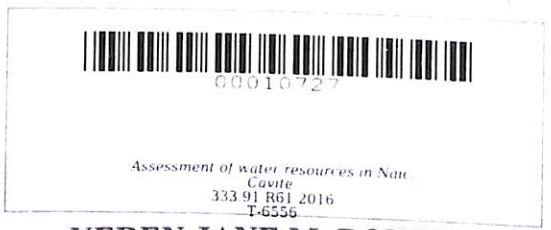

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ABSTRACT

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The study was conducted in Naic, Cavite from September 2015 to February 2016. Specifically, it aimed to assess the surface and subsurface water resources of the municipality of Naic. Specifically, it aimed to: identify the water resources in Naic, Cavite and their location; measure the discharge of surface water resources; determine the current uses of the water resources; conduct a potability test of water that are utilized for drinking purpose and; prepare a map showing the water resources of Naic, Cavite.

The Labac River system is divided into two directional flows, namely: western and eastern Labac rivers. There are four monitoring stations in the western river system, namely: Palangue 2 and 3, Palangue Central, Halang and Labac and only one in the eastern river system which is Alemang River. The cross-sectional area of each monitoring station was determined and the flow velocity using current meter, float method, volumetric method and weir method to obtain the streamflow discharge. Analysis of results revealed that the average discharge of the river system based from the five monitoring stations was 403.95 Lps for the wet season and 357.76 Lps for the dry season.

Four out of 50 well sites are used for drinking purposes and sampled for physical, chemical and microbiological tests. A multi-tester was used to determine temperature, conductivity, total dissolved solids, pH and salinity while the microbiological parameters were tested by DOST. Some sampling sites revealed levels beyond the set standard values for the water parameters.

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ASSESSMENT OF WATER RESOURCES IN NAIC, CAVITE

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INTRODUCTION

Water is a primary necessity for life, but remains a problem in urban and coastal areas in the Philippines. The country has abundant natural resources, including water, which are essential for the nation's economic development. Water resources of the Philippines include inland freshwater – rivers, lakes, and groundwater, and marine – bay, coastal, and oceanic waters. Water is very abundant in the country but its sufficiency in highly populated areas is becoming alarming especially during the dry season. Sufficiency of freshwater is being affected by several factors which include climate change and human activities.

Groundwater, which is a primary source of freshwater, is located at deep areas making it less vulnerable to pollution. However, as aquifer exploitation occurs, sources of pollution are also introduced which directly affect the quality of water. Pollutants like heavy metals, nitrate and saltwater are commonly found in the groundwater hence,