



UNIVERSITI TEKNOLOGI MARA

**THE RELATIONSHIP BETWEEN DISSOLVED
OXYGEN AND TEMPERATURE IN
COMMERCIAL FISH POND FARMING**

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ABSTRACT

This paper presents about the relationship between dissolved oxygen and temperature in commercial fish pond farming. Water quality is the most vital component influencing fish wellbeing and execution in aquaculture generation frameworks. Good water quality refers to what the fish wants and not what the farmer thinks the fish wants. Based on the problem that faced by the freshwater fish pond owner, this research help the owner to overcome the problem. The problem that occurs where the owner of the fish pond can't detect the problem in the water that could affect the condition of the fish. The aim of this project is to investigate the relationship between dissolved oxygen and temperature in the fish pond. The research involved the use of the sensors for measuring the dissolved oxygen and temperature. The method used for this research is using the sensors of DO (Atlas Scientific) and DS18B20 water temperature. This sensors used to collect the data of dissolved oxygen and temperature in the freshwater fish pond. The sensors were control by using the command from the Arduino MEGA 2560. The data that collected were stored in the Micro SD card module as a data logger. The data from the data logger can be access by the user for the monitoring. For this project, the research was done to make sure that the condition of the water becomes neutral and suitable for the fish to live. It also helps the reproduction of the fish become larger. As the result, the relationship between two parameters can be observed and show the value of dissolved oxygen and temperature at 29.88°C and 7.57mg/L during day time, while at night time the value were 29.88°C and 7.57mg/L respectively. The result from this research showed the parameters that might help the owner to upgrade their system of the pond by changing the water or change the substance of chemical such as soil. As the conclusion, this research showed that the condition of the parameters in the water would affect the reproduction of the fish and also to make sure that their fish can stay healthy

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF STUDY

In Malaysia, freshwater aquaculture industry is highly important for the development. Malaysia's aquaculture region change had begun since the 1920's. It begun with freshwater aquaculture and keeping in mind that later saline water aquaculture in late 1930's. Farthest point aquaculture piece had begun in Peninsular Malaysia around 1970's [1]. At that point, in Sabah and Sarawak (East Malaysia), the aquaculture part had as of late made in mid 1990's [2]. Extended world demand on angle protein and over abuse of fisheries have enabled the change of aquaculture parts, especially in making countries inside the Asia Pacific area. In 2006, aquaculture has recognized as the supplier for 46% of the world's fish era with a typical yearly advancement of 7%. This execution has reliably extended to 87.5% out of 2012 [3][4].

To expand the request, a number of aquaculture practices are used world-wide in three types of environment which are freshwater, brackish water and marine aquaculture for a great variety of culture organisms. Freshwater aquaculture is carried out either in fish ponds, fish pens, fish cages or, on a limited scale, in rice paddies. Brackish water aquaculture is done mainly in fish ponds located in coastal areas [5]. Marine culture employs either fish cages or substrates for molluscs and