

CHAPTER 1

INTRODUCTION

1.1. Background

Water is a primary need that is very important for every living creature to carry out life, one of which is for human daily activities such as cooking, drinking, washing, and cleaning the body. Thus, humans need water with clean quality and good for daily use. Poor water quality occurs due to contamination from pollutants, physically, chemically or biologically. To determine the quality of the water we use is not easy because not all substances contained in the water can be seen with the naked eye.

To determine the quality of water, there are several parameters that must be met based on the Regulation of the Minister of Health number 416/MENKES/PER/IX/1990 concerning water quality requirements. In this final project, the parameters used are water turbidity parameters or often called Turbidity and TDS (*Total Dissolved Solid*) using the algorithm *Fuzzy Logic* as output determination.

Based on the above background, this study aims to create a tool that measures water quality by detecting turbidity and dissolved substances.

1.2. Problem Formulation

Based on the background,

- a. How can the LDR sensor, TDS sensor test the turbidity of a water?
- b. How is the implementation of Fuzzy Logic in determining the level of turbidity of a water?
- c. How accurate is Fuzzy Logic sugeno method and mamdani method as a system to support decisions to calculate water quality?

1.3. Scope

Main research problems:

- a. This research is focused on monitoring water quality using LDR sensor, TDS sensor.

- b. This research using Fuzzy Logic Alogrithm as a system to determine whether water is feasible to use.
- c. The author using 10 samples of water for testing.

1.4. Objective

The purpose of this study is to determine water quality and help monitor the quality of water that will be used daily.

