

ABSTRACT

The weather changes is a factor of reference for the growth of rice plants, between the dry season and the rainy season. However, from the phenomenon into something very worried, because the weather changes that occur in these moments are very unstable which is increasingly difficult to predict from the effect of global warming, so it may interfere with the growth of rice plants that could threaten the economic needs for human survival.

Seen from the uncertain conditions such as drought or flood water gives a huge impact, especially for agriculture. The documentation result of field research that has been done in the area of Boyolali, Central Java on September 18th until 19th, 2015, that sometimes the majority of the loss is felt by the farmers of which the weather changes, irrigation systems, the quality of pH water acidity has changed, and the use of fertilizers that are less good.

Therefore, created a prototype that can provide solutions to minimize the difficulties experienced of farmers by building some system from electronic components, sensors, and mechanics connected to microcontrollers, such as automatization systems the water level surface and the water changes with sensors from copper, two water pumps, and notification of text messages. Besides that, detection system the values on quality of water pH with acidity sensor and the control liquid fertilizer by a water pump via sending text messages from mobile. Based on the whole system there are some data that it can be displayed on the LCD and the desktop screen, with the goal of keeping farmers and highest management can monitor the activity of the rice fields processing.

Keywords: Documentation, Automatization, Control, Detection, Microcontroller, Electronic, Sensor, Mechanic, Monitoring.