

## ABSTRACT

### SECTOR DETERMINATION TOOL DESIGN GRACILARIA SP SEAWEED CULTIVATION BASED ON IOT

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Seaweed in Gerongan Pond waters near Pasuruan City is experiencing problems in seaweed cultivation, where seaweed farmers feel uneasy due to damage to the seaweed and crop failure. This problem occurs when farmers cultivate the same seaweed seeds in different ponds and the results of the same seeds experience different growth. Because the seeds are the same, it can be concluded that the problems faced by farmers are due to environmental factors, especially water problems. In each pond, there are different characteristics, ranging from the depth, water temperature, and pH to the strength of the currents. If the water depth of each pond is not considered, the temperature that will be received by the seaweed will be very influential, as will the weather, while pH is very important because seaweed has water criteria used in cultivation, namely not too salty and not too fresh because the water is not good for seaweed cultivation. Strong currents themselves should not be too heavy. The observation method is used to learn about the situation in the field, while the system method employs the waterfall method to ensure that it is completed in an orderly and systematic manner. To address this issue, an IOT-based Gracilaria Sp seaweed cultivation tool for determining the pond waters sector was developed, with the output displaying data on an Android application. With proper status data for each parameter, pond water depth for seaweed cultivation ranges from 30 – 60 cm, temperature ranges from 20 – 28 oC, pH is between 6 – 8 , and current strength is from 20 – 25 cm/s.

***Keywords: System, Seaweed, IOT, Depth, Temperature, Strength, Current, pH.***