

## ABSTRACT

*Traditional agriculture in the agricultural sector, farm, and fisheries still involve monitoring and controlling activities that are done manually with cultivated commodities. Manually performed monitoring and controlling causes a lack of effectiveness, and time efficiency, and need more resources land, and water.*

*Based on that problem, An integrated micro-based farming system made in hopes of improving effectivity and efficiency of use of time and resources. The integrated micro-based farming system consists of the agricultural sector, The farm, And the fisheries are vertically integrated so that the land is used less. In the management of resources used by one sector comes from another sector (sharing resource). This is expected to reduce the use of land at the same time by reducing the use of resources.*

*Agricultural sectors will be monitored for temperature values as well as humidity, then if the temperature value and moisture read by the sensor don't match the standard then, will activate controlling systems to flush and close plants. For farm sectors are monitored to the value of ammonia gas and the temperature in the chicken coops., So when the value is read above standard, it activates the fan system to cool the temperature inside the cage., and a given feed carried out by automatically specified time. Fisheries sectors will be done monitoring for pH and water fragility in fish ponds, So that if the pH or the fragility doesn't match the predetermined standard, then the water circulation system is activated., and an automatic feed given by a specified time.*

*Keyword: IoT, effectiveness, efficiency*