ABSTRACT

*Water is a cultural environment and a place where aquatic organisms live, which presents various challenges in the breeding process. One of them is the limited perception of the negative impact of food that is not consumed immediately, namely losing its nutritional value. In the aquatic eco*sistem *there are many flora and fauna in it, one of the fauna is shrimp. Shrimp are animals that live in aquatic eco*sistem*s, especially in rivers, seas, and lakes. Shrimp can be found in most large bodies of water, including freshwater. Of the several species of shrimp, there is one species that is widely cultivated by the community, namely* vaname *shrimp.*

Vaname shrimp is an alternative to tiger shrimp. Some of the advantages of vaname *shrimp are long resistance to disease, low environmental quality, and a short rearing period of about 90-100 days. To produce superior* vaname *commodities, the process of raising* vaname *shrimp must pay attention to internal aspects which include the origin and quality of seeds, as well as other external aspects. Water condition in the pond is a factor that needs to be taken seriously in* vaname *shrimp farming. Therefore, an innovative tool is needed that can help* vaname *shrimp farmers to monitor water quality so that it can reduce crop failure in their cultivation.*

By using decision matrix scorring, the third solution was chosen, which has LoRa communication which has a range of less than 1000 meters, has a compact and portabel *design that can make it easier for farmers to use. Focused on monitoring shrimp ponds, it utilizes a* vaname sensor *network that sends data of monitored variables via radio signals. Farmers can easily monitor water quality through a smartphone app.*

Keywords: Internet of Things, vaname *shrimp, smartphone*