

### **ABSTRACT**

*One of the problems in agriculture is how to repel or eradicate pests without damaging the ecosystem in rice fields. In some cases of crop failure, in addition to weather factors, pests are also one of the causes of crop failure. Based on these problems, a tool was made to repel pests (kaper, leafhoppers, rats) by utilizing ultrasonic waves and solar energy. This tool is built with IC 555 which has three main parts, namely the signal generator source, signal amplifier and loudspeaker. The working principle of this system is quite simple, namely the acoustic signal generator with the help of a trimpot/potentiometer is set at a certain frequency and amplitude then the output is amplified by a signal amplifier (amplifier) and the audio signal will be generated by a loudspeaker. The signal with a certain frequency is then emitted % of this output acoustic signal will be received by the bird so that it feels disturbed. IC555 is used as a timer and ultrasonic wave multivibrator. Based on the tests that have been carried out, this tool can emit ultrasonic waves up to a frequency of 50KHZ. When the device emits a frequency and is transmitted by sound waves that are emitted through the loudspeaker, the birds cannot adapt and go to avoid the ultrasonic.*

**Keywords:** *Socialization, Bird repellent tool, Desa Melung*