

ABSTRACT

Sparrows are one of the enemies of farmers who often cause rice crops to fail. This pest attacks in groups ranging from tens to thousands of its population. Attacks by sparrow pests can cause the rice grains to become dry, the rice grains to be empty, and the rice grains to fall out. Control of this pest is usually mechanical using equipment that can repel sparrows, but it requires time and patience in waiting in the fields. Therefore, this final project aims to design an automatic bird pest detection and repellent tool in rice fields.

This design aims to monitor and assist farmers in minimizing attacks by sparrow pests on rice fields, by utilizing motion sensors that can detect the presence of these bird pests. The design of this tool uses a Microcontroller, Microwave Radar Sensor, Servo Motor and GSM Module. The system can send notifications of sparrow movements in rice in the form of Short Message Service (SMS).

This design can detect and repel sparrow pests in rice fields with a radius of 7 meters and will send notifications of the presence of sparrows in the form of SMS to users.

Keywords: *Sparrow pests, Rice Plants, movement, Microwave Radar Sensor, Short Message Service*