



EXCEL ENGINEERING COLLEGE

(Autonomous)

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

MINI PROJECT REVIEW

Integrating Animal Avoidance Mechanisms Systems

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OBJECTIVE

The objective of animal avoidance in agricultural farms is to prevent damage to crops, livestock, and property caused by wild or stray animals. The goal is to protect the farmer's livelihood while also promoting coexistence with wildlife and maintaining biodiversity.

INTRODUCTION

In this project, we're developing a security system using an ESP technology is being used in agriculture to determine animals from farms. System equipped with sensors detect the presence of animals and trigger deterrents like sounds, without causing harm to the animals and give alert message to the user/farmer. This automated solution provides round-the-clock surveillance, real-time alerts, and reduces crop loss, making it a significant improvement over traditional method. It's a promising example of technology enhancing agricultural practices.

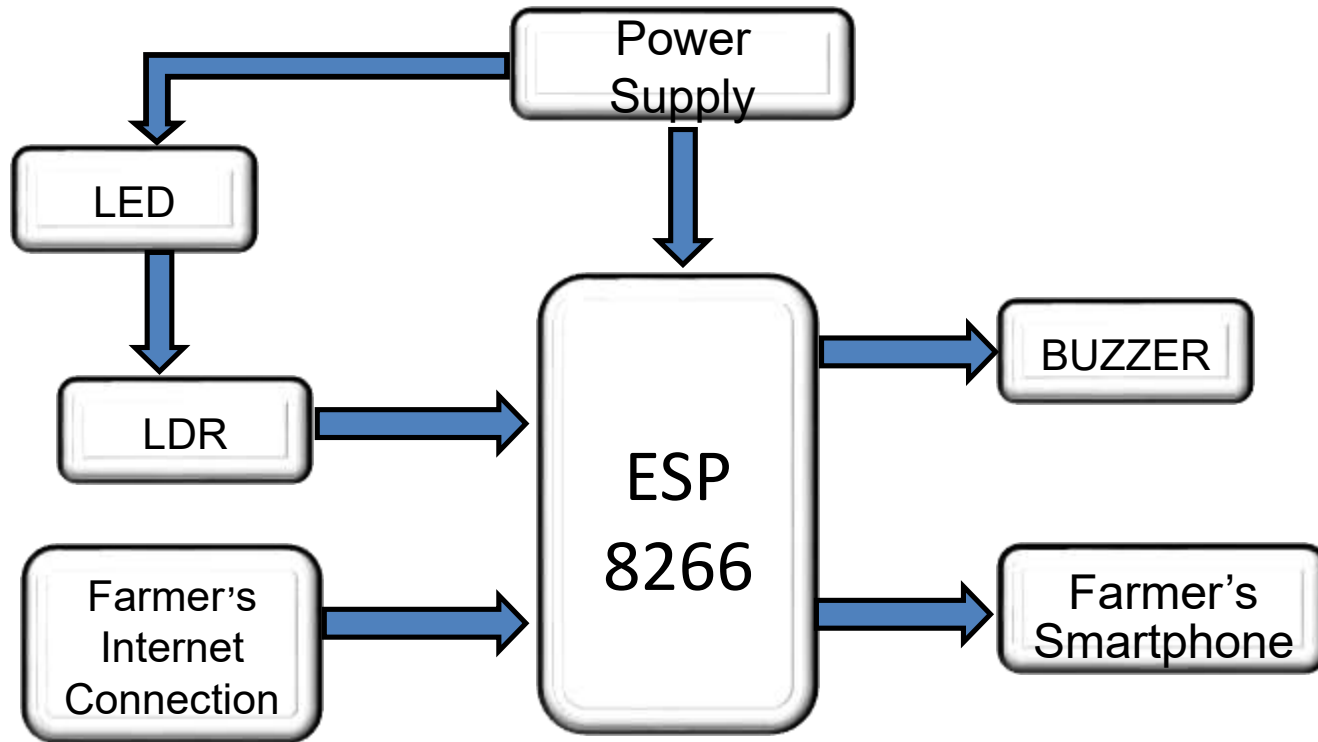
EXISTING AND PROPOSED SYSTEM

- Traditional farming methods often rely on chemical pesticides and physical barriers to deter animals from damaging crops.
- These methods can have negative environmental impacts, such as soil degradation, water pollution, and harm to non-target species.
- Additionally, they may not be entirely effective and can be costly for farmers to maintain.
- Incorporating physical barriers like fences or netting, as well as scare tactics like visual or auditory deterrents, to discourage animals from entering crop fields.
- Installing motion-activated devices that emit sounds or lights to startle and deter animals from approaching crops.
- Using GPS tracking and monitoring systems to identify animal movement patterns and adjust deterrent strategies accordingly.
- Educating farmers about sustainable farming practices and providing support for implementing animal avoidance mechanisms through government subsidies or extension services.

COMPONENTS

- Laser Light
- 9v Battery
- Transistor (BC547)
- Resistor
- Jumper wire
- Buzzer
- LDR (Light Dependent Resistor)
- ESP 8266(Electronic Stability Program)

BLOCK DIAGRAM



METHODOLOGY

- **Environmental Assessment:** Understand local wildlife dynamics and farming challenges.
- **Behavioural Research:** Study animal behaviour to identify patterns and preferences.
- **Mechanism Selection:** Choose appropriate avoidance methods based on research findings.
- **Sustainability Alignment:** Ensure mechanisms align with eco-friendly farming practices.
- **Installation Planning:** Strategically place mechanisms to maximize effectiveness.
- **Monitoring Protocol:** Establish regular checks to gauge mechanism performance.
- **Adaptation Strategy:** Adjust methods based on seasonal or behavioural changes.
- **Efficiency Optimization:** Continuously refine mechanisms for better results.
- **Community Engagement:** Educate stakeholders on the importance of wildlife management in farming.
- **Collaborative Learning:** Foster knowledge exchange among farmers for collective improvement.

LITERATURE SURVEY

S.No.	TITLE	YEAR	TECHNOLOGY
1.	A Survey on an Efficient IOT Based Smart crop field monitoring and automation irrigation system. “R. Nageswara Rao, B. Sridhar”	2018	Arduino and Ultrasonic Sensor
2.	Implementation of crop protection system against wild animal attack. “Atchaya. V, Kowsalya. V, Dhivyabharathi. K. P, Arunkumar. M”	2019	Arduino and Ultrasonic Sensor
3.	Crop protection against Wild animal's attacks “P. Navaneetha, R. Ramiya Devi, S.Vennela, P. Manikandan, Dr.S. Saravanan”	2020	Arduino and Ultrasonic Sensor

FUTURE SCOPE

In agricultural farming, the future scope of animal avoidance mechanism systems is promising. These systems could help farmers mitigate crop damage caused by wildlife. Advanced technologies such as Laser with LDR sensors could be deployed to detect and deter animals from entering farm fields, while smart fencing systems could provide real-time alerts and responses to wildlife activity. Additionally, integrating such systems with precision agriculture techniques could optimize resource use and enhance overall farm productivity in a sustainable manner.

ADVANTAGES

- . Less maintenance.
- . Smart crop protection system reduces the time of farmer.
- . It is not possible for farmers to barricade entire fields or stay on field 24 hours and guard.
- . Smart crop protection system diverts the animal without any harm.
- . This Reduce to huge losses for the farmers.
- . Minimum human effort.

RESULTS

The results of integrating animal avoidance mechanisms into sustainable farming can include reduced crop damage, minimized livestock losses, improved biodiversity conservation, enhanced farm profitability, and strengthened community relationships through effective wildlife management practices.

CONCLUSION

This integrated system not only detects animals swiftly but also deters them promptly, thereby minimizing agricultural losses and promoting harmonious human-wildlife relations. Furthermore, the AAMS's proactive intervention capabilities enable farmers to take timely action, ultimately leading to more sustainable agriculture practices and better conservation outcomes for biodiversity.

THANK YOU!