LITERATURE SURVEY

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IoT Based Smart Crop Protection System for Agriculture

PROBLEM STATEMENT:

Agriculture is the backbone of the economy but because of animal interference in agricultural lands, there will be huge loss of crops.Crops in farms are many times ravaged by local animals like buffaloes, cows, goats, birds etc.
Elephants and other animals coming in to contact with humans, impact negatively in various means such as by depredation of crops, damaging grain stores and , injuring and death of humans.
This leads to huge losses for the farmers. It is not possible for farmers to barricade entire fields or stay on field 24 hours and guard it.It requires urgent attention as no effective solution exists till date for this problem.

REFERRED JOURNALS:

AUTHOR	TITLE	CONTENT	PUBLISHED
Vinod Kumar Shukla,Suman Maloji,Medepalli Swath	IOT Based Smart Crop Protection and Irrigation System.	Project work is to yield monitoring arrangement for farm safety against animal attacks and climate change conditions. Industrial Internet of Things (IIoT)	IEEE - November 2020-United Arab Emirates. Journal of Electronics and Communication Engineering.

		advances is frequently used in smart farming to emphasize the standard of agriculture . This project work contains various sorts of sensors, controllers in addition to positioner on behalf of WSN and ARM Cortex-A board which consumes 700mA or 3W power is the main temperament of the classification. Different sensors like DHT 11 Humidity & Temperature Sensor, PIR Sensor, LDR sensor, HC-SR04 Ultrasonic Sensor and cameras are interfaced with the board. IOT devices stay adept of in case evidence around farming grounds . As soon as the passive infrared sensors (PIR) go High on detecting the motion within a range of 10 meters, the camera will be turned ON	

		which first captures an image and then starts dealing out the image, which will be warehoused onboard as well as in IoT cloud, instantaneously a message will be generated automatically towards the recorded quantity using a SIM900A module to inform about the intrusion with the data of the temperature as well as humidity obtained by dht11 which is a temperature and humidity sensor. If found not to be human after processing the available information the system elevate an buzzer sound, to notify people about the intrusion. Data collected by the sensors will be given to ARM Cortex-A through the systems which can be wired or communicataion system. The facts in the porter is	

		tested and harmonized with superlative values of data like value of temperature, humidity and soil moisture.	
Mohit Korche , Sarthak Tokse , Shubham Shirbhate , Vaibhav Thakre , S. P. Jolhe	Smart Crop Protection System	One of the major economic issues faced by the country is agriculture as this is the sector which is source of livelihood for about 54% of Indians till date. Still today this sector is not well developed and faces lots of problems resulting into low productivity of crops. As 43% of land in India, is used for farming but contributes only 18% of the nation's GDP. The poor condition of agriculture in the country is the point of concern for Indians. The rural farmers in India suffer from poverty and most of them are illiterate so there is lack of good	IJLES - Published: July to August 2021

		extension services. The problem of wild life attack on crops i.e., crop Vandalization is becoming very common in the states of Tamil Nadu, Himachal Pradesh, Punjab, Haryana, Kerala and many other states. Wild animals like monkeys, elephants, wild pigs, deer, wild dogs, bison, nilgais, estray animals like cows and buffaloes and even birds like parakeets cause a lot of damage to crops by running over them, eating and completely vandalizing them. This lead to poor yield of crops and significant financial loss to the owners of the farmland. This problem is so pronounced that sometimes the farmers decide to leave the areas barren due to such frequent animal attacks Another major problem	

		faced by Indian farmer is their dependency on nature and poorly maintained irrigation system. Current agricultural practice are neither economically nor environmentally sustainable and India's yields for many agricultural commodities are low.	
Mahammad Firose Shaik, Ravipati Mounika, A. Durga Prasad, Inakoti Ramesh Raja	Intelligent Secure Smart Crop protection From Wild Animals.	Farmers have faced numerous issues in agricultural regions throughout the years, including unexpected rainfalls and a shortage of rainfalls. Animal threats are the second most serious challenge for farmers in agricultural fields. Some of the places that are closer to the forest area are affected by wild animals. Many segments of our society receive monthly income,	IEEE - 25 March 2022 INDIA

		but farmers receive annual income. Farmers often lose money owing to weather conditions, but when the weather is kind to them, they lose money due to animal attacks. Farmers used traditional means to get rid of animals from their fields, but they weren't up to the task. As a result, a minimum loss is important to farmers. So, to avoid these issues, we have worked hard to build a low-cost, environment-friendly project that farmers can afford. To reduce the constraints and improve the security of crops against wild animals. The technology offered is designed in three steps. The first stage is intended to sense/detect the animal using a PIR sensor and generate a digital output. The second	

		stage is aimed to determine whether it is an animal or not by utilizing a Pi camera to capture the region and record animal video. The third stage is intended to offer farmers information on animal entry by providing video. As a result, our proposed methodology assists farmers in removing animals from agricultural lands. When farmers are aware that a specific animal is entering a field at a specific time, they may easily employ their regulated methods to remove animals from agricultural grounds. Our project is carried out using IoT (internet of things) technology.	

BOOKS REFFERED:

Field crops production commercial crops.	Dr.Rajendra Prasad
Application of IOT and machine learning in crop protection against animal intrusion.	K.BalakrishnaFazilMohammedC.R.Ullas C.M.HemaS.K.Sonakshi
Sustainable Development in Engineering and Technology	M. Sakthimohan,G. Elizabeth Rani,R Kannigadevi

OUTCOME:

Thus, this project carries a great social relevance as it aims to address this problem. This project will help farmers in protecting their fields and save them from significant financial losses and will save them from the unproductive efforts that they endure for the protection their fields. This will also help them in achieving better crop yields thus leading to their economic wellbeing.