A PROJECT PROPOSAL FOR THE IOT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE

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Defining the Problem:

Farmer needs a way to monitor and protect his agricultural land so that he will get a good yield.

Problem Statement:

Ramkumar is a busy farmer who needs a way to spend his time on monitoring, watering the plant and protecting his agricultural land so that he doesn't want to hire labour for these works.

Idea / Solution Description:

Idea for watering the fields

- Automated Water Irrigation
- Use sprinkler irrigation Method
- Rain Water Harvesting for Water scarcity

Idea using Sensors

- Soil moisture sensing
- Use rain sensor to sense rain
- Automated crop protection using sensor

Idea for Monitoring the field

- Create mobile app to monitor
- Use advanced technology for monitoring

Ideas for Crops protection from animals and birds

- Use bright lights to catch insects during night time
- Automatically spraying the natural pesticides
- Use ultrasonic waves to protect crops from bugs and animals

Novelty / Uniqueness:

This project helps the farmer to reduce their works and time. While comparing with other method, this is the most efficient and effective method. Here farmer need not to monitor his agricultural field every time, everything is automated. It can easily be handled by both educated and uneducated people. This system is not particularly made for killing or disturbing the animals but it keeps them away from the crop. In this way our system differ from other system.

Social Impact / Customer Satisfaction:

Through this project the customer can easily handle, monitor and control all the equipments and sensors used for crop growth and protection. As every farmer is nowadays suffering from water scarcity, our project uses only less amount of ground water. It avoids unnecessary wastage of water to water and harvest the plants. The usage of sensors to guard the plants leads to maximum amount of yield. It's way to increase ground water and using rain water harvesting. The sensors guards the agricultural lands so the customer need not worry about the crops. Compared to the normal farming techniques it is more accurate and

secure. The automated spraying of pesticides avoids the diseases caused do to this. The customer can monitor and control the equipments from anytime and anywhere through internet. The customer also gets notified about each and every actions happening in the agricultural land, so need for the customer to visit the agricultural land often.

Business Model (Financial Benefits):

As this project requires less manpower it leads to spending less amount and increases gain. Compared to human being, sensors guards the land effectively, so there will be no chance of crops being damaged which leads to high yield and profit. As maximum amount of work is automated in this project, the customer can save the money, which they spend for that purpose. The automated spraying of pesticides avoids diseases caused due to pesticides so amount spend health issues is avoided.

Scalability of Solution:

In this era, this project is highly necessary as farmers are suffering from drought and poverty due to heavy loss in farming. The loss is due to the damage caused by insects, birds and wild animals. This also occurs due to manpower need for guarding and plucking of weeds. If the project gets success in our agricultural land, we can help the farmers who are suffering from drought and loss due to the need of maximum manpower to guard the land and plucking of weeds. This project also has a solution for damage due to

insects, birds and wild animals. This project can be further extended by automating the harvesting process and plucking of weeds. As every farmer is nowadays suffering from loss, our project will definitely help them. This project can be taken to regional and national level, as there is need for such project.