



AI based Smart Poly-House Controlling.

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Abstract:-

The Internet of Things (IOTs) can be described as connecting everyday objects like a smart phones, Internet TVs, sensors and actuators to the internet .In Maharashtra near about 60,000 deaths noted per year till end of the 2019 , giving the ratio of 160 deaths per day. Whole nation depends on the agriculture department where as 70% people of the nation prefers to the farming department .

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- Chit fund, bank loan problem
- Looses in yield products
- Excess burden of repay of loans
- Crop failure, fake seed pearls □
Price crash
- Failure of water sources eg. Bore well, tube well
- Family problems etc.

Automation in agriculture department has been under study for long terms ago but

there's no exact as well as any proper solution found on it till

date. In this paper we are trying to give deep information about what kind of automations can be done in agriculture department , what automated systems can be prepared that will help efficiently to the farmers

Introduction:-

Poly-house can be anything that look like a tent covered with long poly-ethene sheet. These sheets are use to stabilize ultraviolet rays and helps for the proper photosynthesis of the crop . in it the proper ventilation is provided to the crops and the sunrays are managed by these poly-ethene sheets with proper .

Poly houses are mostly found in countries where there is presence of cold temperature to grow crops more effectively. Fruit, vegetables ,Flowers effectively can be grown here ,

Benefits:-

- Less chances of having crop destroyed by the animals.
- Plants are grown under controlled temperature thus less chances of crop damage.
- Proper drainage and aeration is provided
- Less cropping period so yearly new yields can be taken

It has been estimated that yield under poly-house farming can be achieved at a higher level – say about 4-8 times as compared to farming done in open field. Hence farmers must think of setting up a poly-house rather than just working on

open fields. The farmer gets many subsidies and technical assistance from the government of India, state government,. regarding poly-house farming You can refer to model bankable projects from the agriculture department, agricultural banks

and financial institutes like NABARD



I2.US: Tomato growing in poly-house

Existing system:-

As we have contacted to the agriculture college near in Jalgaon district and visited there for more information . searched for other agriculture projects too, we have done contact with poly house user and open field user and got info about their needs. And got some news too.it costs around 4,80,000 INR Rs for installation of machines that regulates air quality ,watering ,some other needs. It is basically costly for general farmer to invest in such way without having knowledge .

Objective:-

Our **proposed system** uses different types of sensors such as soil moisture sensor, humidity sensor, light sensor and temperature sensor and **motor** connectivity for **water flow** .The status of temperature and humidity will be displayed on the **LCD** connected to the controller. When the moisture level in the soil is lower than the defined limit, the **irrigation** system will be **ON** to maintain the soil moisture level in the Greenhouse.

Irrigation system can be anything depending on the farmer's choice it may be **Drip Irrigation** or **Sprinkler Irrigation** this watering process will be fully automated in our project (AI) based, using **water level sensors** that will help to detect the water availability in water source to avoid the problem of regular motor crash if water level goes below the level of motor. This total working can be operated by simple **Mobile App**, also. When the temperature in the greenhouse exceeds certain limit, air ventilation will be automatically ON. Using Node MCU, the whole system operation can be monitored and controlled with Android mobile App via Wi-Fi. In this way an automated system will be controlled by single human which results less human power

Future scope:-

- Participating State Govt. is giving additional financial assistance to the tune of 15% and for north east and Himalayan states there is provision of 15% additional financial assistance for greenhouse cultivation.
- One can get financial assistance and credit link project assistance for greenhouse cultivation directly from the

agricultural government sites.

- investment, it is economically feasible only if you cultivate rare crops which fetch high price, they can be exotic vegetables or flowers.
- In last 12 years, Govt. has been giving financial support, skill training from Centre of Excellence and many approved greenhouse companies under govt. have been giving turn-key solutions.

Expected Outcome:-

- Fully automatic system to maintain the temperature and humidity in the greenhouse.
- Whole system will be operated by using Android app.



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