E -ASSISTANCE FOR SMART FARMING

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E - ASSISTANCE FOR SMART FARMING

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***ABSTRACT* – E assistance for smart farming web service to promote the farmers struggling with the motive of greater profitability by the primary connection among farmer-to-supplier and farmer-to-farmer. This service encourages business intelligence and brings transparency to the method. This innovative site presents good farmer, retailer, and supplier communication. It provides an option for farmers to interact with respective dealers. Farmers are notified whenever merchants distribute an endorsement or offer on the website. While trading farm produces, Smart Crop is an Online Marketplace that comes into action which permits users to buy and sell crops everywhere in India. Farmers can post their outcomes and attract more prospects which insistence protect precious time and money. They can get better profits than normal. This work mainly focused on a smart farming assistant for farmers using C# language.**

Keywords: **C#, MySQL, Smart farming**.

I. INTRODUCTION

According to a market analysis, the factors that would facilitate the adoption of sustainable farming technologies include better education and training of farmers, sharing of information, easy availability of financial resources, and increasing consumer demand for organic food. When applying these new technologies, the challenge for retrieving data from crops is to come out with something coherent and valuable, because data themselves are not useful, just numbers or images. Farms that decide to be technology-driven in some way, show valuable advantages, such us saving money and work, having an increased production or a reduction of costs with minimal effort, and producing quality food with more environmentally friendly practices. However, taking these advantages to the farm will depend, not only on the willingness of producers.

Farmer Service & Dealer Services

- Separate login areas with appropriate functionality for farmers, administrators and dealers/ retailers.
- Pages where farmers and dealers may post their ads and notifications.
- A portal that helps to find agricultural farming products easily.

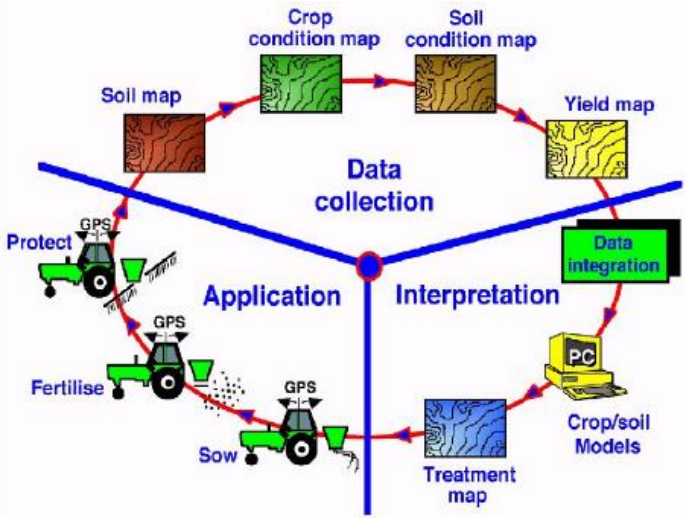

Fig 1: Precision Agriculture Cycle

II. EXISTING SYSTEM

The existing system has a minimal interaction with farmers and dealer. So it gives a negative impact to farmers' agricultural field work. Also, daily price details are not available across the country. Thus,no systemized approach persists between each other.Hence,there is no greater profitability to farmers as well as dealers.

III. PROPOSED SYSTEM

- The proposed system helps major for farmers can sell their produce directly to end consumer i.e. Institution, Group Co-operative Societies, Citizen Associations or any other group buyers on online farming assistance sites & also farmers can save a lot of money via Group buying of Agri products or machinery directly from Manufacturing Companies and big distributors on a fair price.

- A Daily price report helps farmers and dealers to provide a transparent price of individual crops. It helps, mainly to deal with business profitability and sustainence.In recent days farmers are facing real time issues where they don't have an information system to know about the real time prices. So this portal significantly helps revealing the daily prices.

- Farming tips provisioning helps to get tips about crops frequently. So it helps to rejuvenate the growth of crops for greater profitability

IV. SCOPE FOR FUTURE ENHANCEMENT

- Admin can Adding Daily Price in the web portal
- Portal Notification
- Adding Favourites of Dealer/Farmer
- SMS service
- Email Notification

V. THE BENEFITS OF SMART FARMING

Technologies have turned the agriculture in many phases. Namely, there are,

- Data are collected by smart agriculture sensors, e.g. weather conditions, soil quality, crop's growth progress or cattle's health.
- Better control over the internal processes and lower production risks. The output of the production can be foreseen and plan can be made for better future product distribution.
- Cost management and waste reduction. If any anomalies in the crop growth or livestock health, the risks can be reduced.
- Increased business efficiency through process automation. Usage of smart devices, automates multiple processes across production cycle, e.g. irrigation, fertilizing, or pest control.
- Enhanced product quality and volumes. Achieve better control over the production process and maintain higher standards of crop quality and growth capacity through automation.

VI. SMART FARMING NEEDS FOUR THINGS FOR DEVELOPMENT

There are many smart devices that help to enrich the performance of various farms. However, an IoT application for agricultural development is a critical task. The following are the components needed for smart farming.

A. Hardware

To incorporate for agriculture, it is necessary to select the sensors that are to be attached to the device for actuation and monitoring. Sensors can be chosen based on the data that is too needed for agriculture. The sensor selected must work properly on the need and should produce actual data.

B. The Brain

Data analytics plays a vital role in high tech agriculture. So data collection should be done vitally either locally or from cloud database. Data collected should make sense and can used for any predictions by applying data mining algorithms.

C. Maintenance

Hardware maintenance is a challenging part of IoT products in agriculture and sensors may get damaged since it is placed on fields. So it is necessary to make sure that hardware is compactable easy to maintain.

D. Mobility

In order to access the data remotely by owners or users of IoT applications, it is important to have smart phones for accessing the information for their monitoring. Also it must be to connect through wireless network with proper broadband capacity for easy access and sharing of data among themselves.

E. Infrastructure

Internal infrastructure should be efficient and proper in order to perform high tech farming agriculture. Security of those systems should be maintained effectively. Without proper the data may be stolen or physical device can also be broken.

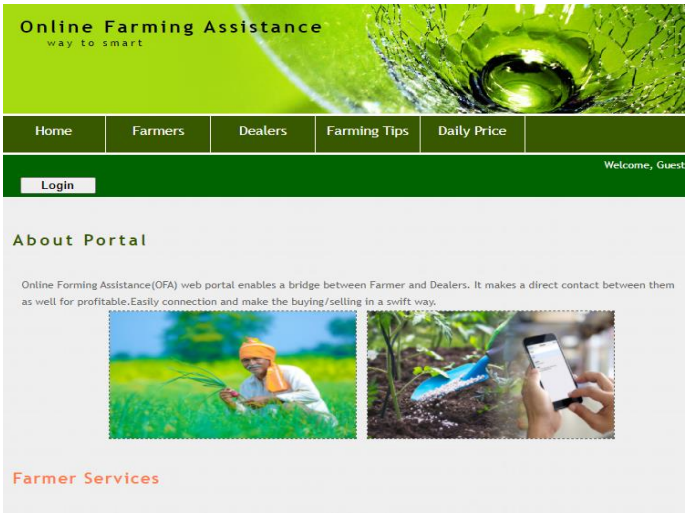

Fig 5.1 shown Home page for – E assistance for smart farming

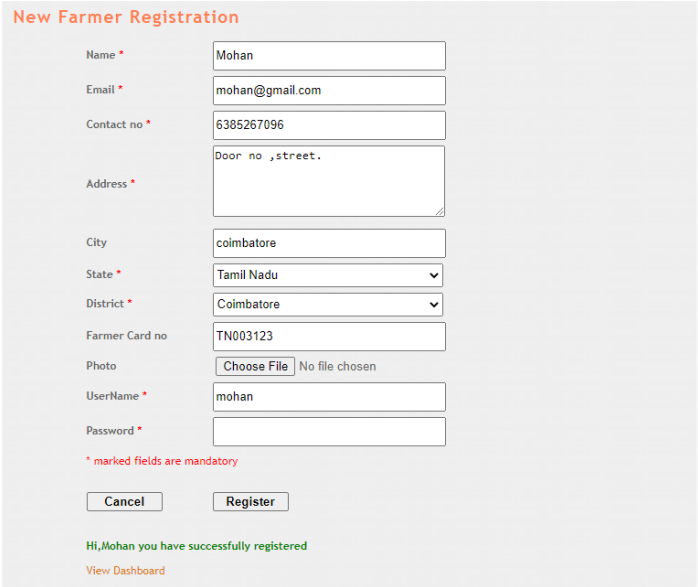

Fig 5.2 shown New Farmer Registration Portal for – E assistance for smart farming

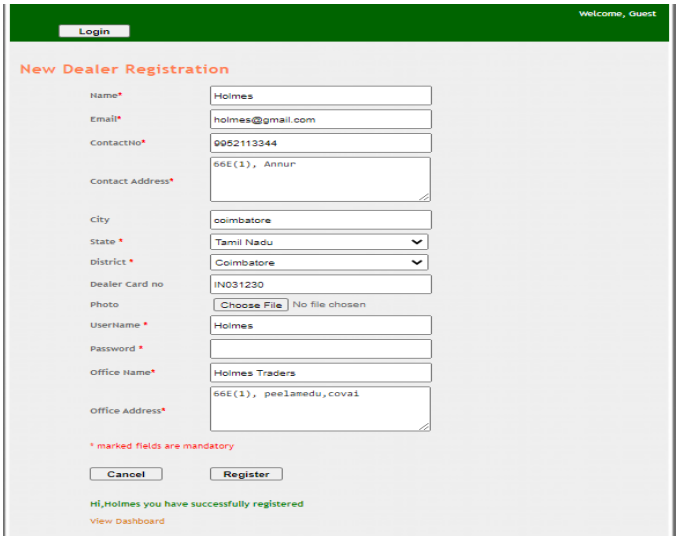

Fig 5.3 shown New Dealer Registration portal for – E assistance for smart farming

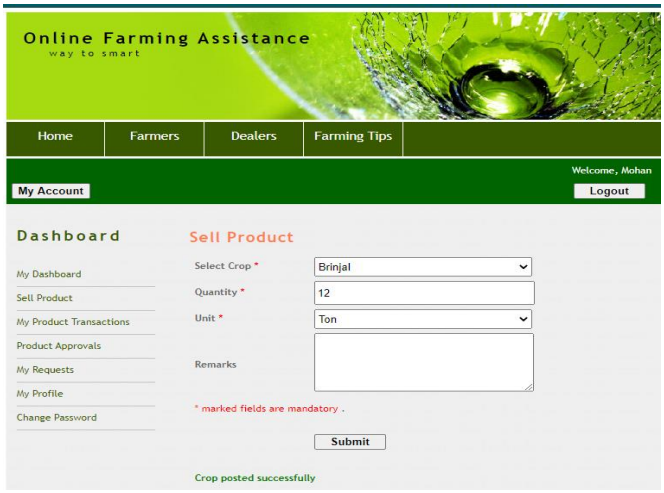

Fig 5.4 shown New Farmer Dashboard portal for – E assistance for smart farming

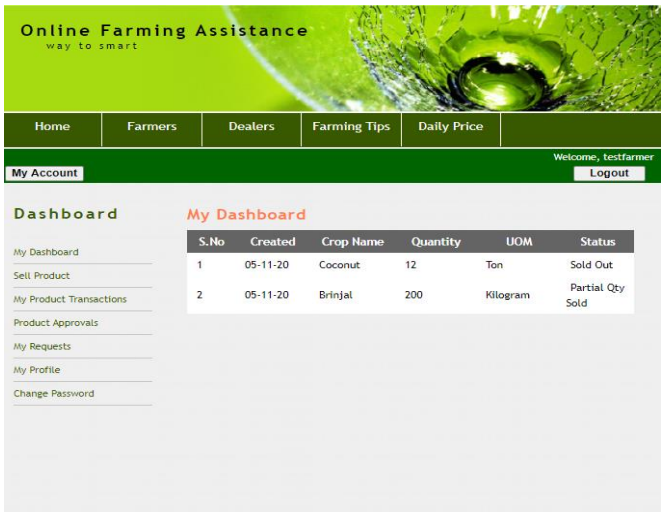

Fig 5.5 shown Sell Product portal for – E assistance for smart farming

CONCLUSION

Applications on agricultural farming help them farmers to collect meaningful data. Farmers under all categories should understand the prospective of IoT market for agriculture by using high tech farming to increase competitiveness and sustainability in their productions. With the swift growth in population, the requirements can be successfully meet if the farmers implement agricultural IoT solutions in an effective manner. This system can be used in developing countries to enhance farmer, manufacturer, and retailer communication thus eliminating unnecessary intermediaries.

- Farmers can directly contact suppliers in this portal.
- Farmers get notification of any new offers/schemes.
- It helps farmer and dealer mutual relationships.

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