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CROP INFORMATION SYSTEM – ADVANCED ICT FRAMEWORK FOR FPO FARMERS

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Introduction

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is an international non-profit organization that undertakes scientific research for development with a approach is through partnerships and with an Inclusive Market Oriented Development. The organization does basic research and developmental projects with different government and partner research organizations that includes Farmer Producer Organizations (FPOs). A group of Producers especially small and marginal farmers to collectively address many challenges of agriculture such as improved access to investment, technology, inputs and markets at their door step. The Department of Agriculture and Cooperation (MoA) has setup 'Small Farmers Agribusiness Consortium' (SFAC), a society under DAC, as designated Agency to act as a single window for Technical support, Training needs, Research and Knowledge management and to create linkages to investment, Technology and Markets. SFAC provides all round support to State Governments FPOs and other entities engaged in promotion and development of FPOs. Generally, the FPOs face various challenges like fund crunch and specifically a common platform for automation of various activities of FPO. A ICT based platform for automating various FPO activities and for providing educational and advisory services to member farmers of FPO. Here in this study, an attempt has been made to develop a ICT framework for FPO to enhance the communication among member farmer of the group and for provision of automated customized agro advisories to everyone.

Discussion:

The framework for Crop Information System implements role based access to different stakeholders of the platform like Admin, Director, Scientist, Extension Officer and Farmers of various FPOs. Farmer can register with his complete details like AADHAAR, Mobile, Bank Account and his/her active crops, crops of his interest and land details like survey number etc. Application will have access to reven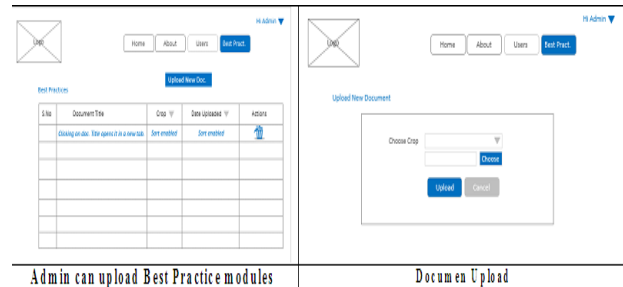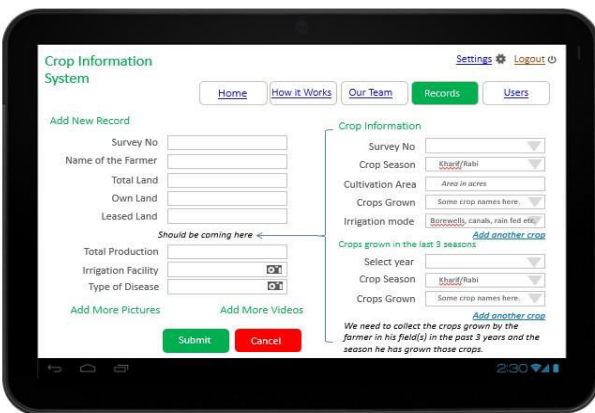ue database to cross check this. Member farmer can also access his Soil information/ Soil test results, Best Package of practices and raise queries with Scientist by uploading concerned photograph. The raised request will be sent to the concerned scientist of the concerned KVK.
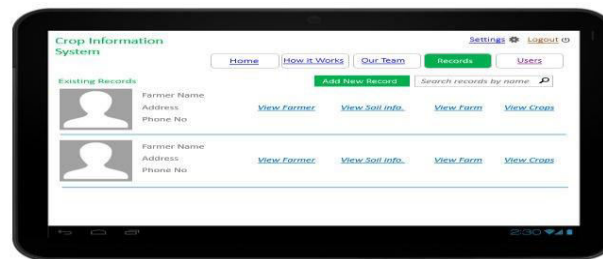
The application will facilitate the role based access and scientists belonging to one KVK can see the information about the farmer who only fall under his/her jurisdiction, thus enabling the role based secure access. There will be a facility for admin and Scientist for to send announcements across hierarchy. Further they can send the required documents as attachments. Admin can add new roles and users as and when required.


This FPO Crop Information System (CIS) is a web based application that supports online registration and feedback evaluation from all users and roles present in the project. CIS is web-based system that collects and evaluates the feedback automatically. It increases the efficiency and effectiveness of FPO. It also increases the scope of the report generation even by generating report over a period of time.

System architecture:

The application shall be a cloud based application and users shall access this using mobile app and shall implement role based access.

Admin can upload Best Practice modules | Document Upload

The application covers complete cycle of FPO activities i.e registration of FPO with the platform with complete plan of activities, assigning users with responsibilities, capturing of the activities execution, provides agro-advisories, soil test reports, procurement of inputs and daily market prices. The following platform interfaces allows the administrator to search for the farmers across FPOs and across different location by using criteria like active crops grown etc.
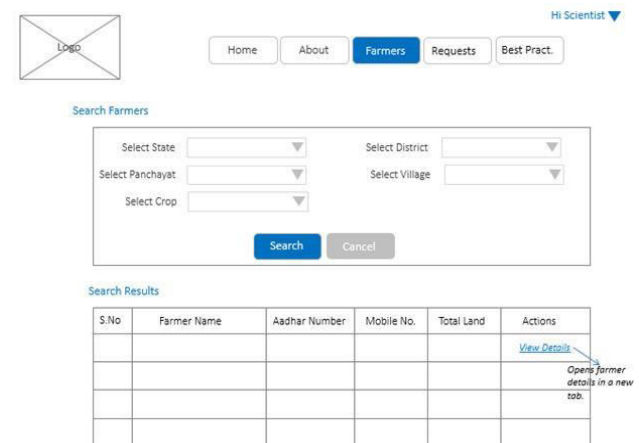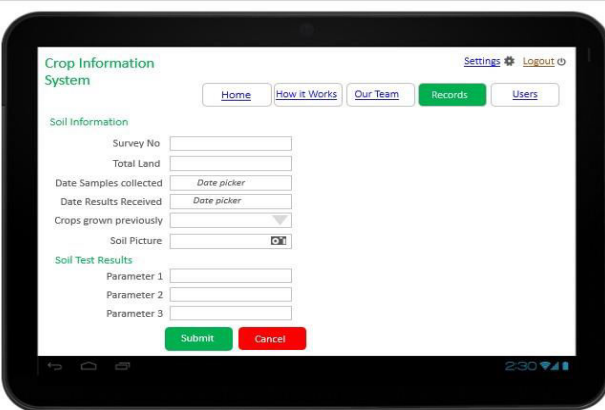

Once the search results are generated, the admin can view details of the farmers like farmer personal and family details, active crops of the farmer, best practices of that

crop for that location and also different schemes executed over a year and overall performance of FPO in total. These views are only available to only to the leadership of the FPO as Role based access is enabled in the application. There are different kind of roles of provided to maintain security and privacy of the data. Below are the some of the feedback screens how they appear to the specific role viz for a Scientist.
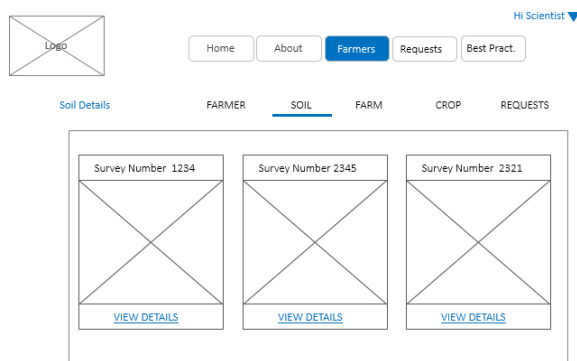

The scientist of a location can view the various details and request raised by the farmers in his jurisdiction based on survey number. A survey number usually have many number of farmers growing different crops. All those crops details can be seen as show in the following screen.
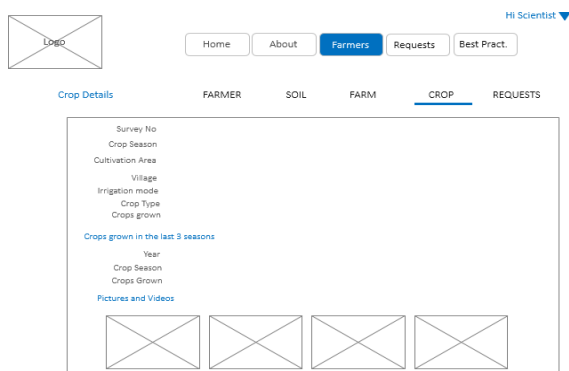

The member farmer of a FPO can raise request for specific issue like solution for pest control. Once the request raised, the system automatically allocate the request to entomologist of the concerned district

KVK/any other specified organization near to that FPO. In case escalation the request goes to the higher level like university head or principal scientist of any national research institute. The following screen shows the requests received by the concerned scientist.
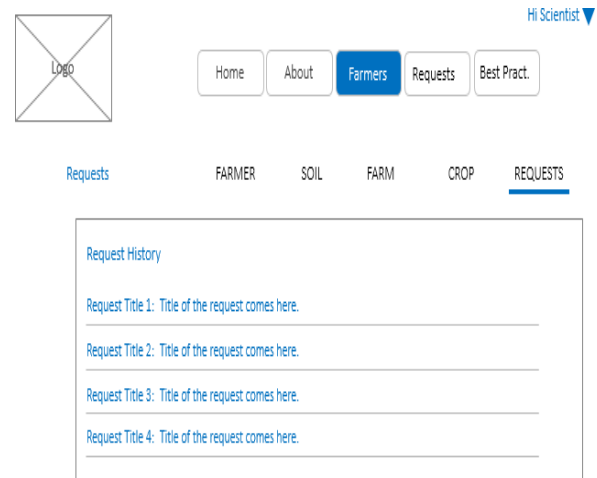
Following screen shows the details of the request and how it appears to the scientist,
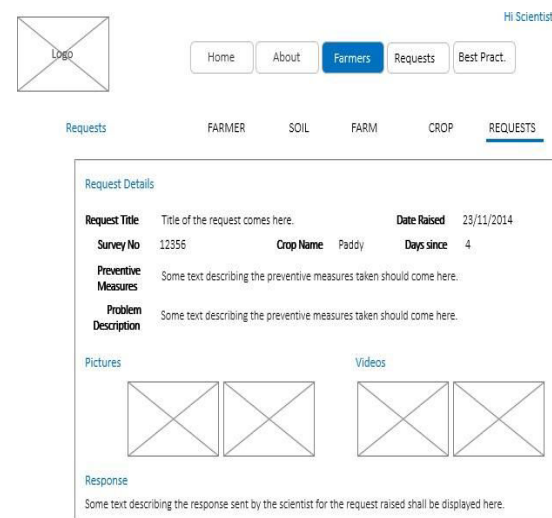
The system also allows the upload of best practices modules in different formats like MS word, PDF and all current popular Video modules. Once new module uploaded, farmer gets a push notification automatically that he has received a module from a concerned scientist.

Best Practices

S.No	Document Title	Crop ▽	Date Uploaded ▽	Actions
	Clicking on doc. Title opens it in a new tab.	Sort enabled	Sort enabled	🗑
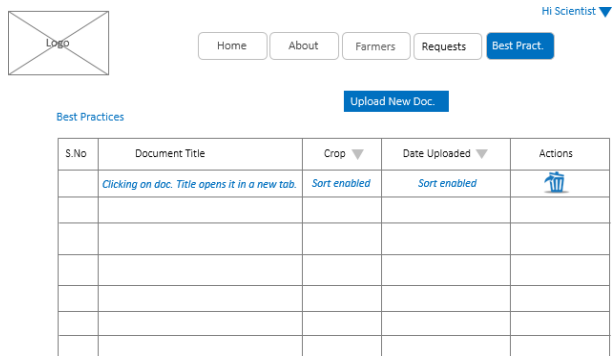
Conclusion:

The applications like FPO Crop Information System (FPO-CIS) are very useful to the Producer Organizations like any organization that is involved in grouping of member farmers for a purpose, as the application can be customized to automate the whole process of communication among farmers and dissemination of best practices and provision of customized agro advisories. Huge impact can be observed with the implementation of FPO-CIS kind of applications, as they save the time and resources. This kind of application need to be implemented in all the FPOs together at a single stroke to see the greater impact.

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