AGROPEDIA: An ICT Initiative in Agricultural Extension

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ABSTRACT

There was a time when farmers got together at the local panchayat and talked about the weather, crops or what was happening in the world of agriculture. Communicating with others was called socializing. It was done face to face and was generally local. Now people, farmers, ranchers included, spread the word—whether personal or farming related people using social media tools such as Facebook, Google+, Twitter, YouTube, Wikis, Whatsapp, Linkedin and blogs. This paper presents an AGROPEDIA; a new agricultural based advisory system or portal by combining these social media tools and going to prove a digital knowledge repository system for the people associate with agriculture or allied fields.

Keywords: Social media, ICT, Agricultural extension, Knowledge repository

INTRODUCTION

Usually, agricultural information discussion was dominated by media such as newspapers, radio, television and magazines. In recent years, though, technology awareness and computer literacy have increased across all demographics. Various forms of social media are being used more and more by people looking for entertainments, news, education and other information related to agriculture and allied fields.

If you have a one-on-one conversation about an issue, only the person you’re talking to benefits from the information you deliver. But if you share that information using social media, there is the potential to reach millions of other growers asking the same questions or facing similar problems.

Social media also provides farmers a quick and easy way to build relationships and interact with people in agriculture and allied field. Social media creates a much broader agriculture community, so obstacles like physical distance and isolation are issues of the past.

Agriculture and social media suitable together. Social media is the platform of meeting and agriculture is the content. Social media is giving farmers and rural trades a voice and providing significant networking opportunities for continuous collaborative communication.

Why should agriculture producers care about social media tools? It’s really quite simple: mass guidance. Social media captures extensive users. Currently, numerous services are already available in order to help farmers and agricultural-related stakeholders search or publish information on their activities and products. Interesting stories trending on Twitter, Linkedin, Wikis or Facebook are more likely to be read than buried deep in a newspapers and magazines.

Among all other web based resources or social media portals, AGROPEDIA is an open-ended knowledge sharing platform specially designed for farming community. It is an online agricultural knowledge repository that makes agriculture information available to scientists, researchers, extension personnel and the agricultural community and allows them to search and make contributions to the massive knowledge base. The AGROPEDIA was started planned to provide an entry point for agricultural related information and be better with “smart” services with the use of ICT technologies. AGROPEDIA is a complete, seamlessly integrated model of digital content organization in the agricultural field. It intentions to bring together a community of practice through an ICT mediated knowledge creating and organising platform with an effort to influence the existing agricultural extension system.

Originally titled “AGROPEDIA Indica”, it is a
collaborative project of seven consortium partners’ viz. ICRISAT- Hyderabad, NAARM- Hyderabad, IIT Kanpur, IIT Bombay, GBPUAT- Pantnagar, UAS- Raichur and IIITM-Kerala. Project is backed by Government of India and sponsored by the World Bank through the National Agricultural Innovation Project of the Indian Council of Agricultural Research (ICAR). The project was launched on 12th January 2009. Eventually it aims to use weekly alerts from scientists on different crops, to send text messages to farmers across India.

AGROPEDIA –outline

The Wikipedia is the most popular wiki on the public web in terms of page views, but there are many sites running many different kinds of wiki software. Wikis can serve many different purposes both public and private, including knowledge management, note taking, community websites and intranets. Based on same theme and style the collaborative project was started in order to create digital encyclopedia for agriculture. Many social enterprises are currently addressing the agriculture space, attempting to bring new technologies to rural areas to improve the efficiency and profitability of farmers. AGROPEDIA works as a one-stop hub for information on the agriculture ecosystem. The Wiki-style platform provides, among other things, a space for stakeholder interaction, best practice sharing, news updates, and an online library certified by the Indian Council of Agricultural Research (ICAR).

It is an agriculture knowledge repository of universal meta-models and localized content for a variety of users with suitable interfaces built in collaborative mode in multiple languages. AGROPEDIA objectives to develop a complete digital content framework, platform and tools in support of agricultural extension and outreach. In other words, it aspires to be a one stop shop for any information, pedagogic or practical knowledge related to extension services in Indian agriculture – an audiovisual encyclopedia, to enchant, educate and transform the process of digital content creation and organization completely. AGROPEDIA is sponsored by National Agricultural Innovation Project (NAIP), Indian Council of Agricultural Research (ICAR) and has following objectives:

- To develop an agricultural repository and to build a Digital Ecosystem in agricultural domain for proper knowledge circulation.
- To deploy extension services for agricultural development.
- To prepare a bridge between explicit knowledge holders (like agricultural researchers, scientists, extortionists, experts and implicit knowledge holders like farmers, ranchers and other field workers).

Figure 1 : Assembly of AGROPEDIA
In brief, through the whole work procedure AGROPEDIA wishes to achieve and establish the extensive knowledge of the Indian agricultural domain through building up an agricultural e-community and reinforcement the networks among the different members of that community. This is the platform where everyone starting from research scientists, teachers, students, extension workers, farmers, ranchers, traders, and entrepreneur can interact with each other through participating in the site. The structure of AGROPEDIA can be best described in figure 1.

Challenges

AGROPEDIA is a unique internet based Web 3.0 platform in the agricultural field, as it is semantically planned and enabled so as to support one in getting exactly what information or service she or he is seeking. It is the first of its kind in the world with the capability of searching semantically enabled information. AGROPEDIA seeks to address gaps in Indian agriculture knowledge and applications, specifically the lack of content, organized information, and the extension of services with internet facility in rural area, which are serious challenges. In brief, the biggest challenge is connectivity and infrastructure problem.

In India we found versatility in language and different region. Language barrier is one major challenge in order to communicate with extension people and farmers.

Furthermore, in India in different region people are using showing different crops and using different cropping practices; so it is challenging task to provide guidance to farmers along with the certified content.

Solutions using AGROPEDIA

To overcome with the challenges AGROPEDIA is a unique and innovative single point service providing platform. Which helps to face the above mentioned challenges.

AGROPEDIA is internet based tool. Now a day’s internet is going cheaper and cheaper day by day. Government has taken initiative to provide internet in each and every village. They have already established internet kiosk in many places. Particularly, in Gujarat, India Government has decided to provide internet in each and every rural panchayat in order to provide e-governance facility in rural areas. They have also appoint one computer literate person to assist rural people, farmers to use such web based service and get benefited from it.

To overcome with language barrier, AGROPEDIA uses the library section (gyan dhara), it also allows space for interaction, knowledge co-creation (jana gyan) and social networking (chat, blog, forum, wiki) making the site dynamic and the learning participatory, integrating traditional wisdom with modern knowledge and social interactions.

For any kind of agricultural content one will find a special dedicated spot on AGROPEDIA, be it our Package of Practices (text/voice), Dos and Don’ts, Crop Calendar, Library, Newsroom, Events, Agrowiki, Agroblog, Agroforum, Agrochat or Images. Any user who registers to the site is encouraged to either add, rate or comment on any content in all major Indian languages. All this is what makes AGROPEDIA different from other sites.

Figure 2: AGROPEDIA Portal
Extension scope in AGROPEDIA: The Digital Agricultural Encyclopedia

AGROPEDIA comprises a repository of knowledge models. With the aid of agricultural experts, we developed the following models:

- A standard map, acting as the top-level foundation crop ontology.
- Specific maps on different crops.
- This space of AGROPEDIA portal deals with the certified contents added to the portal mainly by the agricultural scientists of the consortium partners of the project in the form of 'Library' content, 'Voice Messages', 'Text Messages', 'Package of Practices', 'Crop Calendar' or 'Dos and Don'ts' on the different crops.

- **Library:** It is the document-like contents. The library contains a variety of document-like information-objects. This includes documents (in word, pdf, or any other), images, video, and audio content on different aspects of agriculture. One can easily add new content, including photographs and video clips, or add comments on the existing content. Our content will be published after due examining. Alternately, one could go to the interaction space and share your views on the agrowiki, agroblog or forum, which will be published on the web instantly. Figure 3 shows the crop-wise library contents in AGROPEDIA.

![Image of AGROPEDIA Library](image1)

**Figure 3:** AGROPEDIA Library

- **Crop Calendar:** It provides month-wise package of practices of agricultural crops. Here is this section also one can add his or her content and published after examination. Figure 4 shows the crop calendar for the month of February.

![Image of Crop Calendar in AGROPEDIA](image2)

**Figure 4:** Crop Calendar in AGROPEDIA
• **Package of Practices:** Here one can see the text based and voice based package of practices on different crops and multiple languages. Figure 5 shows the voice based package of practices in AGROPEDIA.

![Figure 5: Package of Practices using Voice](image)

**Social media based extension activity using AGROPEDIA**

This is the social communications space for the AGROPEDIA users, which is constructed on web 3.0 technology. In contrast with the extension material it deals with contributed knowledge coming up through the active involvement of the users in agrowiki, agroblog, agroforum, and agrochat.

• **Agroforum:** It is a platform where a registered user can post a question under any one of the forums and an expert on the related topic would reply and hence a conversation is opened.

• **Agrochat:** It is an entirely new concept for an agricultural website where registered users can get involved in one to one as well as one to many chat. It is very simple and efficient to use too.

• **Agrowiki:** It is developed by using the idea of ‘Wiki’, popularised by Wikipedia i.e. everyone is able to search and create content about agriculture, and share it with others. Here one can also visualize and upload images in addition to text. Agrowiki is related to agricultural domain whereas Wikipedia is dealing with all types of information. It provides users a word document with a toolbar having all possible functionalities which are commonly used by them in creating a document. AGROPEDIA provides different features like blog, forum, chat, wiki to share and learn agricultural information and experiences but it is not in case of wikipedia. Figure 6 shows the agrowiki in AGROPEDIA portal.

![Figure 6: Agrowiki](image)
**Agroblog:** It is like a personal diary where all the registered users can share their experiences and other registered users can comment on them.

**CONCLUSION**

AGROPEDIA is an effort to shape a national source for agricultural information using information and communication technologies. In this paper we mentioned the various tools in AGROPEDIA for Agricultural Extension and Interaction with farmers to scientific community and knowledge models that have been developed in AGROPEDIA. The role of AGROPEDIA is to establish connections, create awareness. Hence, farming community, agricultural researchers, scientists and extension people should increase their participation to connect, network and communicate agricultural issues promptly on social networking sites like AGROPEDIA. This will start of a movement that will forever change the agriculture industry.

**REFERENCES**


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