Web-Based Agricultural Extension: Empowering Farmers in the Digital Era

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Introduction

The global population, expected to nine billion by the year 2050 under the conditions of climate related adverse impacts, natural resources such as soil and water quality degradation. Hence, food and nutrition security will become a challenge in the developing countries and India. To solve the problems, one of the solutions will be development of Information and Communication Technology (ICTs) based agricultural research, education and extension activities to address the upcoming issues. Among all, the ICT tools and interventions in agricultural extension have got great importance in connection with Artificial Intelligence; also, to disseminate information to a greater number of farmers, web based agricultural extension play's important role in enabling the farmers in a right direction.

Why Web based Extension?

Farmers need right information to tackle the challenges of production, marketing, natural resource management, etc. Through, most of the information needed is available on the internet. But, more volume and uncertainty about accuracy makes getting correct and credible information is very difficult. So, Web portals aim to resolve this situation.

Website Vs Web portal

A website of a company is a collection of all the facts and information about the company in different pages that are included or contained under a domain name. A Web portal is also a type of website but it differs in content and services from a typical website that provides only specialized information. A Web portal is a launch pad to a host of web-based services such as email, shopping, gaming, news, weather and so on whereas a website is concerned with providing information about a company only.

A portal is defined in the dictionary as a gateway or an entry point to a grand entrance. Thus, a Web portal, in addition to being a website, also acts as a gateway to the internet. There are many pages that go into making it a website that is also a Web portal as you can use it as a launch pad to millions of other web pages, go shopping, play games, read your email, or talk to your friends through its messenger called G talk and so on. While a Web portal find information for the users, they themselves have to search for it on a particular website. So whereas Yahoo.com or Google.com is considered as web portals, CNBC.com or CNN.com or BBC.com is considered as websites. You can search for information on a website but it is limited while a Web portal itself searches and presents all the information for the users.

Also, Portals offers a diverse range of information from crop-related or weather information, to daily market prices, schemes and programmes for farmers, daily news, events, publications supported by multimedia, expert systems, and much more. The portal can be accessed in local languages and English and offers a keyword search facility.

Various categories of portals

In the context of agricultural extension and advisory services (EAS), there are two predominant types of portals – those providing technical and market knowledge to farmers at the grassroots level. Main categories of portals are,

1. Knowledge portals (www.knowledgebank.irri.org, www.rkmp.co.in)
2. e-Extension portals (www.extension.org, www.agritech. tnau.ac.in, www.e-agriculture.gov.gh),
3. Video-based portals (www.accessagriculture.org, www.digitalgreen.org)
4. Market information portals (www.agmarknet.nic.in)
5. Information portals for rural people (www.vikaspedia.in)
6. Institutional portals for extension and advisory services (www.nafis.go.ke, www.kilimo.go.ke) fall into the former category.

(Portals like Agricultural Extension in South Asia (AESA) (http://www.aesa-gfras.net/) and Modernizing Extension and Advisory Services (MEAS) (http://www.meas-extension.org/) contain numerous resources and tools to enable knowledge sharing and networking among all service stakeholders.

Philosophy and principles Web portals

Web portals are digital platforms that provide organized gateways to information from various stakeholders. It acts as a Hosting portal to meet the needs of farmers, extensionists, and other EAS actors need.

Some principles of hosting web portals are:

1. **Usability and utility:** The portal should be user-friendly to non-experts in information technology (IT). The information provided should be relevant and of high utility to potential users. Local language or multiple language display options also helpful
2. **Content organization:** Content should be easily understandable, navigable, searchable and being visually appealing in nature.

3. **Content Management System:** The content display should in-built with interactive features and feedback setups
4. **Flexibility:** The web portal needs to be flexible in design so that new features can be added when needed without major disturbance to the configuration.
5. **Structure:** The structure of the content should be well-defined to make access and navigation easier. The site navigation should be easy to locate.
6. **Site display:** The portal should work and display consistently across all browsers with videos, audios.
7. **Visualization:** Visualization of the content repositories can reduce information overload and the time needed to retrieve information.
8. **Customization:** Allowing users to customize the portal to meet their specific needs can increase user satisfaction and efficiency of use.
9. The portal should be user friendly Mobile phone accessible in nature
10. The success of web-based agricultural extension portals depends largely on how well technical expertise and digital communication skills are brought together.

Conclusion

The Information and Communication Technology era has significantly reduced the dependence on physical distance by enabling faster knowledge exchange within a globalized agricultural economy. Web-based extension systems, when designed with local relevance and strong community involvement, can complement traditional extension methods by making information more accessible and timelier. However, their true impact depends on addressing critical issues related to connectivity, capacity building, and participatory content development. By bridging these gaps, web-based extension can become a powerful tool for inclusive and sustainable agricultural development.

References

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www.betterextension.org Global Forum for Rural Advisory Services (GFRAS).

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