GFRAS GOOD PRACTICE NOTE FOR EXTENSION AND ADVISORY SERVICES

NOTE 16: Web Portals for Agricultural Extension and Advisory Services

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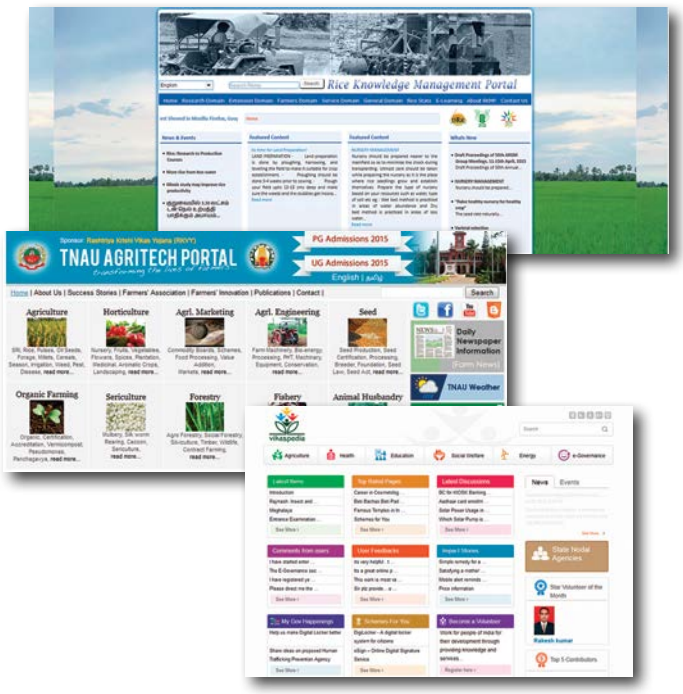
There is plenty of information available in the public domain that covers various aspects of extension and know-how about new methodologies for implementation. However this information is often scattered and presented in complex academic language. Hence practitioners, who often have very limited time and/or may only have basic formal education, find it difficult to make use of this information.

The Global Good Practices Initiative aims to bridge this gap by providing information about extension approaches and methods in easy-to-understand formats. As part of this effort, it makes "Good Practice Notes" available to all at www.betterextension.org. This Note contains one of the extension methods included in this series.

Introduction

Agriculture is the largest employer in the world, providing livelihoods for the majority of the world's poorest people. As the backbone of many developing country economies, agricultural development becomes synonymous with global development. Research and development efforts to improve agriculture have been ongoing for nearly a century, but with new and ever-changing global challenges, agriculturists need to be equipped with the right information to tackle those challenges. Through advances in information and communication technologies (ICTs), most of the information needed is available on the internet. But the sheer volume and uncertainty about accuracy makes getting correct and credible information very difficult. Web portals aim to resolve this situation. They are specially designed single access points to information collected from diverse sources.



In the context of agricultural extension and advisory services (EAS), there are two predominant types of portals – those providing technical and market knowledge to end users at the grassroots level, and those helping with capacity development of extension personnel. Knowledge portals (www.knowledgebank.irri.org, www.rkmp.co.in), e-Extension portals (www.eXtension.org, www.agritech.tnau.ac.in, www.e-agriculture.gov.gh), video-based portals (www.accessagriculture.org, www.digitalgreen.org), market information portals (www.agmarknet.nic.in), information portals for rural people (www.vikaspedia.in), and 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 service stakeholders, and fall into the latter category.

Philosophy and principles

Web portals are digital platforms that provide organised gateways to information or act as aggregators of knowledge from various stakeholders. Hosting portals to meet the needs of farmers, extensionists, and other EAS actors needs to be well-thought-out. Some principles of hosting web portals are:

- 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 help.

- Content organisation: Enhance the user experience by presenting the content in a form that is easily understandable, navigable, and searchable, in addition to being visually appealing.

- 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.

- Structure: The structure of the content should be well-defined and in a definite pattern to make access and navigation easier. The site navigation should be easy to locate.

- Site display: The portal should preferably work and display consistently across all browsers and devices.

- Visualisation: Visualisation of the content repositories can reduce information overload and the time needed to retrieve information.

- Customisation: Allowing users to customise the portal to meet their specific needs can increase user satisfaction and efficiency of use. But, for novice users, the majority of information should be displayed in easy to access links.

- Content Management System (CMS): A CMS enables interactivity so that users can easily upload and update content, which helps increase the repository of information.[1] Features like discussion forums, opinion polls, page rating, live search, surveys, feedback form, and so on encourage interactivity.

- Broad-based information: Varied information related to all aspects of rural life, with multimedia content support, helps make the information easy to understand.

Implementation

The implementation requires collaboration between EAS and IT organisations. When implementing a web portal for extensionists and farmers, the following steps need to be followed:

- Selection of content: The content needs to be decided on jointly by selected users, subject experts, and web developers.

- Designing the portal: A well-arranged and user-friendly design is the most important part of a web portal. Since a web portal is much more extensive than a website, it needs to be much more thought out to specifically cater to the needs of novices.

- Identification of roles: Information needs to be constantly updated to ensure a quality and dynamic portal. To achieve this responsibilities need to be defined within and outside the organisation.

- Periodic technology upgrades: Frequently changing the user interface and portal design can make it user unfriendly, but upgrading the portal with new features to reflect evolving technology is very important to retain users.

Other features can be added to increase interactivity and sustain user interest: cookies to track user preferences (with their permission), chat or call options for help navigating the site, social media log in, bulletin boards, chat rooms, live search options, subject-specific content search facilities, discussion forums, opinion polls, and feedback and survey forms.

Web portals for agricultural extension and advisory services are developed and hosted by many types of organisations, including agricultural universities (see Box 1), research institutions, extension organisations, professional networks, private agri-business firms, and others.

Governance and management

Web portal development and management is a collaborative task, involving many stakeholders. The developers need to continually upgrade, enhance, maintain, and support the site, and the EAS organisation needs to feed it with content and expert advice to keep the information up-to-date. The source of content also needs to be authenticated regularly to maintain quality. Clear allocation of roles when setting up web portals makes their governance and management easier.

Capacities required for providers and participants

Many factors determine the success of a web portal, but the content management and delivery model are the most important components in the agricultural development context.[2] While IT-proficiency is a basic requirement for the providers, clear understanding of the information

BOX 1: EXAMPLE OF A PORTAL

Tamil Nadu Agricultural University (TNAU) Agritech Portal (www.agritech.tnau.ac.in) has been catering to the needs of farmers, extensionists, and other stakeholders in agriculture and allied sectors since 2009. It 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 Tamil and English and offers a keyword search facility.

[1] Glendenning, C.J. and Ficarelli, P.P. 2011. Content development and management processes of ICT initiatives in Indian agriculture. *Information Development* 27(4): 301–314.

[2] Heeks, R. 2002. Information systems and developing countries: Failure, success and local improvisations. *The Information Society* 18: 101–112.

required by potential and current users is also very important to ensure the relevance of the information provided. Also, clear instructions and training need to be given regarding collating the obtained information in user-friendly language for higher readability.

Users of web portals will need access to internet-enabled devices and an internet connection, as well as basic knowledge of surfing the internet.

Costs

The costs will vary depending on the specifications of the portal, hosting platform, technology used (open source or commercial), quality of the portal, support, and maintenance. The main costs are hiring a developer, creating a basic website (300–2,000), and CMS integration (US$2,000–10,000). A simple portal will cost US$10,000–25,000 and multi-site portals with multiple portlets around US$25,000–60,000. There will also be extra charges for advanced features like diagnostics. A web portal with chat facilities and customer support will need a dedicated web master (US$1,000–2,000 per month).

Strengths, weaknesses, opportunities, and challenges

Web portals collate the huge amount of knowledge available on the web in a single place. But in spite of the advantages, many people are not yet using web portals due to lack of literacy or awareness. There are also many challenges to be overcome at the organisational and institutional level in order to increase the use of web portals in agriculture. The strengths, weaknesses, opportunities, and challenges of using web portals in extension and advisory services are given in Table 1.

Best-fit considerations

- Nature of target groups: Web portals can serve as a ready reference of information when needed for extensionists, researchers, academics, and policy-makers; however for farmers, literacy is important. Lack of device availability for access is a big drawback, especially for women.
- Innovations: Device compatibility is a very important feature that needs to be recognised during web portal development, mainly because of the mobile phone revolution in rural areas. Integration of features that enable interaction among users and real-time information display for market prices, weather, etc. can be very helpful for farmers.
- Ecological and institutional settings: Farmers not only need a device to access the portal, but also the wider infrastructure such as roads, electricity, etc. to actually put the information gained into use. At the organisational level, transparency in information sharing is an important aspect in quality control of information shared.

Evidence of impact and potential scalability

Web portals have had far reaching impact on users financially and socially. In India, the e-Choupal initiative for market price dissemination has reduced the procurement transaction price from 8 percent to 2 percent and has involved the farmers in every step – from content generation to web portal design and layout.[3] Access Agriculture, through videos hosted on the web portal, has changed the life of farmers, especially of women, across Asia and Africa by making information accessible and empowering them.[4]

Most of the time, agricultural information is very location-specific and so the best scalability option can be to 'roll out, fix it, and scale up',[5] collating the required information and editing out the unnecessary material depending on usability and farmers' responses.

Table 1. Strengths, weaknesses, opportunities, and challenges

Strengths	Weaknesses	Opportunities	Challenges
• Seamless integration of online information and knowledge from stakeholders • Location-specific information • Decentralised CMS encourages free flow of relevant, unbiased, and value-added content • Interactive portals facilitate discussion among peers • Integration of content in multiple forms (text, audio, video, etc.)	• Illiteracy (educational and technological) • Needs technical expertise • Possibly outdated content • No mention of source reduces authenticity of information • Limited degree of customisation by individual users • Lack of customised agricultural content in regional languages • Limited ICT availability and access among women farmers	• More agri-organisations digitising their content • Favourable open access policies • Better access to information for tech-savvy farmers and extension organisations • Growing internet access through smart phones ensures wider audience • Promoting web portals through social media groups increases their visibility	• Continuous updating and validation of content and portal features • Sustaining the interest of users • Increasing access for women and illiterates (educational and technological) • Lack of incentives or restrictions for organisations to share information • Continuous surveying of users to ensure that content and structure suits their needs

[3] Bowonder, B., Gupta, V. and Singh, A. Undated. *Developing a rural market e-hub: The case study of e-Choupal experience of ITC*. Available at: http://www.planningcommission.gov.in/reports/sereport/ser/stdy_ict/4_e-choupal%20.pdf

[4] http://www.accessagriculture.org/node/492

[5] Kaur, S., Jha, S.K. and Mandal, R. 2014. Information, efficiency, and sustainability in Indian agricultural markets: E-Choupal, ITC's private initiative. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2526061

Building portals/repositories cannot guarantee application at the farm level. There should be clear-cut knowledge uptake strategies and activities to encourage this. Such strategies include understanding knowledge pathways in communities, developing knowledge products for users, capacity building, reinforcing knowledge by practical demonstrations in the field, feedback and sharing among stakeholders, and re-inventing knowledge at field level.

Critical issues

EAS organisations need practical solutions for web portals to be effective at the grassroots level. For that some critical analysis of issues like content development (who, how, process, scale, and depth), capacity building of extension personnel and organisations, building farmer communities for localisation of content, and credibility of information are important. Overcoming these requires multi-stakeholder involvement at many levels to make web portals effective in a rural farming scenario.

Further reading

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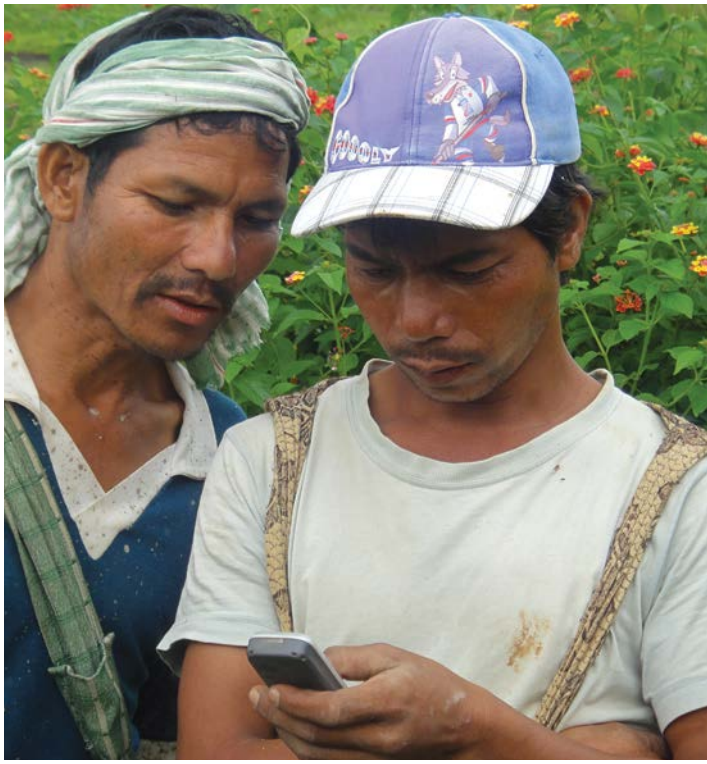

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