

Rural information and communication systems: lessons learned through linking research to extension - Virtual Extension and Research Communication Network (VERCON)

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Abstract

Too often, technology-based rural information and communication systems put the emphasis on the technology itself rather than the human dimension. Technology alone cannot be a panacea, and rural communication and information systems are doomed to failure unless there is active information management and knowledge exchange, with appropriate support to all communication aspects. The human component and the technological components need to be combined appropriately. The human factor is crucial because the needs of the people should be at the heart of any system. The system should be convenient for their use. On the other hand, digital technologies provide potential for innovative approaches that make production, storage, and exchange of information easier, faster, and more accessible to geographically dispersed populations. In the last ten years, FAO has supported national initiatives related to rural information and communication based on new information and communication technologies (ICTs) in seven countries, spread across four regions (Africa, Asia, Middle East and Latin America). Conceptual models, methodologies and tools have been developed to strengthen linkages among rural institutions and individuals using Internet-based ICTs, such as the Virtual Extension and Research Communication Network (VERCON). Such initiatives involve different types of stakeholders: agricultural researchers and extension agents, small-farmers, non-governmental organizations, private or public agricultural service suppliers and the media, such as rural radio. The aim is to harness new ICTs in combination with traditional communication channels to enable these rural stakeholders to be better informed, to manage information and also to share their knowledge; complementing, enriching and reinforcing existing pathways with new ICTs.

Introduction

In the last ten years, FAO has supported national initiatives related to rural information and communication based on new information and communication technologies (ICTs) in seven countries, spread across four regions (Africa, Asia, Middle East and Latin America). Conceptual models, methodologies and tools have been developed for strengthening linkages among rural institutions and individuals using Internet-based ICTs, such as the Virtual Extension and Research Communication Network (VERCON). Such initiatives involve different types of stakeholders: agricultural researchers and extension agents, small-farmers or non-governmental organizations, private or public agricultural service suppliers and the media, such as rural radio.

VERCON aims and challenges

Strong linkages between agricultural research and extension are essential for research to successfully contribute to agricultural and rural development. Similarly, access to information and knowledge on appropriate agricultural technologies is fundamental to improve small farmers' competitiveness and contribute to food security and sustainable development.

The challenge of VERCON-like projects is to improve access to agricultural information and enhance communication, knowledge-sharing and lesson learning among and within the human, institutional and social components of agricultural production systems. This is done using collaboration and innovative methods of communication such as Internet-based ICTs and addressing the needs and priorities of the farmer communities as a major concern.

VERCON's innovative nature (Fig. 1) is its capability to achieve effective linkages by connecting geographically dispersed people and enhance two-way communication, managing large volumes of data, and rapidly collecting, processing and disseminating information in a variety of forms.

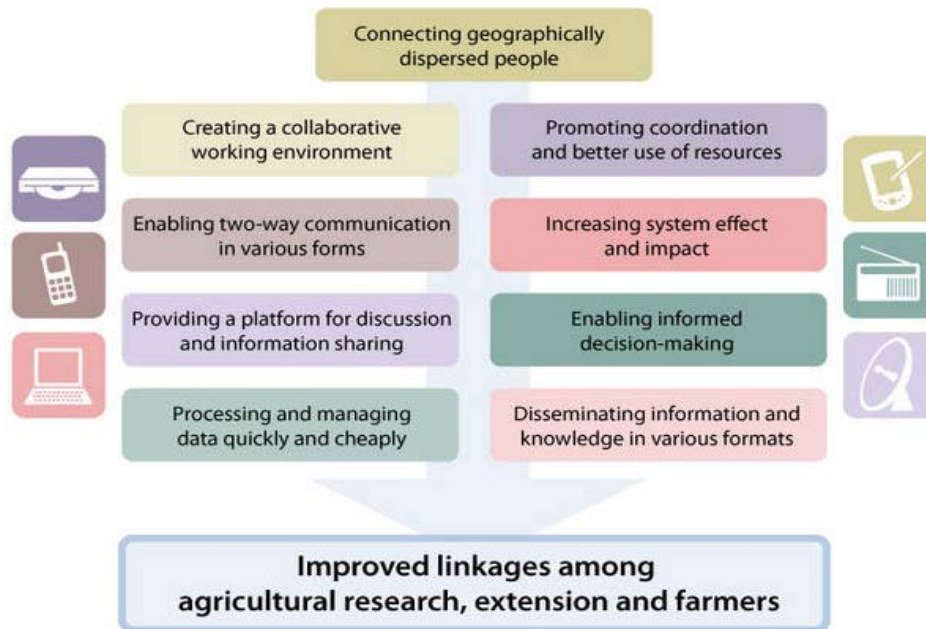


Figure 1. VERCON advantages.

The human and technological components of VERCON

Too often, technology-based rural information and communication systems put the emphasis on the technology rather than the human dimension. If an information system is not enriched with content or not used, it has no value. Technology alone is not a panacea, and rural communication and information systems are doomed to failure unless there is active information management and knowledge exchange, with appropriate support to all communication aspects. The human component and the technological components need to be combined appropriately. Two general aspects are worth mentioning. On one hand the human element, the more complex aspect of any initiative, is crucial because the needs of the people should be at the heart of any system. The system should be convenient for their use. On the other hand, digital technologies provide potential for innovative approaches that make production, storage, and exchange of information easier, faster, and more accessible to geographically dispersed populations.

Furthermore, these new digital technologies are exciting, intriguing, captivating, and full of potential. The interest and excitement they generate can be harnessed to bring together people with different roles and functions to explore ways to collaborate, share and improve agricultural systems. The technologies encourage such collaboration and sharing by providing new means to support and enhance such processes. Also the new technologies can be combined with more traditional technologies and communication methods such as print media, rural radio, face-to-face dialogue, and many other approaches common to agricultural extension and communication for development.

Building a VERCON

From the formulation to the evaluation phase, building a VERCON is fundamentally about the personal determination and commitment of partner institutions who seek to overcome bureaucratic obstacles and administrative traditions in order to improve or establish a national agricultural knowledge and information system.

There is no magic “VERCON-in-a-box” software package, and there is no one-size-fits-all VERCON solution for every developing country. The improved communication network is the result of extensive multi-stakeholder collaboration for planning, implementing, managing and evaluating practical processes and tools to improve communication linkages and information sharing.

Building a VERCON also involves finding creative and practical ways to harness new information and new ICTs, particularly the Internet and personal computers. However, finding effective and practical ways to harness the technologies is not to be accomplished by information management professionals or software experts alone. Researchers and extension agents must find the spaces and mechanisms to assess, plan, implement and evaluate together what the network is offering while taking into account feedback from their rural counterparts.

Success factors

As in many programmes and projects a clear vision and strategy should be agreed on from the beginning. The members of the existing agricultural system should share the goals for enhancing that system. The shared vision, strategy and related goals and policies need to be at the centre of the system to make it work. Advocacy and promotion are useful to guarantee support to the network.

In addition to these, other success factors have been identified in six interrelated categories: people, technology, institutions, partnership, content and finance.

As outlined in Figure 2, several key aspects need to be addressed for each category.

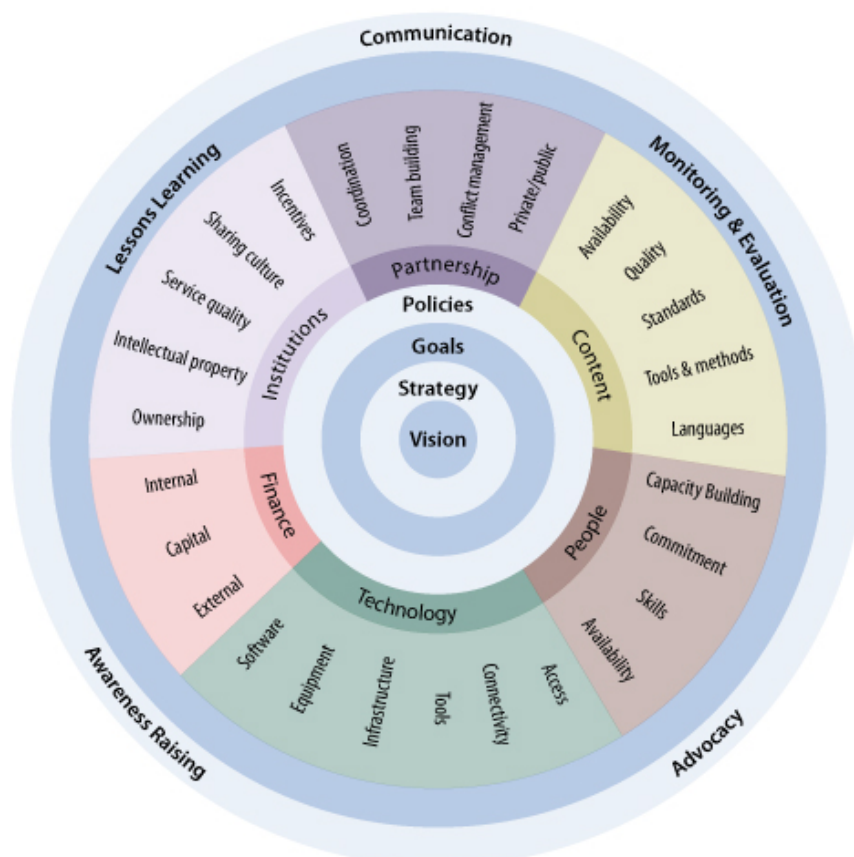


Figure 2. Success factors.

People: There should be sufficient human resources with appropriate skills to carry out the requested tasks, and they should be committed to the project. The time people will spend on VERCON should be integrated in their daily work. There should be opportunities to develop the capacities of all stakeholders, as all of them should feel comfortable with changes proposed by the system.

Technology: Ensuring access to the system to all users is not a challenge, but a must. A capacity assessment will identify the limitations in terms of connectivity, infrastructure and equipment. The leading team should adopt a realistic approach to technology according to the actors' needs. The system should be built in collaboration with the users and be finalized after having received their feedback. The selection of appropriate tools should be done with them. If they are not comfortable with the system, they won't use it!

Finance: As several institutions are usually involved in a VERCON, the cost of building the network should be shared and respected. The budget should take into account the cost of equipment, travel, repackaging of content, maintenance, organization of meetings at apex and decentralized levels, etc. Funds can come from various sources: internal, external and partnerships.

Institutions: VERCON is part of a process of institutional strengthening, in terms of management, commitment, sharing culture, incentives and service quality. Ownership among the partners and within the institutions involved is key. The recognition of the intellectual property and the issue of individual contributions (such as pictures) should also be addressed.

Partnership: A diversity of partners is involved in a VERCON. Building partnership requires considerable efforts. This is why it is important to adapt a win-win approach and start with a team building exercise. Openness and transparency will reduce the risks of conflicts.

Content: Without content there is no system. Whether digitized or not, a good information management system should be put in place, including the adoption of standards and peer review to guarantee the quality of content. Tools and methods of information management should be used to make search and retrieval of documents easy for the users. Content should be adapted to the local context and different users, in terms of language (national and local languages, level of complexity, illustrations, etc.). The same content can exist in several formats (written document, audio, video, image, etc.).

Lessons learned

After several years of implementation of VERCON projects, the following main lessons have been identified:

1. Enabling environment and connectivity

An ICT policy which recognizes the value of connectivity in the country and the importance of telecommunications infrastructure is necessary before starting implementing a VERCON system. Connectivity, including in the rural areas, is essential to guarantee the network works. If these basic requirements cannot be met, it might be better to postpone the implementation of a VERCON until the situation improves.

2. Institutionalization of VERCON networks

A VERCON network should not be seen as a project, but as a new way of working within the institution. It needs to be embedded at the institutional level. Institutionalization implies making sure that VERCON is fully part of the procedures and ways of working, in staff work plans and budgets, as well as monitoring the network and assessing results obtained and impact. Sustainability will not be possible if VERCON management and benefits are not fully recognized and the network institutionalized. Champions within the institution and at all levels are assets guaranteeing the success of a VERCON.

3. Network facilitation

Facilitation is needed to promote exchange and information flows between the system's stakeholders. A pro-active coordination team and/or unit is thus essential to motivate, facilitate, promote, and encourage information exchange and communication among the VERCON actors. Face-to-face meetings to capitalize and stimulate exchange and new ways of working are also crucial. A dynamic human network is a fundamental aspect of VERCON.

A VERCON cannot rely on only one or two motivated individuals, in particular in countries with high staff mobility. Accountability will be improved if roles and responsibilities of the various actors are defined in a memorandum of understanding.

4. A sharing and exchange culture

At institutional and individual levels, the actors involved in a VERCON system put together their resources and share them with other stakeholders. Sharing is a win-win solution. However, it is often a real challenge because of the inclination to work in “closed” environments. A knowledge sharing culture should be promoted and facilitated, through a specific strategy that might include capacity building in collaborative methods, tools in communication for development, exchange mechanisms, working in small network groups, etc.

A favorable environment and culture conducive to sharing is a necessity. This implies the commitment of senior management, collaborative planning, knowledge sharing, cross-functional teams and critical review of current systems.

5. People not only technology

The human and the technological components should be combined appropriately. Not only should the technology be user-friendly and accessible, but it also should serve the users’ needs.

Networks such as VERCON work with people. People need trust to work together and share their information and knowledge. Trust, useful information and knowledge, with appropriate support from good communication, will make the network work. The system will have an added-value only if it is relevant to the needs of particular user groups.

Learning more about VERCON

If you want to learn more about VERCON, a website is available in several languages at www.km.fao.org/vercon. You will find information on the experiences of VERCON in Armenia, Bhutan, Costa Rica, Egypt, Uganda and other similar projects in Nigeria and Columbia. For most of these countries case studies are available. For those interested to start a VERCON, guidelines are available.

References

Treinen S, VERCON, an example of e-Agriculture in action, i4D magazine March 2010, <http://www.i4donline.net/>