SATELLITE RADIO WITH THE INTERNET

Further reading

Using information and Communications technology for Agricultural Extension

Further rea...
Combining ICT with newer extension methods can place smallholders at the centre of development

**LEARNING SYSTEMS**

**Extension programmes and services should:**

- **Enable individuals**, households, and farming or other value chains to participate and contribute to their development process.
- **Build and develop human resource capacity**, with opportunities for skills development and access to information and technology.
- Be sufficiently **flexible**, motivating, adaptive, and engaging in **interaction**.

**Content issues**

- How can new technologies be used to enhance learning and to promote social and economic change?
- How can ICT be used to improve the effectiveness of existing rural extension activities?
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**Technical issues**

- How can the technical infrastructure be improved to support effective ICT-based extension?
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INTRODUCTION

Agribusiness is the most important sector for the development and growth of emerging economies and represents a significant portion of the livelihoods of smallholders. Technological advances in ICT, particularly for smallholders and rural smallholder communities, have created new markets and opportunities for businesses and for reducing poverty and hunger. These technologies have made it possible to increase the efficiency and profitability of smallholder farms. They have also provided new opportunities for extension services, which can help smallholders reduce their production costs and improve their access to markets.

The development of ICT technologies has been driven by a number of factors, including the need to reduce the high costs of traditional extension methods, the desire to improve the effectiveness of extension services, and the need to increase the speed and efficiency of the delivery of information. ICT technologies have also made it possible to reach a wider audience and to provide more targeted and personalized information.

THE SUCCESS OF ICT APPLICATIONS DEPENDS UPON THE APPROPRIATENESS OF THE LEARNING THEY PROVIDE

Combining ICT with newer extension methods can place smallholders at the centre of development.

ICT & AGRICULTURE:

- **Systems become more standardised and available.**
- **Standardised, portable, compact and often the most cost-effective.**
- **Good for self-paced learning.**
- **However, it needs literacy, lacks moving images to attract audiences.**
- **Various information sources to the farming community?**
- **For example, will the market price be communicated by telephone, newspaper, radio, television, audio and radio recording, computer, digital camera and the Internet?**

THE RURAL SMALLHOLDERS

- **Rural smallholders can visually record and communicate problems to other smallholders through the Internet and through digital photographs and video clips.**
- **Smallholder communities through the following stages:**
  - **Every community, whatever its nature, size and location, has its own particular problems.**
  - **Information is important in allowing smallholder communities to envision new possibilities, negotiate with partners and stakeholders, and work towards fulfilling their visions.**
  - **The effectiveness of many existing ICT-based programmes is limited by:**
    - **Current, reliable and locally appropriate knowledge, information and technologies work best in some extension contexts.** Some older media are now converging in ICT.
    - **For example, telephony, fax, audio- and video-conferencing technologies work best in some extension contexts.** Some older media are now converging in ICT.
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EXTENSION ISSUES

- **Increasing access to, enriching and diversifying learning within it.**
- **Field schools and farmer participatory research mobilise communities and expertise: sharing information, motivating and empowering, as well as training.**

DEVELOPING ICT

- The 2002-2003 development and evaluation as a framework for the introduction of ICT-based smallholder extension systems. For example, the International Institute for Labour Studies’ (IIS) innovative and interactive ICT-based extension system (VIDAS). It has potential for use in a large number of communities or contexts. It is often best to use a mix, for example, to combine print, broadcasting and/or ICT with face-to-face methods.
- **The success of ICT in smallholder extension programmes places them even further out of the reach of communities in need.**
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WIRELESS TELECOMMUNICATIONS AND TOOLS

- **Help reduces, lessens, modifies and substitutes for the smallholder problems, and can be slow and costly to customise to local communities’ needs.**
- **It may also be difficult to deliver to remote areas.**
- **Good for self-paced learning.**
- **However, it needs literacy, lacks moving images to attract audiences.**
- **Various information sources to the farming community?**
- **For example, will the market price be communicated by telephone, newspaper, radio, television, audio and radio recording, computer, digital camera and the Internet?**

RADIO

- **Sells broadcast programs standardised, if good, powerful outputs.**

AUDIO/VISUAL

- **Provide programmes with:**
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TECHNOLOGICAL ISSUES

- **Print:**
  - **Analogous, portable, compact and the theorist’s control.**
  - **Effective and efficient.**

ORGANISATIONAL ISSUES

- **Development of effective ICT-enabled programmes is constrained by:**
  - **Lack of government commitment and national and community policies that support the introduction of ICT into the extension system.**
  - **Costs of infrastructure, information and technical expertise.**
  - **Limited technical opportunities and internet capabilities.**
  - **Lack of appropriate ICT programs and materials and internet features.**
  - **Be evaluated, tested and implemented.**
  - **Costs and lack of infrastructure, technology and technical expertise.**
  - **Limited technical opportunities and internet capabilities.**
  - **Lack of appropriate ICT programs and materials and internet features.**

EXTENSION SYSTEMS

- **Programmes and services offered:**
  - **All in various ways.**
  - **Extension programmes incorporate:**
    - **Sound business planning to ensure long-term sustainability.**
    - **Increasing access to, enriching and diversifying learning within it.**
    - **Field schools and farmer participatory research mobilise communities and expertise: sharing information, motivating and empowering, as well as training.**
    - **The success of ICT in smallholder extension programmes places them even further out of the reach of communities in need.**
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Combining ICT with new extension methods can place smallholders at the centre of development.

**LITERATURE REVIEW**

Agriculture is the mainstay of many low-income or developing nations’ economies. Smallholders are the backbone of agricultural production in these countries, and they are capable of envisioning and implementing further change. They can also provide feedback on the effectiveness of any new or different ways of doing things, and adopting, modifying or discarding those materials and services they recognise as meeting their immediate needs. The success of ICT systems and applications depends upon the appropriateness of the learning they provide. The success of ICT applications depends upon the appropriateness of the learning they provide.

**NEW EXTENSION METHODS**

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**DEVELOPING ICT**

The 2002-2003 iNARS discussion and workshop on a framework for the effective use of ICT for farmers and smallholders through National Agricultural Research and Extension Systems (NARES), organised by the International Service for National Agricultural Research (ISNAR) and the International Service for National Agricultural Research (ISNAR) and the International Service for National Agricultural Research (ISNAR) and the International Service for National Agricultural Research (ISNAR) and the International Service for National Agricultural Research (ISNAR) and the International Service for National Agricultural Research (ISNAR) and the International Service for National Agricultural Research (ISNAR) and the International Service for National Agricultural Research (ISNAR) and the International Service for National Agricultural Research (ISNAR) and the International Service for National Agricultural Research (ISNAR) The Japan We Never Knew

INTRODUCTION

Agricultural development can lead to structural change and economic growth. However, the success of ICT systems and applications depends upon the appropriateness of the learning they provide. The success of ICT applications depends upon the appropriateness of the learning they provide.

**THEORETICAL FRAMEWORK**

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**TECHNOLOGICAL ISSUES**

**LEARNING SYSTEMS**

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SATELLITE RADIO WITH THE INTERNET

Ajit Maru, Research Officer, International Service for National Agricultural Research (ISNAR)

The programmes cover self-development, group management, managing facilitators to support group and individual study in Francophone West Africa.

Radio with the Internet

The programmes are prepared by community radio extension officers who visit communities to discuss problems and priorities and record discussions with local experts. They enable smallholders to hear people within their communities. The radio station provides programmes for 8–12 year olds and adults. Agricultural Education and Communication (AEC), India.

The programmes are self-paced, interactive and provide learner feedback. Programs can be adapted for different ethnic groups and are available in 50 local languages.

Radio with the Internet

Kothmale Community Radio Internet project, Sri Lanka.

This publication may be reproduced for non-commercial purposes. Acknowledgement to the Commonwealth of Learning.

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Radio with the Internet

Commonwealth of Learning Media Empowerment (COLME), Ghana and Commonwealth of Learning (COL) are intergovernmental organisations created by Commonwealth Heads of Government to encourage the development and sharing of open learning and distance education knowledge, resources and technologies.

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Written and researched by Colin Latchem, Distance Education Consultant, Australia

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A TOPICAL, START-UP GUIDE TO DISTANCE EDUCATION PRACTICE AND DELIVERY

Written and researched by
Ajit Maru, Research Officer, International Service for National Agricultural Research (ISNAR)
Colin Latchem, Distance Education Consultant, Australia

The Knowledge Series is a topical, start-up guide to distance education practice and delivery. New titles are published each year.

The programmes cover self-development, group management, managing facilitators to support group and individual study in Francophone West Africa.

SATELITE RADIO WITH THE INTERNET

This uses print, radio, audio and local content to support education. It provides CD-ROM transfer methods and support skills; training materials; statistics and other data; a discussion area; and access to other agricultural sites.

These programmes connect smallholder farmers with extension agencies, researchers, extension managers and smallholders with facilities and funding for videoconferencing, and a network of information kiosks.

Sustainable ICTs—Transforming Agricultural Extension?

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2003.


International Support Group.

Information and Communication Technologies for rural development and food security: Lessons from field experiences in developing countries.”

International Support Group.

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Radio Apac, Uganda.   www.interconnection.org/radioapac


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MANAGE: Via the Internet, CMC is relatively

An issue, but mobile computing with sturdy laptop and notebook computers

Grameen Telecom's Village Phone (VP) Programme, Bangladesh: Grameen

www.manage.gov.in

www.runetwork.de

www1.worldbank.org/publicsector/egov/warana.htm

Warana Wired Village.

Rural Universe Network (RUNetwork).

www.fao.org/docrep/W5830E/W5830E00.htm

www.sustainableICTs.com

www.fao.org/waicent

www.fao.org/docrep/W5830E/W5830E00.htm

www.fao.org/docrep/W5830E/W5830E00.htm

Commonwealth of Learning Media Empowerment (COLME), Ghana and

International Rice Research Institute (IRRI) links with the IRRI Rice Web, Sustainable ICTs: Case Studies.


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