

Sharing knowledge with rural people

SUPPORTING INNOVATION FOR AGRICULTURE AND RURAL DEVELOPMENT

FAO RESEARCH AND EXTENSION DIVISION (NRR)
NATURAL RESOURCES MANAGEMENT AND ENVIRONMENT DEPARTMENT

FAO Research and Extension Division

Sharing knowledge to support rural people and institutions

Rural communities in developing countries face increasing challenges related to their livelihoods, food security, deterioration of natural resources, and impacts of climate change and volatile food prices, among others. National priorities of increasing food production and productivity, and reducing hunger and poverty, require strengthened rural knowledge institutions and improved communication processes to facilitate the access of farmers to information on agriculture and innovative technologies.

The Research and Extension Division (NRR) provides advisory and technical services to FAO Members to support an integrated approach to agricultural research and extension systems, education for rural people, and communication for development, in order to respond to the technology, knowledge and human capacity building needs of national development policies and priorities.

NRR also hosts the Global Forum on Agricultural Research (GFAR), and serves as a focal point for liaison with international partners in areas, such as, the Consultative Group for International Agricultural Research (CGIAR), the Neuchatel Initiative (NI), and the UN Roundtable on Communication for Development.

CORE ACTIVITIES:

- → **Policy advice and institutional capacity development in agricultural research and technology adoption and for the safe application of biotechnology.**
- → **Policy advice and institutional capacity development for the enhancement of extension and advisory services.**
- → **Assistance for building functional linkages among research, extension, farmers and other actors.**
- → **Communication for development policies and programmes for sustainable rural development.**
- → **Policy support and advocacy for education for rural people and strengthening vocational and agriculture education.**

This publication highlights key areas of the work of FAO's Research and Extension Division in sharing knowledge to support agricultural innovation.

For more information, please visit our web site: www.fao.org/nr/dep/nrr_en.htm

FAO Biotechnology Forum

Facilitating Science-Based Information Exchange

The FAO Biotechnology Forum is an e-mail based forum established in 2000 to provide quality balanced information about agricultural biotechnologies for food and agriculture in developing countries, and to make a neutral platform available for all interested stakeholders to openly exchange views and experiences on this subject. It covers the crop, forestry, livestock, fisheries and agro-industry sectors, as well as the broad range of tools included under the general term 'biotechnology', one of which (genetic modification) has been at the centre of a highly-polarized debate in recent years.

From 2000 to 2008, the Forum has hosted 15 moderated e-mail conferences, each one focusing on a particular theme (e.g. biotechnologies for bioenergy production in developing countries) and normally lasting 4-5 weeks. Two key documents are produced for each conference: a peer-reviewed Background Document (published before the conference) and a Summary Document (summarizing the conference's debate, written after the conference).

The Forum has currently about 3 000 members worldwide. When a new conference is about to begin, they receive the Background Document and are invited to subscribe. In the conferences held so far, over 1 300 e-mail messages have been posted, coming roughly 50:50 from participants living in developing and developed countries respectively. The messages have come from about 500 different people living in 79 different countries.

The Forum brings people together from different walks of life. About one third of messages have come from people working in universities; one third from people in national or international research institutes/organizations; and one third from people who work for NGOs, as independent consultants, government ministries/bodies, the private sector, the UN, farmers organizations or development agencies.

Providing quality science-based information on agricultural biotechnologies

Covering animals, crops, forestry, fisheries and agro-industry

Learning from each other

Sharing knowledge among different stakeholders

Bio-Tech

Sharing outputs and a recent initiative

→ **The Forum is e-mail based, although all e-mail messages posted and key documents written are also provided on the Forum web site. The Background and Summary documents have also been disseminated in hard-copy format, through four FAO books.**

→ **The latest e-mail conference was entitled "The role of agricultural biotechnologies for production of bioenergy in developing countries". One of the major topics discussed was the potential benefit for small-scale farmers of applying biotechnologies for bioenergy production.**

The Biotechnology Forum is coordinated by the **FAO Research and Extension Division (NRR)**

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TECA – Technology for Agriculture

Proven Technologies for Smallholders

Sharing technology through information systems

Technologies for agriculture are often not well documented, the experiences of their application are not adequately described and the documentation is dispersed.
A widely used and well-managed information system, using a standard framework for presenting proven technologies can serve as an answer to these problems.

An information system for technology for agriculture

TECA is an initiative that aims to respond to the need for a well-managed information system to share proven technologies for agriculture focused on smallholders.
TECA has turned out to be an efficient means to:

- → Capitalize on available knowledge.
- → Support the sharing of proven technologies and practices.
- → Facilitate informed decision-making and the active involvement of beneficiaries.
- → Safeguard individual and organizational knowledge.
- → Set a standard framework for presenting proven technologies for sharing.

Technologies for smallholders

Aiming at contributing to food security, poverty alleviation, and sustainable development, the proven technologies in TECA follow a list of principles to achieve these objectives:

- → Shows maturity by successful application in projects.
- → The information that is available is a public good and has been developed with a participatory approach.
- → Contributes to food security
- → Contributes to the increase of yield or land and labour productivity.
- → Adapts to other locations
- → Be easy to adopt by various user groups.
- → Requires low inputs and make sustainable use of natural resources.

Proven technologies that have contributed to food security, poverty alleviation and sustainable development are described in TECA to facilitate sharing and adoption

TECA offers a database of proven technologies for agriculture, decision support tools, and acts as portal to its partners' web sites

A standard framework for documentation and classification allows searching for technologies according to the context in which they are going to be applied

Direct users of TECA acquire knowledge about proven technologies that can be applied to the smallholders they support

Recent developments of TECA enable the uploading of multimedia material to document technologies and the production of news, leaflets, and manuals for training of producers

TECA – the initiative

TECA has now more than 20 international partners. During the last four years, the number of technologies and practices collected and evaluated has exceeded 2 600. Following the quality controls established by TECA's partners, more than 800 proven technologies and good practices have been published and are available for on-line consultation. Partners such as the Department for International Development (DFID, United Kingdom) have classified and uploaded content. The lessons learnt during the process have been shared with FAO and taken up by the TECA development team for the improvement of TECA. TECA now provides new elements to better document, share good practices and customize its use to each users characteristics.

Through a rating system the beneficiaries of the TECA information can provide an evaluation and assessment on existing technologies.

TECA
Proven Technologies for Smallholders is supported by the **FAO Research and Extension Division (NRR)**

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VERCON – Virtual Extension and Research Communication Network

Researchers and extension workers are exchanging information in seconds rather than days

Weak linkages between extension and research often result in systematic knowledge and information "bottlenecks" that limit the effectiveness of research to contribute to agricultural development. Yet, knowledge and information gained through agricultural research are essential for improving food security. In the last ten years, FAO has supported information and communication interventions at the national level in ten countries spread across five regions (Africa, Asia, Near East and Latin America, Central and Eastern Europe) incorporating new Information and Communication Technologies (ICTs) with traditional media such as rural radio and drama.

Conceptual models, methodologies and tools have been developed, such as the **Virtual Extension and Research Communication Network (VERCON)** and related Internet-based networks. The VERCON's innovative nature is its capability to achieve effective linkages by connecting geographically dispersed people and enhancing two-way communication, managing large volumes of data, and rapidly collecting, processing and dispersing information in a variety of forms.

The VERCON concept consists of two fully-integrated and inter-dependent components: the human and the technological.

- **the human component**
  a network of policy-makers, researchers extensionists, academics, NGOs and farmers, committed to collaboration, communication and supporting agricultural producers. The network is flexible and can expand to include more stakeholders or contract to focus on specific actors and their information or communication requirements and functions.
- **the technological component**
  the tool that allows members of the network to communicate, store and disseminate information. This could include functions such as online resources, discussion forums and question-and-answer services.

Extension workers using VERCON in Egypt

Extension field visit in Costa Rica

Ugandan Study tour visits Egypt

Bhutan VERCON participatory evaluation

VERCON

Lessons to share

The introduction and successful adoption of new ICTs has involved complex institutional change. Analysis of the major success factors identified six interrelated categories: technology, people, content, partnership, institutional and financial factors. The VERCON model aims to strengthen linkages by supporting communication and the creation, sharing, storage, retrieval and dissemination of information between agricultural research and extension, as well as other stakeholders through two interdependent, but essential components – the human and the technological.

Sharing is the winning solution. Creating a knowledge sharing culture is challenging, often due to "closed" information exchange environments. Working with small network groups can help in facilitating exchange mechanisms and break down institutional 'walls'.

VERCON is supported by the **FAO, Research and Extension Division (NRR)** and the **Knowledge Exchange and Capacity Building Division (KCE)**

For information:
VERCON Egypt
www.vercon.sci.eg/Vercon_en/vercon.asp
PLATICAR Costa Rica
www.platicar.go.cr
VERCON Bhutan
www.vercon.bt/main/index.php
ARENET Uganda
www.arenet.or.ug

RADCON - Rural and Agricultural Development Communication Network

An innovative rural communication system in Egypt

The experience of the Virtual Extension and Research Communication Network (VERCON) in Egypt proved to be successful in linking research and extension institutions, and providing geographically dispersed extension staff with access to a vast repository of agricultural information and extension material and online support. The RADCON project has taken the VERCON experience to a broader scale, expanding the network with diversified content and a wider range of stakeholders, including farmers' organizations, youth centres, universities, NGOs and the private sector. To this end, it has built on participatory communication methods, integrating the use of internet-based technologies with the use of local and community media.

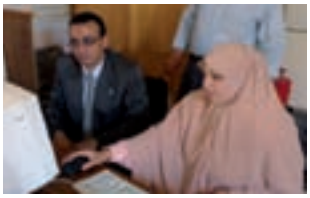
RADCON was designed and implemented as a pilot project in Egypt, funded by the Government of Italy. RADCON provides a tool to enable farm families and their communities to link with and benefit from an interactive information system that links extension, research, and private and public sector information and service providers.

An integrated approach to communication and knowledge sharing

RADCON builds on Participatory Rural Communication Appraisals (PRCA) for the formulation of communication strategies at community level, to enhance the use of multi-media and new ICTs by rural people.

This integrated approach is comprised of two main components that are closely interlinked:

- An online agricultural and rural development information and communication system.
- A wide network of focal groups and village facilitators, in seven governorates of Egypt.



Hands-on ICT Training for village facilitators

Community mobilization to enhance people's participation

Participatory assessment of farmers' information needs

Trained village facilitators help to bridge ICT illiteracy barriers in rural areas

Diversified media complement the online information and communication system

RADCON in Action

Over 115 village facilitators (at least one man and one woman per village) from 50 villages were trained to work with farmers to link rural communities and enable them to participate in generating, developing and sharing knowledge through the system. They are supported both online and offline through an extensive network of experts and mentors in research, extension, health and nutrition, environmental waste, women's affairs, community development and rural enterprise.

Through this project, FAO's PRCA methodology was adapted and field-tested in Arabic. A comprehensive training of trainers curriculum was developed and implemented. A community media strategy supports the project ensuring that the project is known and new developments are shared within the pilot areas. A dynamic online communication system and library is now in place to support the face-to-face work of the village facilitators and extension agents in agriculture, health, nutrition, and other.

RADCON is supported by the **FAO Research and Extension Division (NRR)** and the **Knowledge Exchange and Capacity Building Division (KCE)**, and funded by the **Government of Italy**

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RKN - The Rural Knowledge Network

Facilitating smallholders' access to markets in East Africa

Experiences in the region

Small farmers in East Africa lack access to relevant information and knowledge and to modern communication tools, and they lack access to markets for their produce. Based on experiences from the Farmer Field School Programme in Eastern and Southern Africa, and the First Mile project it was clear that services providing small farmers access to markets must be commercially viable companies to ensure sustainability, and the market intelligence needs to be locally relevant. Commercial viability looked possible if businesses at the local level were properly set-up and training was provided.

Commercial partners of the network

The Rural Knowledge Network was set up in 2007 to facilitate the emergence of businesses for small farmers' access to markets from local to national level. It comprises:

- Information Board Managers (IBMs) operating a frontline market intelligence service at producer level.
- Market Access Companies (MACs) operating a local market brokering service at district level.
- National Marketing Companies and their regional managers, operating a service for transaction security and research and development on markets and business operations.

Communication and information technologies for market access

E-mail, mobile phones, SMS, face-to-face meetings and Internet are the communication tools used to facilitate the core services of market access businesses:

- Inform: collect market intelligence; share good ideas, experiences and lessons; peer exchange and learning.
- Broker: make deals, link to input suppliers, technical and financial advice.
- Explore: new crops, new markets, new value addition.
- Convene: key player collaboration, negotiation table.
- Organize: collection of produce, bulking and distribution, distribution of inputs.

The network benefits from related initiatives, such as the First Mile, which is testing modern information and communication technologies to access market intelligence in rural areas in Tanzania; and mobile payment services already widely used in Kenya, offered by commercial mobile phone service providers.

Information Board Manager, Bungoma, Kenya, providing market intelligence services at local level

James Kanyi, regional manager of AgriTrade, setting up a marketing network in Embu district, Kenya, with links to a major buyer (sunflower processor)

Agrovet shop of Alice Wamae has now become a market access company in Embu, Kenya; she can build on her business skills acquired as agro-dealer

Alex Ariho, Director of a market access company working in eight districts through three offices in Eastern Uganda; his business is supported by the national marketing company AgriNet Uganda

Rosemary Staki, business woman and now regional manager in Ruvuma and Mbeya regions for Marketing Partner, the national marketing company in Tanzania

RKN – the project

The Rural Knowledge Network (RKN) Pilot Project for East Africa supports the emergence of commercially viable market access services for building effective and efficient rural marketing chains for the benefit of all actors. RKN is developing a people-centred knowledge management process that is built on an understanding of farmers' needs, shapes the existing technical information to respond to farmers' requirements and delivers knowledge in a form they can understand. The network encompasses market access networks in Kenya, Tanzania and Uganda, with actors at national, district and local level keeping a constant and effective communication link (e-mail, telephone, SMS, face-to-face meetings, Internet etc) for information sharing and business to business learning. Lessons learnt at all levels are captured, documented and shared widely using an Internet platform.

An associated initiative, the First Mile is conducting rental trials to test the affordability, usefulness and appropriateness in rural areas of solid state laptops that use a SIM-card enabled modem to access the Internet. These laptops are currently being tested by selected information board managers and market access companies.

RKN is technically supported by the **FAO Research and Extension Division (NRR)** and funded by the **International Fund for Agricultural development (IFAD)**

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Rural Radio

A Participatory Communication Approach

Rural radio is a vital communication tool for many developing countries. Despite the latest technological advances in telecommunications, radio is still the most pervasive, accessible and affordable mass medium available. Particularly in rural areas, it is often the only medium that can rapidly disseminate to large and remote audiences, critical information about emergencies, markets, weather, crops and livestock production, natural resource protection.

Rural Radio implies a two-way process, which calls for the active participation of the communities in the planning and production activities of the radio broadcasts. It is the expression of the community rather than a channel for the community, since it promotes the exchange of views, brings people closer together, stimulates information, and enhances the value of local knowledge.

FAO has been promoting rural radio for development since the 60's by providing support to member countries in terms of community mobilization, capacity building in all aspects of rural radio set-up and management, and networking.

The starting point of a rural radio project is a participatory needs assessment to evaluate, not only the material needs of the communities that are going to benefit from the project, but also of the perceptions, the expectations and commitments that community members are willing to invest in the initiative.

The Participatory Methodology of Rural Radio

Rural radio programmes are most effective when they are produced with the participation of the audience, in local languages and taking into account cultural traditions. Community participation is a fundamental characteristic of rural radio – live public shows, village debates and participation in the actual management of the radio station are just a few examples.
This approach empowers rural people to participate in the dialogue and decision-making processes that are essential for their own economic, social and cultural environment. It also allows them to play an active part in development activities.

Radio is a vital source of information for rural audiences. Radio Ntemo – Mbanza Ngungu, Democratic Republic of Congo

Through radio women can voice their opinions, express their concerns and share experiences. Radio Yangeni – Mansa, Zambia

Rural radio belongs to the community. Radio Ntemo – Mbanza Ngungu, Democratic Republic of Congo

Rural radio goes where the people are. Field radio recording in Mali

Our rural radio has to keep on otherwise we will lose our identity... Our radio speaks to us and about us.
Niamato, rural radio listener, Kati, Mali

"... Rural Radio has created a sort of feeling of local belonging and strengthened our ties with the local authorities and institutions..."
Micro finance officer, Kati, Mali

Radio provides a forum for rural people

In Chad, radio was used in a 1991-92 campaign to stop intentionally lit bushfires. These fires were traditionally used to clear agricultural land for planting. With degraded, fragile soils and the accidental spread to forest reserves, this age-old practice was no longer sustainable. Radio broadcasters were asked to encourage villagers to voice their opinions and propose solutions to the problem. What was the result? Within one year, forest fires were reduced by 90 percent, 22 villages had active bushfire control committees and protected 10 000 hectares of forest. A villager's story, recorded in a radio programme about bushfires: "My uncle once told me how a bushfire burnt his field: 'That bushfire was angry-- it charged like a herd of elephants, destroying everything! Even came near to our home!' I said, "Don't be scared. With the right words, a good hunter can stop a herd of charging elephants. We too can stop bushfires with the right words." "What words?", "Let's unite. If the entire village gets organized to fight bushfires you'll never be afraid of bushfires again!"

Rural Radio initiatives are supported by the
FAO Research and Extension Division (NRR)

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Rural Radio

Communication for Development

A key to Climate Change Adaptation and Food Security

Communication, Climate Change Adaptation and Food Security

Climate Change Adaptation and Food Security require multidisciplinary, multi-stakeholders action and a process of social learning for adaptive livelihoods. Within this framework, **communication** plays a key role.

Communication for Development, an approach that combines participatory communication methods and processes with a variety of tools ranging from rural radio to Information and Communication Technologies, (ICTs) is central to Climate Change Adaptation and Food Security. It enables rural people and institutions to:

- Assess and agree on needs and priorities.
- Improve negotiation and coordination.
- Support good governance;
- Share knowledge and information; and
- Foster multistakeholder dialogue and action.

Communication for Development in Action

Several field projects have successfully applied Communication for Development systems and strategies that are relevant to support Climate Change Adaptation and Food Security in rural areas by:

- Facilitating equitable access to knowledge and information.
- Promoting peoples' participation and collaborative natural resources management.
- Supporting research and advisory services for technology innovation.
- Enhancing adaptation processes and disaster risk management.
- Bridging the gap between global environment information, local knowledge and communities; and
- Strengthening dialogue between institutions and small farmers.

Rural radio provides early warning messages to pastoralists on drought and pests that can affect their livestock

Video is effective for sharing knowledge on new farming methods helping people to adapt to Climate Change

Communication strategies include mobile phones to access market prices

New Information and Communication Technologies are appropriated by farmers' organizations

Communication is essential for Early Warning and Disaster Risk Management in rural areas

A new initiative

FAO and the Italian Ministry of the Environment and Territory have launched a joint project called Communication for Sustainable Development Initiative (CSDI), to support the application of communication strategies and approaches to Climate Change Adaptation and Food Security. CSDI aims at strengthening and up scaling communication services in selected countries, and to make available suitable methods and tools at the international level through knowledge networks and partnerships. Activities are being launched in Africa, Asia, Latin America, the Caribbean, and the Near East. The project seeks partnerships in communication with international and national development programmes, NGOs and local organizations, to address Climate Change Adaptation and Food Security.

Communication for Sustainable Development Initiative (CSDI) is supported by the **FAO Research and Extension Division (NRR)**

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The Education for Rural People (ERP) Toolkit

Fostering education, training and capacity development

The ERP Toolkit

The ERP Tool kit provides education and training materials for extension staff, rural teachers, instructors, trainers of trainers, parents, researchers, and others involved in formal and non formal education for rural people who are the majority of the world poor.
The tool kit is available at:
http://www.fao.org/sd/erp/ERPtktoolkit_en.htm

What's ERP

ERP is a partnership contributing to reducing poverty, building a food secure world and improving the living conditions of rural populations by developing poor people's capacity and empowerment through education and training. This is done by contributing to removing the barriers that prevent poor people from using their capacity such as the urban-rural knowledge and education gap.

How does ERP works

ERP works through the identification of political, institutional, organizational and individual opportunities and constraints that poor people face in accessing education and training services at all levels of the education systems and in formal and non formal settings, as well as valuing their strengths and facilitating the unleash of their capacity. The partnership, led by FAO, is a call for member countries, United Nations agencies, Civil Society, academic institutions and private sector for coordinated, increased efforts in targeting rural people's learning needs by promoting increased access to quality education.

The flagship's aims and objectives:

- building awareness on the importance of **ERP** as a crucial step to achieve all the **Millennium Development Goals**.
- Increasing access to education and training for rural people.
- Improving the quality of education and training in rural areas.
- Fostering the national capacity to plan and implement ERP as part of national Rural Development and Education plans.
- Strengthening intersectoral collaboration between agriculture and education ministries -at all levels of formal and non formal education- and training institutions to promote ERP, as well as collaboration in nutrition education, technical and vocational agriculture, forestry education, training institutes, higher agriculture education, extension and skills training.

About 70 percent of the poor live in rural areas. In the least developed countries about 70 percent of people make a living from agriculture

Research has shown that food insecurity is highly correlated with educational deprivation

Education is an essential prerequisite for reducing poverty, improving agricultural productivity, enhancing living conditions for a more food-secure world

This flagship is a call for a collaborative action to address rural-urban disparities by targeting the educational needs of rural people

The flagship's activities

- **Technical support to countries willing to address the education and training needs of the rural people by formulating specific strategies as part of national Rural Development and Education plans.**
- **Advocate and mobilize partnerships for ERP by concentrating on strategic global, regional and international capacity development events, and encouraging the same within countries.**
- **Support the exchange of good practices and knowledge on ERP.**

Education for rural people is supported by the
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Rural Communication Systems

Rural Communicaiton Systems (RCS) are based on the use of Communication for Development (ComDev) methods and tools, integrating participatory communication methodologies with appropriate media ranging from rural radio to new ICTs. They aim to make relevant information available to technical staff and communities, and to facilitate people's participation and knowledge sharing in support of agriculture and sustainable rural development.

RCS focus on the use of communication processes to meet people's knowledge and information needs and to strengthen development institutions to better serve rural communities. Several RCS are presently supported by FAO in the field in Africa, Asia, Latin America and the Near East.

Communication platforms have been established as a strategy to share experiences and to advance communication for development in different regions.

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