FAO's strategy towards the WSIS 2005

The Food and Agriculture Organization of the United Nations (FAO) is a key contributor to the World Summit on the Information Society (WSIS). As a regular participant in the High Level Summit Organizing Committee, the Organization continues to stress the importance of the role of information in the fight against hunger.

FAO has the mandate to collect, analyze, interpret and disseminate information on food, nutrition, agriculture and related subjects. Recognizing the value of information in fighting global hunger and achieving food security, FAO established the World Agricultural Information Centre (WAICENT). Through the WAICENT framework, FAO effectively disseminates the organization's wealth of information on agriculture and food security, in accordance with its belief that information is power only if easily and freely accessible.

The Millennium Development Goals (MDGs), have identified information and communication technologies (ICTs) as an essential component for the eradication of poverty in the world. In this context, it is important to highlight that fighting hunger and under-nutrition is a basic step for poverty reduction, and that 75 percent of the world's poor live in rural areas, 85 percent of them being directly or indirectly involved in agriculture. Therefore, the application of ICTs to poverty reduction must necessarily address their role in agriculture and related sectors as well as in food security and in the livelihoods of rural people.

At the first WSIS held in December 2003, FAO launched its Bridging the Rural Digital Divide initiative[1], which will continue to be FAO's overarching theme for the second phase of WSIS in 2005. Together with its partners, FAO is strengthening human and institutional capacities to harness information and knowledge more effectively.

The term "digital divide" refers to unequal access to ICTs, due to factors such as lack of infrastructure, resources and investment, high costs of connectivity and low levels of technological skills, education and literacy. From FAO's perspective, the digital divide contributes to the exclusion of countries and specific populations, in particular rural people, from knowledge and information on agriculture, forestry, fisheries, nutrition and other aspects of rural development. Such exclusion is a major constraint to the achievement of the goal agreed upon by the Heads of State and Government at the World Food Summit (Rome, November 1996) of halving the number of the undernourished in the world by the year 2015. There is a **rural digital divide** that requires a specific approach.

The digital divide is not only a problem of absence of telecommunication and other infrastructure and means of connectivity. It is a multi-faceted problem of ineffective exchange of knowledge and management of content, lack of human resources and institutional capacity, the whole compounded, by the scarcity of financial resources. The provision of universal and affordable access to ICTs and the development of ICT applications and services, especially in remote rural communities, remains one of the biggest challenges to bridging the digital divide.

However, ICTs are not a panacea for development. There are many problems associated with the adoption and assimilation of ICTs. For example, there is a risk that the expansion of ICTs might contribute to exacerbate existing gender inequalities and to a further marginalization of women. In rural areas, in particular, bridging the digital divide requires an understanding of how people in different cultural contexts and in their various capacities as farmers, agricultural wage workers, rural entrepreneurs,

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[1] Bridging the Rural Digital Divide initiative - www.fao.org/gil/rdd

homemakers and consumers, learn to use and apply ICTs. Uncritical acceptance of technology places a significant burden of learning, use, and access on users.

Moreover, there are issues relating to language diversity and the need to prevent the exclusion of very large rural populations, which are unable to communicate in the main languages of the global media, such as the Internet.

In summary, although new ICTs and the growing wealth of digital information have the potential to improve access to, and benefits from, development activities, it is evident that providing access is only one step towards enabling these populations to reap the anticipated benefits.

In its strategy for WSIS 2005 FAO identified in its mandates all relevant issues addressed in WSIS plan of action. FAO focuses in particular on three action lines of WSIS plan of action: the access to information and knowledge; capacity building and e-agriculture.

Access to information and knowledge

FAO gives a high priority to digitization and web-enablement of all of its information, including those that are currently available in print or on CD only. Therefore the Organization enhances mechanisms for working with all member states, partnering institutions, and rural communities to make all public domain information resources available in the appropriate digital form, using the FAO-recommended schema and formats.

The international information system for the agricultural sciences and technology, **AGRIS[2]**, was created in 1974 to facilitate information exchange and to bring together world literature dealing with all aspects of agriculture. AGRIS is a cooperative system in which participating countries input references to the literature produced within their boundaries and, in return, draw on the information provided by the other participants. AGRIS is involved in capacity building among its members by promoting standards and norms for the organization and indexing of knowledge.

FAO facilitates access, including free and affordable access to open access journals and books, and open archives for scientific information. One of the most important ways to achieve capacity building is through the provision of worldwide access to quality peer–reviewed information resources. FAO achieves this through its library services and through partnerships, such as with **AGLINET[3]** and **AGORA[4]**.

FAO coordinates, internally and externally, the adoption of standards and schemas for metadata and summaries for all documents, including archival documents to be digitized. Several partner organizations and member countries take an active role in developing the Agricultural Metadata Standards Initiative (**AgMES[5]**) and the Agricultural Ontology Service (**AOS[6]**), two internationally recognized initiatives aimed at improving standards.

Capacity building

Capacity building is a process in which individuals, groups, institutions, organizations and societies enhance their abilities to identify and meet development challenges in a sustainable manner. FAO proactively supports global capacity building activities and works closely with stakeholders in member nations and the international community in

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[2] **AGRIS** – http://www.fao.org/agris/
[3] **AGLINET** - http://www.fao.org/library/_info_servicesEN/aglinetEN.htm
[4] **AGORA** - http://www.aginternetwork.org/en/
[5] **AgMES** http://www.fao.org/agris/agmes/
[6] **AOS** - http://www.fao.org/agris/aos/

the area of information management in support of agricultural development and food security.

Through partnerships, FAO assists in developing capabilities and networks for accessing and sharing of information. Key areas include improving efficiency, quality and relevance of knowledge exchange and communications using electronic media.

FAO's information management field activities provide advice and technical assistance to governments, institutions and rural communities to strengthen capacities in agricultural information management and the effective use of information and communication technologies.

The Information Management Resource Kit (IMARK[7]) is a partnership–based e–learning initiative containing a comprehensive suite of distance learning resources that cover concepts, approaches and tools for agricultural information management.

e-agriculture

The definition FAO's Library and Documentation Systems Division has come up with shows that there is more to e-agriculture than just the Internet and agriculture.

> *"e-Agriculture is an emerging field in the intersection of agricultural informatics, agricultural development and business, referring to agricultural services and information delivered or enhanced through the Internet and related technologies. More specifically, it involves the conceptualization, design, development, evaluation and application of new ways to use existing or emerging information and communication technologies (ICTs).*
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> *e-Agriculture goes beyond technology, to promote the integration of technology with multimedia, knowledge and culture, with an aim to improve agricultural activities locally, regionally and worldwide. Facilitation, support of standards and norms, technical support, capacity building, education, and extension are all key components to e-Agriculture."*

FAO is involved in a number of activities and projects that fall under into e-agriculture application. Among them are the following: the Virtual Extension and Research Communication Network (VERCON[8]); the Farmer Information Network (FarmNet[9]), the Global Information and Early Warning System (GIEWS[10]) and various projects aimed at promoting the use of rural radio and ICT for food security.

In order to have a set of good practice guidelines, the FAO is initiating and coordinating the analysis and interpretation of a range of experiences to date in rural networking projects. FAO is also working with member nations to build appropriate knowledge networks based on locally adaptable guidelines, tools and templates covering the 4C framework: Connectivity, Computers, Capacity-building, and Content. FAO is defining mechanisms for harnessing the power of ICT, to reach the most vulnerable and disenfranchised.

FAO at WSIS II

As the second phase of WSIS enables to measure the achievements since December 2003, FAO has contributed to WSIS stocktaking database highlighting FAO's major

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[7] **IMARK** - http://www.fao.org/IMARK/
[8] VERCON - http://www.fao.org/sd/2003/KN10053_en.htm
[9] FarmNet - http://www.fao.org/sd/2001/kn1008_en.htm
[10] GIEWS - http://www.fao.org/WAICENT/faoinfo/economic/giews/english/giewse.htm

activities and programmes related to ICTs and the rural digital divide (See ITU website http://www.itu.int/wsis/stocktaking/scripts/search.asp Select Keyword: FAO and in Government/Entities, select International. The list of FAO entries will show)

FAO participation in Tunis will consist of an FAO exhibit stand, participation in WSIS parallel events as well as co-hosting a parallel event with APC, on capacity building to promote and ensure the effective use of ICTs.

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FAO and WSIS Plan of Action – Action Lines

C.1. The role of governments and all stakeholders in the promotion of ICTs for Development

The stakeholders identified by FAO and its partners in bridging the rural digital divide can be divided into three broadly defined groups within member countries. These are as follows:

- o **Rural communities and households –** need to exchange and exploit information and knowledge more effectively using ICT to improve livelihoods and reduce vulnerability, which requires a mixture of awareness-raising and capacity building based on a strongly people-focused and participatory approach. The interests of rural households extend into many sectors, and agriculturally-related information and communication will take its place in the general schema.
- o **Rural service providers in the public and private sectors providing agricultural, financial, and communications services** – need to enhance their use of digital information resources and knowledge systems as well as the new ICT themselves, which requires training and skills acquisition, and new mechanisms for interaction such as e-commerce and electronic communities of practice etc. Organizations and services at sub-national and local levels have to focus on addressing the broad range of livelihood opportunities of poor people, which can be achieved only by improving transparency and information exchange amongst the various players involved in rural development, by catering to the needs of all the people who they serve.
- o **Policy-makers and their advisers** – need an enabling information and communication policy environment, including better and more reliable poverty monitoring indicators provided in a relevant and timely manner, for accurate assessments and development of pro-poor government policy, such as Poverty Reduction and Food Security Strategies.

C.2. Information and communication infrastructure: an essential foundation for an inclusive information society

Although telecommunications infrastructure is not within the mandate of FAO's work, the Organization recognizes the importance of this in order to realize its goals in bridging the rural digital divide. FAO believes that the rural digital divide is not only concerned with technology infrastructure and connectivity, but rather is a multi-faceted problem of ineffective knowledge exchange and management of information content, as well as the lack of human resources, institutional capacity, and gender sensitivity.

C.3. Access to information and knowledge

The Food and Agriculture Organization of the United Nations (FAO) and its Member Nations highlight information as one of the priority areas in achieving agricultural development and food security. FAO established the World Agricultural Information Centre (WAICENT) as a corporate framework for agricultural information management and dissemination. This is a strategic effort to fight hunger with information. The WAICENT framework integrates and harmonizes standards, tools and procedures for the efficient and effective management and dissemination of high-quality technical information, including relevant and reliable statistics, texts, maps, and multimedia resources. WAICENT was established in response to the high priority accorded by FAO to:

i. the enhancement of access to timely and relevant technical information by FAO Member Nations and the general public; and

ii. the encouragement of FAO Member Nations to utilize information as a key resource for development.

Since the creation of WAICENT in 1989, there have been enormous advances in information technology and the task of managing and disseminating information in a digital environment has become increasingly complex. Two tasks in particular are assuming greater importance: first to enable better access to FAO's information resources and to promote partnerships with other agricultural information networks; and, second to assist FAO Member Nations to build their own capacity to manage and utilize food and agricultural information.

Effective information integration, retrieval, and exchange require agreed standards. For over 20 years, FAO has been setting standards in information management in agricultural development and food security. FAO works with Member Nations and other partners to develop and disseminate global standards and procedures for agricultural information management and exchange. For example, the agricultural metadata standards initiative (AgMES) and the Agricultural Ontology Service (AOS) are two internationally-recognized initiatives led by FAO and aimed at improving standards globally within the WAICENT framework. FAO promotes the adoption of standards for agricultural data exchange and retrieval through the adoption of XML and other new techniques.

FAO facilitates access, including free and affordable access to open access journals and books, and open archives for scientific information. One of the most important ways to achieve capacity building is through the provision of worldwide access to quality peer–reviewed information resources. FAO achieves this through its library services and through partnerships, such as with **AGLINET**[11] and **AGORA**[12].

C.4. Capacity Building and C.5. Building confidence and security in the use of ICTs

FAO works closely with stakeholders in Member Nations and fosters international partnerships under the WAICENT framework to develop facilities and networks for access to and sharing of agricultural information. Areas of collaboration include improving efficiency, quality and relevance of knowledge exchange in agriculture, and using electronic media to enhance communication for rural development. Activities also include:

Capacity Building Activities - advice and technical assistance for governments, institutions and rural communities to strengthen capacities in agricultural information management and the effective use of information and communication technologies. FAO has contributed to the establishment and/or strengthening of national and regional agricultural information centres and systems through its field activities since 1968.

The Information Management Resource Kit (IMARK) a partnership-based e-learning initiative comprising a comprehensive suite of distance learning resources covering concepts, approaches and tools for agricultural information management. The goal of the IMARK initiative is to mobilize and build upon existing resources to create a comprehensive suite of distance learning resources for information management and exchange. IMARK will support agencies, institutions and networks world-wide, and to allow them to work together and share information more effectively within a virtual community of practice. IMARK learning materials are being developed as a series of

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[11] **AGLINET** - http://www.fao.org/library/_info_servicesEN/aglinetEN.htm
[12] **AGORA** - http://www.aginternetwork.org/en/

modules on CD-ROM, supplemented by an Internet-based online community, providing a virtual discussion forum for contributors and learners to exchange views, share information and request help from each other. IMARK covers several major subject areas in information management and each IMARK module treats one of the major subject areas. The modules introduce the latest concepts, approaches and tools for information management, using interactive tutorials specifically designed for individual self-paced learning. Access to IMARK is free of charge in up to five languages, in order to reach an internationally widespread audience that might otherwise be unable to access such resources.

FAO is bringing about important information-based organizational innovations and partnership with other United Nations organizations, the private sector, and national and international institutions. FAO's activities cover the use of modern information and communication technologies (ICTs) in the development and promotion of institutional innovations and capacities, such as the Virtual Extension and Research Communication Network (VERCON) and the farming communities networking programme (FarmNet). Also, FAO has established a working relationship with the private sector in the development of new ways of improving access to information and knowledge.

C.6. Enabling Environment

Some critical issues FAO has identified for governments and other stakeholders to address in order to create an enabling environment for information and communication for development in support of rural livelihoods:

- **locally adapted content and context:** ensuring the information is sourced appropriately and presented suitably;
- **building on existing systems:** enhancing rather than replacing existing channels of communication;
- **addressing diversity:** responding to the different information and communication requirements of men and women, the youth and other marginalized groups;
- **capacity building:** strengthening the capacity of institutions and people to provide the right content and to access a wider range of information;
- **access and empowerment:** ensuring that information reaches and empowers poor people, as well as enabling them to participate in decision making processes;
- **strengthening partnerships and participation:** building horizontal and vertical links as well as shared ownership among communities, organizations, and sectors;
- **realistic approach to technologies:** building sustainable systems that enhance existing structures, can be extended and exploit the full range of existing media;
- **costs and financial sustainability:** evaluating and financing the provision of suitable information infrastructure and content, particularly in remote areas.

C.7. ICT applications: benefits in all aspects of life

FAO has prepared a programmatic framework which encompasses its work to empower rural people to access, use, and manage agricultural information and in support of food security and the eradication of poverty. FAO aims to contribute to the achievement of the goals of the World Summit on the Information Society, as well as the Millennium Development goals, and particularly to address the five distinct but interrelated priorities identified by FAO and its Members in the framework of the Anti-Hunger Programme launched in 2002. FAO's work in this area comprises an interconnected series of interventions, encompassing firstly national and regional level case studies and pilot interventions on information exchange and communication, and the dissemination of the results obtained at national and regional levels and secondly a capacity building resource network. FAO aims to have a leading role in bridging the rural digital divide, given its

international role in the elimination of hunger, seeking to establish collaborative partnerships to assist with the task of bridging the rural digital divide. The Organization will facilitate the process of brokering and sharing the expertise accumulated by Member States and regional/international organizations.

e-agriculture

On-going consultations within the FAO's Library and Documentation Systems Division have come up with the following working definition, which is partly based on Eysenbach's definition of e-health:

> *e-Agriculture is an emerging field in the intersection of agricultural informatics, agricultural development and business, referring to agricultural services and information delivered or enhanced through the Internet and related technologies. More specifically, it involves the conceptualization, design, development, evaluation and application of new ways to use existing or emerging information and communication technologies (ICTs).*
>
> *e-Agriculture goes beyond technology, to promote the integration of technology with multimedia, knowledge and culture, with an aim to improve agricultural activities locally, regionally and worldwide. Facilitation, support of standards and norms, technical support, capacity building, education, and extension are all key components to e-Agriculture.*

The above definition also shows that there is more to e-agriculture than just the Internet and agriculture.

There are several e-agriculture applications around the world today. At its basic level, e-agriculture is being applied in the delivery of agricultural information and knowledge services, i.e. market prices, extension services, etc, using the Internet and related technologies, and at a more advanced level e-agriculture is being applied in farming through the use of sophisticated ICTs such satellite systems, Global Positioning Systems (GPS), advanced computers and electronic systems to improve the quantity and quality of production.

C.8. Cultural diversity and identity, linguistic diversity and local content

FAO's approach to Bridging the Rural Digital Divide is to link traditional media with new ICTs. FAO has from the very outset considered rural radio as the privileged medium available to rural communities, to have access to useful information and knowledge, to dialogue and to share experience, knowledge and techniques. Thanks to the cooperation provided by FAO and its partners, rural radio has found a new vigour, by centring its activities on a local level, and by adopting innovative new regulatory, juridical and institutional provisions. FAO and its partners are seeking this sustainability dimension, so that rural radio easily accesses the scientific and technical information sources, thanks to information and communication technologies. The World Agricultural Information Centre (WAICENT) and other FAO technical services are depositories of numerous databases on agricultural and rural sustainable development, while rural radio listeners do need these contents to better control their environment. However, for these contents to meet populations' information and communication needs, these needs must first be identified, no matter which ways and means exist to access the information.

C.9. Media

FAO has over thirty years experience in rural radio with current projects focussing on the convergence of new and traditional technologies. Connecting rural radio stations to the internet enables rural radio broadcasters to search for new information to inform their programming. FAO has established an agricultural information service and fact sheets on agriculture and food security for rural radio producers. This information is shared within a

global network of radio producers and has regular interaction with 52 FAO trained focal points throughout Anglophone and Francophone Africa.

C.11. International and Regional Cooperation
FAO has learned that the more successful approaches have given serious consideration to the socio-economic and cultural environment in which the technologies are applied, respecting the local context, being gender-sensitive, and taking into account cost-effectiveness. Uptake and impact of new ICT in the rural context have been studied significantly less than in the urban environment, given that the majority of early opportunities to access ICT have been concentrated in major population centres and especially in capital cities. The concentration of poverty in rural areas is a further complication.

The Bridging the Rural Digital Divide Initiative brings together the available expertise into a more coherent programmatic approach. Innovators in many parts of the world are already developing methods which, if pieced together, will have greater potential than if they remain isolated and fragmented. The activities that are formulated and implemented under this initiative are varied, ranging from new public policies, infrastructure development, through to community-based, user-focused projects. In implementing this initiative, a case-specific approach has been adopted to designing and developing feasible, results-oriented interventions that are locally led, and which are aimed at learning lessons for the benefit of others. FAO's specialization on agricultural and rural issues related to the digital divide complements the work of the cross-sectoral development agencies such as the International Telecommunication Union (ITU), United Nations Development Programme (UNDP), United Nations Educational, Scientific and Cultural Organization (UNESCO), the European Commission, and the World Bank, and strong efforts are being made by FAO to ensure coordination and collaboration with such agencies as well as with initiatives such as the World Summit on the Information Society (WSIS) and the UN ICT Task Force and activities arising from the DOT Force. Innovative partnerships have also been developed with other members of the international development community.

FAO wishes to see these alliances strengthened in relation to making a significant contribution to the Millennium Development Goals on global partnerships. In addition, FAO holds expert consultations on many aspects of information and communication to develop and agree on technical guidelines, norms and methodologies that can be adopted by FAO's Members.

FAO Entries for WSIS Stocktaking Database

FAO led activities

Project ID refers to reference number for the official stocktaking on the WSIS site

- **Bridging the Rural Digital Divide (BRDD).** FAO and its partners are working on an integrated set of activities to bridge the rural digital divide by strengthening human and institutional capacities to harness information and knowledge more effectively, namely: developing appropriate methodologies and tools for disseminating and managing information and sharing knowledge, building human capacities and partnerships among governments and institutions, the private sector, non-governmental organizations, extension workers and farmers' organizations. The overall goal is to ensure that the rural poor and the organizations that serve them are better able to mobilize and exchange information content and to communicate using all the ICTs – in short, to reduce and eventually bridge the rural digital divide. http://www.fao.org/gil/rdd/
  Project ID: 1099497738

- **The World Agricultural Information Centre (WAICENT).** The Food and Agriculture Organization of the United Nations (FAO) and its Member Nations highlight information as one of the priority areas in achieving agricultural development and food security. FAO established the World Agricultural Information Centre (WAICENT) as a corporate framework for agricultural information management and dissemination. This is a strategic effort to fight hunger with information. The WAICENT framework integrates and harmonizes standards, tools and procedures for the efficient and effective management and dissemination of high-quality technical information, including relevant and reliable statistics, texts, maps, and multimedia resources. WAICENT was established in response to the high priority accorded by FAO to: i) the enhancement of access to timely and relevant technical information by FAO Member Nations and the general public; and ii). the encouragement of FAO Member Nations to utilize information as a key resource for development. Since the creation of WAICENT in 1989, there have been enormous advances in information technology and the task of managing and disseminating information in a digital environment has become increasingly complex. Two tasks in particular are assuming greater importance: first to enable better access to FAO's information resources and to promote partnerships with other agricultural information networks; and, second to assist FAO Member Nations to build their own capacity to manage and utilize food and agricultural information. http://www.fao.org/waicent/
  Project ID: 1099498064

- **Communication for Development**. FAO has over thirty years experience in Communication for Development – a discipline enabling rural people, institutions and governments to effectively apply communication policy, processes and media to support rural development. Communication for Development capacity building projects, apply gender sensitive participatory communication methods and processes whilst at the same time harnessing the convergence of new and traditional information and communication technologies. For example, using of digital video or by connecting rural radio stations to the internet. http://www.fao.org/sd/kn1_en.htm
  Project ID: 1120470070

- **Communication Policy Formulation in the Field of Communication for Development** began in the 1990s when FAO was asked by the Government of Mali to assist in designing a communication for development policy. The communication for development group developed a methodology to assist in the design and implementation of national communication for development policies. FAO have since

assisted Governments of Guinea Bissau (1995), Central African Republic (1998), Cape Verde (1999), Burkina Faso (2000) and Niger (2002) in designing communication for development policies. In 2002, FAO held a regional workshop for ECCOWAS countries (15 in total) to support the design and implementation of national information and communication policies for sustainable development in Africa. Since 2003, FAO has been assisting the Government of Senegal to design a national communication for development policy. http://www.fao.org/sd/cddirect/cdan0001.htm
Project ID: 1120470847

- **Capacity Building Activities in Communication for Development**. FAO works closely with stakeholders in Member Nations and fosters international partnerships under the WAICENT framework to develop facilities and networks for access to and sharing of agricultural information. Areas of collaboration include improving efficiency, quality and relevance of knowledge exchange in agriculture, and using electronic media to enhance communication for rural development. - Capacity Building Activities - advice and technical assistance for governments, institutions and rural communities to strengthen capacities in agricultural information management, communication for development and the effective use of information and communication technologies. FAO has contributed to the establishment and/or strengthening of national and regional agricultural information centres and systems through its field activities since 1968.
  http://www.fao.org/gil/capacity_en.asp;
  http://www.fao.org/sd/cddirect/cdan0015.htm;
  http://www.fao.org/sd/2001/kn1104a_en.htm
  Project ID: 1120471026

Regional Conferences and Workshops in Communication for Development: FAO staff, present 'state of the art' papers and presentations at international conferences: 1.The Role of ICTs in Agriculture and Rural Development in the Caribbean Region, presented at Caribbean Development Bank May 2004. Global Trends and Major Issues of ICT Application in Agriculture presented at the regional conference of the Asian Productivity Organization, September 2003. FAO organizes and hosts events to raise awareness and build capacities in ICTs for Agriculture and rural Development. For example: FAO hosted the Ninth United Nations Roundtable on Communication for Development, in Sept 2004 in Rome, Italy. The conference focused in sustainable development with a thematic group focused on the communication constraints of marginalized and isolated group left outside of the information society. See: http://www.fao.org/sd/dim_kn1/kn1_040701a_en.htm. Radio, New ICTs and Rural Development. FAO first hosted a regional workshop of West Africa in Rome, Italy 19-22 February 2001 which was followed in 2004 by a regional workshop La Ond@ Rural: held in Quito, Ecuador 20-22 April 200. The workshop established an online 'community of practice' for radio broadcasters to share content. See http://www.fao.org/sd/dim_kn1/kn1_040501_en.htm.
Effective Communication linkages between Research, Extension and Farmers in Bolzano, Italy, 19-22 October 2004. The workshop brought together extension and research specialists from all continents to share experiences and develop partnerships and projects. See: http://www.fao.org/sd/dim_kn1/kn1_050501_en.htm ICTs for enhancing Extension services in the Magreb Region, a workshop held in Tunis, Tunisia 22-25 November 2004 to assess the role and opportunities for ICTs to support better coordination between institutions, services providers and farmers in the North African Region.
Project ID: 1120471145

- **Information Management Resource Kit (IMARK)**. FAO has initiated a partnership-based e-learning initiative known as the Information Management Resource Kit (IMARK) which will train individuals in the effective management of agricultural information. IMARK learning materials are being developed as a series of

modules on CD-ROM, supplemented by an Internet-based online community, for contributors and learners to exchange views and share information. IMARK covers several major subject areas in information management. The modules introduce the latest concepts, approaches and tools for information management, using interactive tutorials specifically designed for individual self-paced learning. Access to IMARK is free of charge in up to five languages. http://www.fao.org/IMARK/
Project ID: 1099499813

- Virtual Extension, Research and Communication Network (VERCON) - The Virtual Extension, Research and Communication Network (VERCON) employs the potential of Internet-based information and communication technologies (ICTs) to establish and strengthen linkages among and within the human and institutional elements of agricultural research and extension systems. The VERCON conceptual model was developed by FAO and 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. A VERCON pilot was established in Egypt, and is being scaled up to national level. Other pilots are planned for Bhutan, Costa Rica and Uganda. http://www.fao.org/sd/2003/KN10053_en.htm and ftp://ftp.fao.org/sd/SDR/SDRE/Vercon.ING.pdf
  Project ID: 1099500092

- The Farmer Information Network (FarmNet) is a conceptual model for using the new Information and Communication Technologies (ICTs) for agricultural and rural development. It aims at creating a network of rural people, supported by intermediary organizations such as extension services, using ICTs and conventional media to facilitate the generating, gathering and exchanging of knowledge and information: http://www.fao.org/sd/2001/KN1008_en.htm FarmNet projects are ongoing in Bolivia and Namibia with pipelines planned for East Africa and Latin America. http://www.fao.org/sd/2001/kn1008_en.htm
  Project ID: 1105096819

- **Gender and ICTs**. FAO Promotes gender and ICTs in its work.

  The "Side Event: Gender and Agricultural Information Management" noted that rural women and girls usually have less access than men to information and to new technologies. Without equal access to information, they are at a disadvantage in making informed choices about what to produce and when to sell their products. Lack of information also limits their influence in their communities and their ability to participate in decision-making. On the other hand, if women gain access to information technologies, they will benefit from increased educational opportunities and channels for better networking.

  ICTs are no longer considered a luxury but an essential instrument for achieving sustainable development. The digital divide becomes all the more alarming in the context of rural communities who face further marginalization and widening information gaps than those closer to urban centres. The challenges faced in rural areas include access to infrastructure, training and relevant content in local languages as well as ensuring that the needs of rural communities are reflected in national ICT policy.
  ftp://ftp.fao.org/sd/SDW/SDWW/COAIM-paper-final.doc
  Project ID: 1105010962

  Related Resources:
  Harnessing ICTs for Advancement of Rural Women: FAO Perspectives and Strategic Actions: Information exchange on rural women in knowledge society, integration of gender in development and rural women responsive curriculum in distance education

programs.
http://www.un.org/womenwatch/daw/egm/ict2002/reports/Paper%20by%20FAO.PDF

Learning resource CD on "Gender and women in agriculture and rural development in Asia" targeting development professionals in the identified sectors in the region.
http://www.fao.org/world/regional/rap/susdev_gender_devt.asp

FAO promoted a Gender and ICTs Report of the Asian regional expert consultation on Rural women in information society, 16-19 December 2002, Hyderabad, India
ftp://ftp.fao.org/docrep/fao/006/ad450e/ad450e00.pdf
Contact (resources only): Revathi Balakrishnan, FAO- Regional Office for Asia and the Pacific
Email: Revathi.Balakrishnan@fao.org

- **Dimitra Project, Rural Women and Development** is an FAO information and communication project which aims to empower rural populations and increase the visibility of rural women and their contribution to food security and sustainable development. The project works through a network of local partners in Africa and the Near East using traditional and new communication technologies and tools and local languages. Information collected is available on the FAO-Dimitra online database in English and French. At present this database contains information on over 1420 organisations, 3000 projects and almost 1000 publications. The project also has a mailing list of over 5000 organisations and individuals. A CD-ROM of the entire website and database was published and distributed in January 2005.

  Dimitra has moved from information collection and the creation of a body of knowledge to capacity building of its partners and multi-faceted activities within the network. Workshops are organised by Dimitra partners, as has been the case in Senegal, Morocco and South Africa, to encourage the full participation of grassroots organisations and information exchange, on topics such as rural women's access to information, access to land and the use of new information and communication technologies. The information collection and dissemination capacities of the partners are strengthened through linkages with rural community radios and the development of local content by the rural women themselves, particularly in the DRC and Senegal.

  The Dimitra network acts as a two-way communication channel, reinforcing the lobbying capacity of its members and thus enabling information flow from grassroots organisations to decision-makers and vice versa.
  http://www.fao.org/sd/Dimitra/
  Project ID: 1099504770

- **Access to Global On-line Research in Agriculture (AGORA)**: Access to Global Online Research in Agriculture (AGORA) is an initiative to provide free or low-cost access to over 400 major scientific journals in agriculture and related sciences to public institutions in developing countries. Led by FAO, the goal of AGORA is to increase the quality and effectiveness of agricultural research, education and training in low-income countries, and in turn, to improve food security. Researchers, policy-makers, educators, students, technical workers and extension specialists will have access to high-quality, relevant and timely agricultural information via the Internet. See website for a complete listing of eligible countries. The Director-General launched the AGORA initiative in October 2003. AGORA is a global partnership to provide free or reduced-price journal access to developing countries. It is a programme of FAO in collaboration with major scientific publishers, Cornell University, Mann Library and the World Health Organization (WHO). The long-term goal of the AGORA programme is to increase the quality and effectiveness of agricultural research and training in low-income countries and, in turn, to improve food security.
  http://www.aginternetwork.org/en/

Project ID: 1099505090

- The agricultural metadata standards initiative (AgMES) & the Agricultural Ontology Service (AOS). Effective information integration, retrieval, and exchange require agreed standards. For over 20 years, FAO has been setting standards in information management in agricultural development and food security. FAO works with Member Nations and other partners to develop and disseminate global standards and procedures for agricultural information management and exchange. For example, the agricultural metadata standards initiative (AgMES) and the Agricultural Ontology Service (AOS) are two internationally-recognized initiatives led by FAO and aimed at improving standards globally within the WAICENT framework. FAO promotes the adoption of standards for agricultural data exchange and retrieval through the adoption of XML and other new techniques. http://www.fao.org/agris/agmes/ ; http://www.fao.org/agris/aos/
Project ID: 1099498748

- **Coherence in Agricultural Information Systems**: The amount of digitally available information is growing exponentially and appropriate steps need to be undertaken to facilitate access and consequently reduce costs. The goal of this initiative is to initiate dialogue and collaboration between experts in this field to develop existing standards and tools and to create new ones. The facilitation mechanism will be a Portal on Information Management Standards in Agriculture, which is being created to allow exchange and promotion of common methodologies, standards and applications. The expected benefits are reduction in development costs for new information systems, increased possibilities of sharing information (due to the use of common information management standards) and thus increase in the quality of services provided to users. The website and accompanying consortium aims to:

    o facilitate collaboration, partnership and networking among partners by promoting information exchange and knowledge sharing; and,

    o harmonize the decentralized efforts currently taking place in the development of methodologies, standards and applications for management of agricultural information systems; consequently, providing a 'one-stop' access to system designers and implementers.

  Project ID: 1120471321

- **International Information System for the Agricultural Sciences and Technology (AGRIS)**: AGRIS is the international information system for the agricultural sciences and technology. It was created by FAO in 1974, to facilitate information exchange and to bring together world literature dealing with all aspects of agriculture. AGRIS is a cooperative system in which participating countries input references to the literature produced within their boundaries and, in return, draw on the information provided by the other participants. To date, 240 national, international and intergovernmental centres participate from all over the world. http://www.fao.org/AGRIS/
Project ID: 1099505272

- **Global Information and Early Warning System on Food and Agriculture (GIEWS)**: GIEWS is an information system for compiling and exchanging information that is essential for providing regular bulletins on food crop production and markets at the global level, and situation reports on a regional and country-by-country basis. GIEWS has developed an integrated information system knows as the "GIEWS Workstation" which consists of customized tools including country cereal balance sheets, software for the display and analysis of maps and satellite images,

and an electronic news service. This is an important system for crop and food supply monitoring http://www.fao.org/WAICENT/faoinfo/economic/giews/english/giewse.htm
Project ID: 1099505553

- **World Information and Early Warning System on Plant Genetic Resources (WIEWS)**:   WIEWS is a worldwide dynamic mechanism to foster information exchange among member countries, by gathering and disseminating information on Plant Genetic Resources for Food and Agriculture an instrument for the periodic assessment of the state of the world's PGRFA. WIEWS interface is available in four languages (Arabic, English, French and Spanish. Also, a new seed module (more than 65,000 varieties) is currently being developed and will be integrated within WIEWS. http://apps3.fao.org/wiews/
  Project ID: 1099505904

- **Information Network on Post-harvest Operations (INPhO)**: INPhO is an interactive platform to disseminate technical information on post-harvest operations. The INPhO Web site is the starting point for any post-production search and offers information systems support to the network of international and national organizations participating in this important programme worldwide. Some activities have been contributing to the improvement of access to agricultural information, such as the inclusion of three new chapters in the Post-harvest Compendium of INPhO including Post-harvest Operations, Potatoes Post-harvest Operations and Millet Post-harvest Operations. Also, for those interested in accessing equipment, tools and materials needed in the post-harvest sector, the INPhO Equipment Database is available and operational for Asia and Africa. http://www.fao.org/inpho/
  Project ID: 1099506010

- **Fisheries Global Information System (FIGIS)**: FIGIS is a global information system on fisheries aimed at providing policy makers with timely, reliable strategic information on fishery status and trends on a global scale. Designed as a policy-based information system, it will enable policy makers to make informed decisions about the key challenges of sustainable development, and will support their shifting towards sustainability-centred management by providing them with a single entry point to strategic data, information, analyses and reviews of fisheries issues and trends. http://www.fao.org/fi/figis/index.jsp
  Project ID: 1099506190

- **Information and Communication for Development in Support of Rural Livelihoods**. Empowerment and access to information enable rural communities in developing countries to make successful decisions on their livelihood strategies. In order to facilitate the attainment of this goal, FAO has collaborated on studies with the Overseas Development Institute and DFID to develop a framework of working practices on ways in which information and communication can enhance rural livelihoods. In addition, FAO is working with DFID and the World Bank on a programme to develop, test and learn more about approaches to information and communication for rural development, and to use the evidence to promote policies and practices for wider adoption. http://www.fao.org/waicent/portal/outreach/livelihoods/en/index-en.html
  Project ID: 1099500456

- **Rural Livelihood Case Studies. Information in rural China - Field Surveys and findings** - To strengthen rural market information systems and information management capacity in rural communities, the government of the People's Republic of China has formulated a series of policies in agricultural information services and tried several approaches in developing much needed information services in rural areas. To analyse the experiences and identify the more effective and easy-to-replicate models for use in other regions, FAO collaborated with the Chinese

Information Centre of the Ministry of Agriculture to set up a study group to carry out field surveys of the various information services in rural China. This document reports on the findings of the surveys and analyses the differences and similarities between the three main models identified. The impact of rural information services on agricultural production, constraints encountered in promoting and providing information services, and key issues and conclusions are also reported. http://www.fao.org/documents/show_cdr.asp?url_file=/docrep/007/ad504e/ad504e00.htm
Project ID: 1120471643

- **Rural Radio and ICTs**. In FAO's extensive work in communication for development using rural radio with current projects focusing on the convergence of new and traditional technologies. Connecting rural radio stations to the internet enables rural radio broadcasters to search for new information to inform their programming. For example: **FAO and Simbani News Agency.** Working with The World Association of Community Radio Broadcasters (AMARC) FAO has established an agricultural information service and fact sheets on agriculture and food security for rural radio producers. This information is shared within a global network of radio producers and has regular interaction with 52 FAO trained focal points throughout Anglophone and Francophone Africa. As contribution to WSIS 2005 a number of activities such as conferences, publications and fact sheets and guidelines have been developed. FAO is also supporting the Federal Ministry of Agriculture and Rural Development in Nigeria to develop a **Farm Radio Network**. To enable broadcasters share agricultural information and radio content in audio format via an internet based system. http://www.fao.org/sd/ruralradio/en/index.html.
Project ID: 1099501375

- **ICTs in support of rural development, agricultural information management and extension, and education in Asia-Pacific**. FAO RAP works closely with stakeholders in Asia-Pacific and fosters international partnerships to develop facilities and networks for access to and sharing of agricultural information, improving extension, fostering formal and non-formal education under the overall scope of promoting rural development and food security. Areas of collaboration include improving efficiency, quality and relevance of knowledge exchange in agriculture, and using electronic media to enhance communication for rural development. There are many capacity building activities in the region including advice and technical assistance for governments, institutions and rural communities to strengthen capacities in knowledge management and the effective use of information and communication technologies. Additional information can be found at: http://www.fao.or.th ; http://www.fao.org/gil/rdd ; http://www.fao.org/waicent ; http://www.fao.org/sd ; http://www.fao.org/gil ; http://www.fao.org/imark
Project ID: 1105011646

- **Investment design in support of ICT development**. FAO Investment Centre supports e-Government initiatives through investment programme development. Major work to date includes: i) FAO-IADB-ITU Study, Telecenters for Socioeconomic and Rural Development, which enabled IADB to launch its Telecenters for Rural Connectivity Programme during Presidential Summit of the Americas and was followed by investment work in Honduras HN 0203 – US$ 9.5 million; Jamaica JA 0116 – US$ 23 million; and Guyana GY 066 – US$ 22.5 million; ii. Formulation of South American ICT strategy for CAF, IADB and FONPLATA; iii. Work with World Bank in appraisal of e-Lanka Development Project (US$ 53 million). http://www.e-forall.org/
Project ID: 1105029093