Overseas Development Institute

rapid Research and Policy in Development

INFORMATION FOR SUSTAINABLE LIVELIHOODS

A review of literature produced for the Strategic Programme for Information on Sustainable Livelihoods

Arunachalam, S. (1999) Information and Knowledge in the Age of Electronic Communication: A Developing Country Perspective. Journal of Information Science 25(6), 465-476.

Ashley, C. and Carney, D. (1999) Sustainable Livelihoods: Lessons from early experience. London, UK: DFID.

Ashley, S. (2000) Pro-poor Livestock Development. Paper prepared for Livelihoods Connect Website by In-Development Ltd.

This review paper prepared by In-Development Ltd, looks at future directions for livestock development where a focus on the poor is the main objective. It reviews experiences with livestock development to date, and offers explanations for why results have often been less than favourable. It then proposes a way forward based on this analysis, and develops this into a number of practical implications from a donor perspective. The analysis of the livestock sector presented here serves as a practical case study of many of the issues involved in considering institutional approaches to development support

Ballantyne, P., Labelle, R., Rudgard, S. (2000) Information and knowledge Management: Challenges for Capacity Builders. Policy Management Brief 11. ECDPM.

Information and communication technologies (ICTs) represent for many people an opportunity to address the challenges of development and help to reduce poverty by a combination of wealth and job creation, delivering better services, and building capacity within government and community organisations. The effect on poverty alleviation, however, is dependent on ICTs being used according to local needs and circumstances. In order for local needs to be effectively expressed and managed, the skills and capacities of both individuals and institutions need to be developed to build on the potential benefits of improved information and knowledge transfer. Use of ICTs is limited by a lack of awareness and skills, training and capital resources to purchase and maintain equipment. Use of the Internet is constrained further in many developing countries by the low provision of appropriate content both in terms of language and subject matter. Barriers to access can be identified at all levels from the international and national policy context to local technical capacity and therefore need to be addressed through partnerships that include a wide range of actors from politicians to the private sector, NGOs and community organisations. This paper sets out a number of principles for effective partnerships and the role of capacity building in the modern information context. The management of information is an increasing challenge as information multiplies when it is shared unlike other commodities. Information exchange and knowledge sharing represent the key components of effective partnerships and collaboration and as such they need to be developed at every level from new relationships between donors and recipients to more local ownership of the development process.

Bebbington, A.and Thiele, G. et al (1993) Non-Governmental Organisation and the State in Latin America. Rethinking roles in sustainable agricultural development. London, UK: Routledge.

Bebbington et al observe that research systems are traditionally ill equipped to respond to the rural poor in an efficient and accountable manner. Research structures do not necessarily engage well with current issues of democratisation, poverty alleviation, sustainable development and economic growth. Starting from the assumption that it is important to enhance equity and empowerment in agricultural development, it will therefore also be necessary to choose which agricultural technologies, technology research, and research dissemination strategies are best suited to this context. Bebbington et al argue that it will be more productive to employ accountable and

participatory research rather than simply technological investigation. Further they suggest that NGOs might be in a good position to engage with these issues. In order to build on their strengths, NGOs should collaborate directly with government as well as more widely in rural civil society, particularly through capacity building programmes and advocacy work.

Berdegué, J. and Escobar, G. (2001) Agricultural knowledge and Information Systems and Poverty Reduction. World Bank.

This discussion paper builds on the AKIS concept that was originally coined by Roling (1986) and developed by the FAO and the World Bank over the past decade (see document 23 in this bibliography). The essential approach that the AKIS concept takes is that agricultural research and extension are necessary but not sufficient in themselves to generate technological change that relies on a more complete set of innovation-oriented institutional arrangements. It introduces more dynamic information lows into the concept of agricultural technological advancement including two-way information flows between farmers and extension services and between farmers and agricultural research centres. Innovation, therefore, must be assumed to come from those institutions that foster innovative practices at any level not simply at the level of research centres. In order to assess the poverty alleviating impact and potential of an AKIS the paper argues that programme design should acknowledge both the direct and the indirect impact including the diffusion of innovations outside the scope of a particular project. The indirect effects, including the diffusion of innovations more widely than the first level of beneficiaries, have greater potential for addressing the global magnitude of poverty. In order to understand the potential impact of both direct and indirect effects of agricultural innovation on poverty an appreciation of the multidimensional aspects of poverty is required. Berdegué and Escobar argue that poor farmers can be largely alienated from the direct effects of agricultural technological innovation in many cases because they have less access to information and resources in the first instance and are also less able to compete with more efficient farmers who may benefit from more favourable production environments, better technologies and more conducive policy and institutional incentives. Indirect effects manifest themselves as lower food food prices, agricultural employment and wages and linkages with the non-farm economy. In order to promote the poverty alleviating potential of AKIS in developing countries the current complexity of the institutional context must also be understood. Official research and extension agencies are now joined by a host of other actors including the private sector and NGOs, farmers organisations, religious environmental and social ministries and foundations. This corresponds to increasingly complex and diverse technologies and mechanisms for planning, designing and delivering services. The heterogeneity of the poverty context must be adapted into AKIS if agricultural innovation is to be made available to and transferred between a wider range of institutions and a larger number of beneficiaries.

Berners-Lee (1999) Weaving the web. San Francisco, USA: Harper.

One day in 1980, Berners-Lee, an Oxford-trained computer consultant, got a random thought: Suppose all the information stored on computers everywhere were linked?" So he created a system to give every "page" on a computer a standard address (now called a URL, or Universal Resource Locator), accessible via the HyperText Transfer Protocol (HTTP), formatted with the HyperText Markup Language (HTML), and visible with the first browser, which did the trick of linking us all up. He may be the most self-effacing genius of the computer age, and his egalitarian mind is evident in the names he rejected for his invention: "I thought of Mine of Information, or MOI, but moi in French means 'me,' and that was too egocentric.... The Information Mine (TIM) was even more egocentric!" Also, a mine is a passive repository; the Web is something that grows inexorably from everyone's contributions. Berners-Lee fully credits the colorful characters who helped him get the bobsled of progress going--one colleague times his haircuts to match the solstices--but he's stubbornly independent-minded. His quest is to make the Web "a place where the whim of a human

being and the reasoning of a machine coexist in an ideal, powerful mixture." Hard-core tech types may wish Berners-Lee had gone into deeper detail about the road ahead: the "boon and threat" of XML, free vs. commercial software, VRML 3-D imaging, and such. But he wants everyone in on the debate, so he wrote a brisk book that virtually anyone can understand.

Bridges.org (2001) Spanning the Digital Divide: Understanding and Tackling the Issues. Bridges.org.

This report aims to cut through the hype and fervour surrounding debates over 'digital divides' and provide an objective overview. It presents some of the basic facts about ICT access and use and examines the true nature of so-called digital divides, both between and within countries. It describes various studies and approaches to the problems and outlines on-the-ground initiatives and government policies to address them. It reflects on what is working best and what is failing - and why. It goes on to make a number of recommendations illustrating the key elements necessary for integrating technology into society in an effective, sustainable way so that people can put technology to use to improve their lives: this is termed 'real access' to technology. Furthermore it provides an extensive list of sources for further information.

Burke, A (1999) Communications and Development: A Practical Guide. Social Development Division Guidance Series Factsheet, Social Development Division. London, UK: DFID.

Carney, D., Drinkwater, M., Rusinow, T., Neefjes, K., Wanmali, S. and Singh, N. (1999) Livelihoods approaches compared: A brief comparison of the livelihoods approaches of the UK Department for International Development (DFID). London, UK: DFID.

This review covers the approaches of DFID, Oxfam, CARE and UNDP. Representatives of four development agencies (DFID, Oxfam, CARE and UNDP) bring together the fundamental principles behind the livelihoods approaches adopted by their different organisations. Concise comparisions are drawn and conclusions made about whether the differences between them matter. Variations in emphasis and interpretation of the sustainable livelhoods approach are revealed between the agencies, and each of the approaches is shown to be continuously evolving. The approaches of the four agencies also share much in common, such as: roots in the work of Chambers and Conway, the focus on assets, the interest in macro-micro links, and the stress on flexibility of application. This analysis helps to broaden understanding of the SL framework and its application.

Carter, I. (1999) Locally generated printed materials in agriculture: Experience from Uganda and Ghana. London, UK: DFID.

Chambers, R. (1994) Knowledge and power: All power deceives in Knowledge is power? The use and abuse of information in development. IDS bulletin 25(2), April 1994. Brighton,UK: IDS.

Chapman, J. (2001) Joint analytical study of the application of sustainable livelihood approaches in the FAO Special Programme on Food Security. Rome desk study January 2001. Oxford, UK: Oxford Policy Management.

Chastenet, M (1998) Plantes et paysages d'Afrique. Une histoire a explorer. Paris, France: Karthala.

Christoplos, I, Farrington, J. and Kidd, A. (2001) (2001) Extension, Poverty and Vulnerability. Inception Report of a Study for the Neuchatel Initiative. ODI Working Paper 144. London, UK: ODI.

Christoplos, I. , Farrington, J. and Kidd, A. (2002) Extension , Poverty and Vulnerability: The Scope for Policy Reform. Final Report of a study for the Neuchatel Initiative. ODI Working Paper 155. London, UK: ODI.

Coldevin, G. (2000) Participatory Communication and Adult Learning For Rural Development. FAO.
The article traces the development of participatory approaches in FAO's field programmes and other agencies' activities, which mark the general shift away from top-down approaches in extension practice. FAO has been at the forefront of promoting participatory approaches as a useful way of integrating farmers, extension and research in the development process especially at the planning and implementation stages. The focus of the Communication for Development Group of the FAO is to enable farmers to access relevant information and knowledge according to their needs. The group's mandate includes both normative: development of policies, strategies methodologies, guidelines, best practices and information tools and materials and fieldwork: project appraisal, design, implementation, monitoring and evaluation, technical backstopping and training, establishing partnerships and networks, and providing communication technology advice.

Crede, A. and Mansell, R. (1998) The importance for sustainable development: ICTs in Developing Countries. IICD.

CTA (2001) ICT Update: A current awareness bulletin for ACP agriculture. Wageningen, Netherlands: Technical Centre for Agricultural and Rural Cooperation.

Dagron, A. (2001) Making waves: Stories of participatory Communication for Social Change. Rockefeller Foundation.

Davies, S. (1994) Information, knowledge and power in Knowledge is power? The use and abuse of information in development. IDS bulletin 25(2), April 1994. Brighton,UK: IDS.

DFID (1997) Eliminating World Poverty: A Challenge for the 21st Century. White Paper on International Development. London, UK: DFID.

DFID (1999) Sustainable Livelihoods Guidance Sheets, Section 2 The Livelihoods Framework. London, UK: DFID.

DFID (2000) The media in governance. A Guide to Assistance: developing free and effective media to serve the interests of the poor. Issues series. London, UK: DFID.

DFID (2001) The Significance of information and communication technologies for reducing poverty. Draft, 3 September 2001. Unit for Policy Studies, Development Policy Department. London, UK: DFID.

DFID (2001) The challenge of universal primary education. Strategies for achieving the international development targets. London, UK: DFID.

DFID (2000) Eliminating World Poverty: Making Globalisation Work for the Poor. White Paper on International Development. London, UK: DFID.

DFID/NEDA (1999) Agricultural Extension. Sustainable Livelihoods Service Delivery Key Sheet No. 2. London, UK: ODI.

Dixon, J., Hall, M. Hardaker, J. and Vyas, V. (1994) Farm and Community information use for agricultural programmes and policies FAO Farm Systems Management Series. Rome, Italy: FAO.

DOTForce (2001) Global Bridges, Digital Opportunities. Draft report. London, UK: DOTForce.

Dragon, A. (2001) Making Waves: Stories of Participatory Communication for Social Change. Rockefeller Foundation.

Ernberg, J. (2001) Multipurpose Community Telecentres (MCTs) - a business case? International Telecommunications Union.

Escobar, A. (1995) Encountering development. The making and unmaking of the third world. Princeton, New Jersey, USA: Princeton.

FAO (2000) Inter-agency Experiences and Lessons: from the forum on operationalising sustainable livelihoods approaches. From the forum on operationalizing sustainable livelihoods approaches. Pontignano (Siena) 7-11 March 2000. Rome, Italy: DFID/FAO.

FAO (2000) Medium term Plan 2002-2007. Rome, Italy: FAO.

FAO (2000) Programme Implementation Report. Rome, Italy: FAO.

FAO (2000) Reforming FAO. Into the New Millennium. Rome, Italy: FAO.
This document presents the pinciples that have been followed, detailing the measures taken and the

results achieved to date. The "eview of FAO's programmes, structure and policies was initiated in early 1994. As part of the reform process a clear distinction was made between normative and operational activities in the technical departments. In particular, to improve the coherence of services provided to Member Nations while also strengthening their country focus, the Development Department was transformed into a new Technical Cooperation (TC) Department. FAO cooperates with multilateral and bilateral assistance agencies, the private sector and non-governmental organizations (NGOs). In response to the need to concentrate on issues of sustainability and to follow up on the United Nations Conference on Environment and Development (UNCED), FAO established the Sustainable Development (SD) Department. The General Affairs and Information (GI) Department also underwent a major restructuring, with the introduction of new technologies and more emphasis on external contracting for translation and publishing. A resulting development in the area of corporate communication was the major reorganization of the Information Division (GII) in late 1998, which consolidated the former press, radio and television branches into a single Media Relations Branch. Media officers in the new branch received training so as to have the versatility to work with journalists in both print and broadcast media.

FAO (2000) Report of the First Consultation on Agricultural Information Management (COAIM), Rome 5-7 June 2000. Rome, Italy: FAO.

The Consultation was designed to bring policy issues related to management and access to agricultural information to the attention of the inter-governmental process, and establish a global framework for the normative work of the WAICENT. It recognises the key role that information and knowledge play in ensuring food security and sustainable development and focuses on ways of improving the capacities of decision-makers, professionals and the public at large in Member Countries to access and use agricultural information. The Consultation covered all aspects of agricultural information management, the agenda included key topics, such as mechanisms for improving access to agricultural information, improving the coordination of capacity building efforts, and issues related to guidelines and standards in information management. COAIM brought together information users and providers, policy-makers, funding agencies, and the major players in all the relevant fields of agricultural information, as well as observers from the UN and NGO community. In addition to statements from FAO member delegations, the consultation featured workshops on key aspects of the use of ICTs in agricultural development and food security and on the latest advances in information management systems, facilitated by specialists from the wider development community and academia

FAO (2000) Guidelines for National FIVIMS. Background and principles. IAWG Guidelines Series No.1. Rome, Italy: FAO.

FAO (2001) Evaluation of FAOs Policy Assistance (Cooperation with Member Countries in the Development of National Policies (1994-99) with particular attention to FAO-TCP). FAO Programme Committee, Eighty-fifth Session, Rome 7-11th May 2001. Rome, Italy: FAO.

This evaluation addressed activities to directly assist countries in policy development, and not normative policy work. The evaluation concentrated on policy formulation and excluded policy implementation, although the latter was a major criteria for judging whether policy was successful. It found that FAO's policy assistance was widely appreciated by the countries and international partners and that its technical quality was as good as, or better than, that of other agencies, making considerable contributions to the policy making processes. It found FAO to have comparative strength in agricultural subsector work, fisheries and forestry as well as in its consultative approach in working with governments. It concluded that policy assistance should be given priority commensurate with its importance and should be further strengthened. It recommends that the

FAO should focus on its comparative strengths and remedy its weaknesses, especially improvements in its capacity for rapid flexible response through better coordinated work among the many parties involved at the country, regional and Headquarters level.

FAO (2001) Improving Support for Enhancing Livelihoods of the Rural Poor. Draft Programme Memorandum. Rome, Italy: FAO.

The livelihoods support programme (LSP) aims to build interdisciplinary approaches to enhancing and sustaining the livelihoods of the poor living in diverse agro-ecological, economic, institutional and socio-cultural environments. The LSP will support the FAO's Regular Programme activities through the increased collaboration in the collection of information, analysis, dissemination of good practices, development of methodologies, guidelines and policies related to sustainable livelihoods.

FAO (2001) Pro-Poor Livestock Policy Facility. Fostering the Policy Dialogue in Support of Equitable, Safe and Clean Livestock Farming. DFID Summary Project Memorandum. Rome, Italy: DFID/FAO.

The livestock sector represents an opportunity for the poor to participate in an expanding market without the need for substantial resources or training. The rapid increase in demand for livestock products in developing countries is expected to continue and more effective and informed policy making is required to avoid the economic and social conflicts in the sector. There has also been a geographic shift of livestock production from temperate and dry areas to warmer, more humid and disease prone environments. It is apparent that there is a void in the provision of unbiased information for policy makers and this facility aims to fill in many of the gaps to assist in the discussion and negotiation of livestock issues. This requires information and tools to analyse the impact of livestock policies on the poor.

FAO (2001) Strengthening Participatory Approaches in Forest Maangement in Uganda, Ghana, and Guyana. Forestry Department Programme Memorandum. Rome, Italy: FAO.

The Programme promotes the adoption of sustainable resource management to improve the livelihood strategies of the rural poor. This will be achieved by supporting the capacity of government forest departments, key institutions such as forestry schools and training institutes, other agencies, national non-governmental organisations (NGOs) and community-based organisations (CBOs) to integrate broad-based participation in natural resource management. The adoption of participatory approaches is essentially an internally driven process. However, in 1998, in response to requests from the field and the results of a needs assessment, the Community Forestry Programme (FONP/CF) of the Forestry Policy and Planning Division of the Forestry Department of the Food and Agriculture Organization of the United Nations (FAO), decided to develop a comprehensive set of materials outlining the steps of the participatory process for use by mid-level managers and field staff in government departments. The programme will use a livelihoods framework to help ensure that governemnt planners in the restructured 'Foresty Commissions' in each country will integrate participation into more effective natural resource managment strategies that are targeted towards poverty reduction.

FAO (2001) Report on the development of FIVIMS to the 27th session of the CFS.IAWG 5/6. Rome, Italy: FAO.

FAO (1989) Guidelines on Communication for Rural Development: a brief for development planners. Rome, Italy: FAO.

FAO (1996) State of the World's fisheries. Rome, Italy: FAO.

FAO (1998) The first mile of connectivity. Advancing telecommunications for rural development through a participatory communication approach. Rome, Italy: FAO.

This book is published by the Communication for Development department of the FAO and contains a collection of papers reflecting international experience and proposals for promoting telecommunications infrastructure in rural communities using participatory approaches. The book is separated into five main sections dealing with the rural context (first mile), comparable participatory approaches using other media such as radio and video, practical approaches to rural telecommunications markets, integrated tools to support rural knowledge systems and the policy context. Richardson sets the theme that is followed up throughout the book that it is important to connect rural communities to an increasingly globalised world dominated by market forces despite the apparent low priority of telecommunications in the poorest communities. The remoteness of many rural communities is preventing them from participating not only in the processes of global change but more specifically in their own development and progress. The gap between 'information haves' and 'information have nots' will continue to rise unless the processes of improving participation in communication for development projects, such as those advocated by Norrish, Snowden and Moetsabi can be integrated with strategies for advancing telecommunications that ensure broad-based access and community ownership (Hudson). Case studies and experiences from the North (Richardson, Snowden, Gorenflo) provide useful illustrations of the historical processes of development in rural telecommunications with relevance to both the policy debate and the processes of institutional capacity building, especially at the community level. Current experiences in developing countries are also covered in depth and a range of approaches such as democratic development in Asia (Ford) and opportunities to harness the latest technical advancements such as 'wireless systems' in Africa (Jensen and Richardson) provide authoritative recommendations for improving rural connectivity in developing countries for sustainable development (Ernberg).

FAO (1999) The Strategic Framework for FAO 2000-2015. Rome, Italy: FAO.

The full document, as approved by the FAO Conference at its 30th session in November 1999, is designed to guide the FAO's work until the year 2015. It provides the authoritative framework for the Organization's future programmes, which will be developed through successive Medium-Term Plans and Programmes of Work and Budget. It outlines the anticipated future role of the Organisation in relation to current and projected demographic and economic trends.

FAO (1999) Sustainable Livelihoods Fisheries Programme in West Africa. A DFID/FAO Partnership for the application o fthe Code of Conduct for Resposible Fisheries. Rome, Italy: FAO.

This programme aims to reduce poverty in Western and Central Africa by improving livelihoods of people dependent on fisheries and aquatic resources. The programme will focus on the development of fisheries through appropriate policies and institutions. The programme will involve direct support to governments for national level policy making and planning and to poor communities to enhance their capacity to participate in fisheries planning and management. The Code of Conduct for Responsible Fisheries (CCRF) formulated by the FAO in 1995 forms the basis for the programme activities such as establishing systems for governments and communities to share the management of fisheries resources, introducing systems for rehabilitating aquatic environments and improving the efficiency of artisanal systems.

FAO (2000) Communication for Development Report 1996-1997. Rome, Italy: FAO.

This is the Communication for Development Group's status report on field activities. The Communication for Development Group is an integral part of the Extension, Education and

Communication Service,

FAO (2000) FAOs Corporate Communication Policy and Strategy. Rome, Italy: FAO.

This document is the FAOs first Corporate Communication Policy and Strategy. The result of a long and intensive process of consultation throughout the Organization, the Policy provides a imely blueprint for managing FAO's diverse communication resources and needs. Its cardinal principles - participatory planning, corporate focus and iecentralized implementation - provide the framework for coordination and cooperation among all units of the Organization.Communication lies at the core of FAO's mandate and it has a need to communicate general messages related to its overall ^andate as well as specific messages directed towards particular audiences related to the priorities of the Organization.

FAO (2000) Fisheries Department Information Strategy: Supporting Informed Decisions and Actions. Rome, Italy: FAO.

The Fisheries Department has an explicit information strategy document (link to FAO (2000) Fisheries Department Information Strategy: Supporting Informed Decisions and Actions) which sets out the departments goals on information and medium term strategic objectives.

FAO/CTA (2001) International Workshop on Farm Radio Broadcasting; Rome, 19-22 February 2001. Information and Communication Technologies Servicing Farm Radio: New Contents, New Partnerships. Final Report. FAO/CTA.

The Workshop brought together over 50 experts in farm and rural radio to compare experiences in America and Africa and discuss opportunities for the future. Rural radio has proved an excellent communication tool and new information communication technologies (ICTs) have the potential to further enhance its impact on agricultural and rural development. The linking of rural radio radio to new ICTs is one theme that is discussed in the report along with others such as the experiences of specialist institutions and networks (AIF, DCFN, AMARC,PANOS/IPAO,CIERRO), the scientific research centres (CGIAR, ISNAR), and content supplied by the FAO Technical Departments (GIEWS, WAICENT, etc.). The Workshop also helped to develop North-South collaboration and plans for partnerships were discussed. Girard introduces the strategic context relating to the challenges and opportunities for bridging the digital divide which require institutions in rural Africa to build on their existing networks and use community intermediaries to serve as a bridge between the Internet and rural radio. This approach is being tested in Mali by the FAO as described by Jean-Pierre Ilboudo who also highlights a number of key subjects that that should be promoted more through African rural radio namely Agrometeorological information, information on the food situation in different countries (GIEWS), information on market prices, food safety an post harvest operations. A number of community perspectives are also expounded including Quarmyne's "Kente" Approach which emphasises the relationship between community radio and the listening community. The approach stems from the participatory experiences of Radio Ada in Northern Ghana in which empowerment of trainees and the listening community are taken as the goals. The "Kente" approach has four main elements Knowing self, knowing community, knowing development and knowing media.

FAO/PAIA (2001) A Spatial Information Management and Dissemination Strategy, "GEO-NETWORK" A Report of the Sub-Working Group of the PAIA on Spatial Data Management. FAO.

The Medium Term Plan for the FAO (2002-2007) includes plans for enhanced multi-disciplinary approaches as called for in the Strategic Framework (2000-2015). There are 16 Priority Areas for Inter-disciplinary Action (PAIAs) identified within the corporate strategies that they relate to and two further thematic PAIAs. The idea for a Geo-Network was endorsed at the meeting of the Saptial Information Mamagement PAIA in April 2001and a prototype is expected to be ready for demonstration at the World Food Summit +5 in November 2001. The Geo-Network project aims to

create an Intranet/Internet web based system for integrated access to a wide range of spatial data held in a number of different capacities across FAO. The proposed Geo-Network will provide a common user interface and gateway to a variety of data, information and metadata from sources such as FAOMAP, the Geography Network, and AFRICOVER. The GEO-Network will be designed to address a number of information requirements of the FAO offices and in the longer term other UN partners.

FAO/WAICENT (2000) WAICENT Outreach Programme - Outline Strategy. Rome, Italy: FAO/WAICENT.

The goal of the Outreach Programme is to enhance the ability of individuals and communities in Member Countries to improve the efficiency, quality, and relevance of information and knowledge exchange among the various stakeholder groups involved in agricultural development and food security, with a focus on the most vulnerable and deprived groups. The programme will establish a common platform for knowledge exchange between stakeholders in FAO's Member countries and the international community associated with agricultural development and food security. The programme includes a wide range of activities to achieve five outputs

FAO/WAICENT/SDR (2000) FarmNet Farmer Information Network for Agricultural and Rural Development. Rome, Italy: FAO/WAICENT.

The FAO has applied ICTs in Latin America in a project to establish farmer information networks - FarmNets - involving agricultural producers and farmer associations, extension services and NGOs. Operated by farmers and their organisations, a FarmNet links farmers to each other and to the resources and services that they need to improve their livelihoods through agricultural productivity, profitability and food security. A Farmnet uses existing organisational and social groupings of rural people and incorporates grass-roots communication networks such as farmer-to-farmer exchanges and traditional media. It combines the organisational and communication networks of rural people with conventional media, such as rural radio, and with appropriate use of the new ICTs.

FAO/WAICENT/SDR (2000) VERCON Virtual Extension, Research and Communication Network. Rome, Italy: FAO/WAICENT.

The VERCON concept was developed by FAO as a joint project between the Research, Extension and Training Division (SDR) and the World Agricultural Information Centre (WAICENT). It is a prototype network that aims at improving linkages between and within agricultural research and extension institutions using internet-based ICTs. The internet tool allows network members to capture and develop local content, share, store, retrieve and disseminate information and connect geographically dispersed people from research and extension institutions, faculties of agricultural education, NGO workers and agricultural producers. The tool aims to support improved agricultural production and further broaden and strengthen collaboration through facilitating coordination of rural, local, national and regional development programmes. Functional linkages between research and extension remain unsatisfactory in many developing countries. Advances in ICTs offer new possibilities to improve linkages. However, attention is focused on what needs to be done by the technology rather than being driven by what the technology is capable of doing. There are two fully integrated and co-dependent components to VERCON, the human and institutional component and the technological component.

FAO/World Bank (2000) (2000) Agricultural knowledge and Information Systems: Strategic Vision and Principles Rome, Italy FAO/World Bank

Agricultural knowledge and Information Systems for Rural Development (AKIS/RD) link farmers and researchers together through education and extension mechanisms. The Strategic Vision and Guiding principles prepared jointly by the FAO and the World Bank aims to set out the challenges

and opportunities for AKIS/RDs for improved institutional capacity building. At a local level farmers' capacity can be enhanced through more participatory approaches to learning supported by appropriate research, education and extension services. The Strategic Vision outlines the goals for the AKIS/RD model to support the institutions at all levels from government and the private sector to civil society and farmers with the result of increased knowledge sharing within the system. New opportunities for partnerships between the public and private sector together with the emergence of improved information and communication technologies could be used to transform AKIS/RDs into more effective systems for improving the livelihoods of poor farmers.

Fardon, R. and Furniss, G. (2000) African Broadcast Cultures: Radio in Transition. Harare, Zimbabwe: Baobab Publishing.

Farrington, J., Carney, D., Ashley, C. and Turton, C. (1999) Sustainable Livelihoods in Practice: Early Applications of Concepts in Rural Areas. Natural Resource Perspectives 42, June 1999. London, UK: ODI.

This paper outlines a new approach to poverty alleviation - sustainable livelihoods - setting out its basic concepts and drawing lessons from early experience

Farrington, J., Chapman, R. and Slaymaker, T. (2001) (2001) Sustainable Livelihoods approaches in practice: Potentials and constraints. Paper prepared for the SIDA Poverty Workshop, 8 May 2001. London, UK: ODI.

Much has been written recently about the application of SL approaches to project and programme design and implementation, principally in rural settings.

Gills, B. and Rocamora, J. (1992) Low Intensity Democracy. Third World Quarterly 13(3).

Girard, B. (2001) The Challenges of ICTs and Rural Radio. Paper presented at the First International Workshop on Farm Radio Broadcasting, 19-22 February 2001.

This paper was presented at the First International Workshop on Farm Radio Broadcasting, 19-22 February 2001, FAO, Rome. It discuses the nature of the digital divide, limitations of a US-style Internet model in the context of rural Africa and the characteristics that enable radio's success in the same context. It looks at the way the Internet and rural radio are working together to form low cost networks and to improve radio programming and suggests possible ways forward for Next-generation Rural Radio

Goldman, I. (2000) Micro to Macro: Policies and Institutions for Empowering the Rural Poor. Paper prepared for the Livelihoods Connect Website. Khanya.

This report builds mainly on four studies of the institutional issues in promoting an SL approach in Zambia, Zimbabwe and two provinces in South Africa during 1999. The study used the SL framework to structure the analysis, using a vertical transect linking a case study village and district, through the region/province to the centre. This involved participatory work in the village, interviews and workshops at district level, the province and the centre.

Gomez, R., Hunt, P. and Lamoureux, E. (1999) Telecentre Evaluation and Research: a global perspective. Report of an International Meeting on Telecentre Evaluation September 28-30th 1999. Ottawa, Canada: IDRC.

This is the report of an International Meeting on Telecentre Evaluation in September 1999. It notes that Telecentres are the focus of much attention in international development discourse and hailed

as the solution to development problems by providing desperately needed access to information and communication technologies. However this discourse is regarded by some as uncritically euphoric. The purpose of the meeting and this report was to critically examine the notion of telecentres and analyse the diversity of experiences emerging in Africa, Asia and Latin America. In particular it calls attention to the need for improved evaluation of the impact of telecentres and ICTs. While it is generally agreed that there exists potential for the use of ICTs to support social development, until relevant methodologies and adequate tools are developed to effectively assess the social impact of the application of ICTs for sustainable development from the user's perspective, efforts to demonstrate how people are empowered by knowledge will lack credibility. This paper examines some of the preliminary assessment efforts underway and suggests avenues for new research to improve understanding of the role of ICTs in international 'development'.

Grace, J., Kenny, C. and Qiang, C. (2001) Information and Communication Technologies and Broad-Based Development: A Partial Review of the Evidence. Draft paper prepared for the World Bank.

Information and Communication Technologies (ICTs) are increasingly seen as integral to the development process. This paper reviews some of the evidence for the link between telecommunications and the Internet and economic growth, the likely impact of the new ICTs on income inequality and anecdotal evidence regarding the role of the Internet in improving government services and governance. It looks at methods to maximize access to the new ICTs, and improve their development impact both in promoting income generation and the provision of quality services. The paper concludes with a discussion of the broader agenda needed to ensure the maximum return to ICT investments -in areas such as macro-economic and education policies

Gurstein, M. (2001) Rural Development and Food Security: a 'Community Informatics' Based Conceptual Framework. Paper prepared for COAIM expert workshop on the role of ICTs in rural development and food security. June 2000. Rome, Italy: FAO.

This paper was commissioned as a background paper for the COAIM expert workshop on the role of information and communication technologies (ICTs) in rural development and food security. It is concerned with how the opportunities associated with ICTs might be realized not just in the abstract as a sense of possibility, but within the real context of specific conditions and limitations in the range of developing world contexts and specifically for those in rural areas. Analysis starts from the problem of access for what purpose, by whom and to what?

Heeks, R. (1999) Information and Communication Technologies, Poverty and Development. Paper No. 5, Development Informatics Working Paper Series. Manchester, UK: IDPM.

This paper analyses the question of whether ICTs can help alleviate poverty in low-income countries, focusing particularly on the role of ICTs in assisting the development of small and micro-enterprises. It suggests that ICTs are more likely to play a role as a communication technology, rather than as an information processing or production technology. Given serious inequalities that constrain the use of ICT-based information by poor entrepreneurs, ICTs may have a greater role to play in giving 'voice' to the poor' i.e. making the poor information providers more than information recipients. The paper is critical of 'the ICT fetish' that dominates much of development thinking at present and turns the use of ICTs within development into an end in itself rather than a means of acheiving other development goals. It identifies a number of 'development opportunity costs' associated with this discourse and increased investment in ICTs at the expense of other sectors.

Heeks, R. (1998) Information Age Reform of the Public Sector: The Potential and Problems of IT for India. Paper No. 6, Information Systems for Public Sector Management Working Paper Series. Manchester, UK: IDPM.

Information technology holds huge promise for public sector management and reform but in many

countries for one reason or another the potential is not being realised. The many failures in the reform of the public sector in India are categorised in this paper as being total, partial or failures of sustainability and replicability. The problem is largely one of approach and the misunderstanding of both the role of information and more specifically information technology in public sector managment has led to a wide range of different approaches with often similarly disastrous results. These approaches can be described as the four I's, namely the 'ignore' approach, the 'isolate' approach, the 'idolise' approach and the 'integrate' approach. Of these the most successful and only recommendedapproach is the 'intagrate' approach which builds on an understanding of the importance of information and the need for technology to play a supporting rather than leading role.

Heeks, R. and Baark, E. (1998) Evaluation of Donor-funded Information Technology Transfer Projects in China: A Lifecycle Approach. Paper No. 1, Development Informatics Working Paper Series. Manchester, UK: IDPM.

While information technology forms an increasingly important component of donor-funded development projects, evaluation of such projects has been comparatively rarely reported. This paper presents an evaluation of the information technology component within four Chinese technology projects, each of which is described and evaluated. The evaluation methodology is structured around a framework termed the information technology transfer life-cycle. This approach is used to identify a number of shortcomings within the various technology projects. Further more general issues surrounding training and the role of donor agencies are also identified and some recommendations are made about the management of IT transfer projects and more widespread use of the life-cycle approach in both the evaluation and planning of technology transfer projects.

Hilliard, RL. (2001) Farm and Rural Radio: Some Beginnings and Models. Paper presented at the First International Workshop on Farm Radio Broadcasting, 19-22 February 2001. Rome, Italy: FAO.

This paper was presented at the First International Workshop on Farm Radio Broadcasting, 19-22 February 2001, FAO, Rome. It shows that while Internet development is slow in many developing countries, it is advancing. The paper charts the development of farm and rural radio in the US and offers comparisons with the developing world. Radio is identified as a having a crucial role in meeting development needs and is still the medium of choice, offering the greatest potential for serving farm and rural populations.

Hoffmann, V., Lamers, J. and Kidd, AD. (2000) Reforming the Organisation of Agricultural Extension in Germany: Lessons for Other Countries. Agricultural Research & Extension Network Paper No. 98, January 2000. London, UK: ODI.

Hussein, K. (2000) Farmers' Organisations and Agricultural Technology: Institutions that give farmers a voice. Paper drafted for livelihoods connect website www.livelihoods.org. London, UK: ODI.

Farmers' Organisations and Agricultural Technology: Institutions that give farmers a voice. This paper was drafted for livelihoods connect website. The main aim of this contribution is to demonstrate the ways in which the research on farmers' organisation-research-extension linkages helps to unpack the policy, institutions and processes elements of the sustainable livelihoods approach. Examples drawn from a multi-country study covering a range of West and Central African contexts show how existing policies, institutions (organisations and legal frameworks) and processes related to agricultural research and extension affect people's access to resources, technology, assets and livelihood opportunities. Lessons are drawn that can inform the development of policies that support the strengthening of organisations, which should help to improve livelihoods in the region. Some of these relate to adjusting national policy frameworks, others can be directly supported by external agencies such as DFID.

IFAD (2001) Rural Poverty Report 2001: The Challenge of Ending Rural Poverty. Oxford, UK: Oxford University Press.

Ilboudo, J-P. (2000) Prospects for rural radio in Africa. In R. Fardon and G. Furniss (2000) African broadcast cultures. Radio in transition. Oxford, UK: Currey.

ISG and TDG (2000) Internet Use and Diagnostic Study - East Africa (supporting innovation in the provision of agricultural support services through Linked Local Learning). A collaborative project of the International Support Group, Netherlands and TeleCommons Development Group, Canada.

Use of the internet to support innovation in agricultural extension has been a recurring topic in the European Donors' Neuchatel Initiative meetings since it started in 1995 but donor representatives and experts have struggled with how this modern information and communication technology should be used to support innovation in extension practice. This diagnostic study looks in detail at the context and means through which modern information and communication technology (ICT) could be used to support innovation in agricultural extension and rural development practice in East Africa (it contains three specific country reports for: Kenya, Uganda, and Tanzania).

Jafri, A., Dongre, A., Tripathi, V., Aggrawal, A., and Shrivastava, S. (2002) Information Communication Technologies and Governance: The Gyandoot Experiment in Dhar District of Madhya Pradesh, India. ODI Working Paper 160. London, UK: ODI.

Jensen, M. (1998) The Regional Informatics Network for Africa (RINAF): An External Evaluation for UNESCO. Volumes I & II, September 1998. Paris, France: UNESCO.

Jurich, S. (1999) The impact of Video Technology in Education : From here to where? Techknowlogia 1(1), September 1999.

Kenny, C., Navas-Sabater, J. and Qiang, CZ. (2000) ICTs and Poverty. World Bank Poverty Reduction Strategy Sourcebook. Draft for Comments. August 29, 2000. Washington, USA: World Bank.

ICTs are increasingly central in the effort to escape poverty. This is recognised by the poor themselves who, if given the option, are willing to spend over two percent of their income on telecommunications. In Chile, for example, the poor spend about the same amount on telecommunications as they do on electricity. This expenditure excludes the numerous other communications tools accessed by the poor - including radio, television, and posts. ICTs provide access to information that can create earning opportunities, improve access to basic services, or increase the impact of education and health interventions. ICTs also give the poor a voice to demand government support and reform. Section 2 of this document outlines some of the ways that the poor are using ICTs to improve their own lives, and some of the ways that governments can use ICTs to improve their service delivery, especially to the poorest.

Koch, R. (1998) The third revolution. Oxford, UK: Capstone.

Krantz, L. (2001) The Sustainable Livelihoods Approach to poverty reduction: An introduction. Stockholm, Sweden: Sida.

Latchem, C. and Walker, D. (2001) Telecentres: Case studies and key issues. Perspectives in Distance education. Vancouver, Canada: Commonwealth of Learning.

MAP (2001) A New African Initiative: Merger of the Millenium Partnership for the African Recovery Programme (MAP) and Omega Plan. July 2001. Lusaka, Zambia.

McConnell, S. Richardson, D., Doehler, M., and Wong, W. (2001) Telecentres Around the World: Issues to be considered and lessons learned. TDG/GAIA.
This paper gives an overview of the issues facing telecentre initiatives around the world. These issues include matters that cut across technical and political considerations, such as selection of sites, selection of management groups, choice of equipment, and gender issues. They also draw attention to the importance of participatory mechanisms, political networking and interaction, and a good understanding of local power relationships and the local context. Much of the literature has found that sensitisation of the community leads to broader usage of the telecentre services. This includes building an understanding of the informational needs of the different groups within the community.

Menou, M. (1999) Information and development. Technical Centre for Agricultural and Rural Cooperation, Assessing the impact of information and communication management on institutional performance. Proceedings of a CTA workshop. Wageningen, 27-29 January 1998. CTA, 1999, 19-45. Wageningen, The Netherlands: CTA.

Michiels, SI. and Van Crowder, L. (2001) Discovering the 'Magic Box': Local Appropriation of Information and Communication Technologies (ICTs). Communication for Development Group, Extension, Education and Communication Service, FAO. May 2001. Rome, Italy: FAO.
This paper was compiled as a desk study on the appropriation of new ICTs by local communities and groups in developing countries.

Ministry of Communications (1999) Draft of communications policy discussion paper in Ghana. International Institute for Communication and Development.
This resource can be found at: http://www.iicd.org. Last accessed 4/14/2009

Moetsabi, T. (1998) Participatory approaches for promoting rural connectivity: an exploration of issues. The first mile of connectivity. Advancing telecommunications for rural development through a participatory communication approach. Rome, Italy: FAO.

Mosse, D. (1996) Local Institutions and Farming Systems Development: Thoughts from a Projet in Tribal Western India. Agricultural Research & Extension Network Paper No. 64, July 1996. London, UK: ODI.

Mundy, P. and Sultan, J. (2001) Information Revolutions: How information and communication management is changing the lives of rural people. Technical Centre for Agricultural and Rural Cooperation (ACP-EC). Wageningen, Netherlands: CTA.
This book presents around 40 examples of mainly local or national organisations in Africa, the Caribbean and the Pacific, who have changed the way communication works and thereby made a difference to the lives and livelihoods of rural people. They cover a wide range of communication systems and issues, including radio and television, newspapers and newsletters, literacy programmes, computers and telecommunications, farmers' groups and markets, farmers' knowledge, research and extension links, research networks, and libraries. Just one example is the broadcasting of a radio soap opera in Kenya that is designed to deal with various development issues. The 'soap opera for development' engages with topics such as pest management, malaria, and gender relations. The radio show has recognised that drama is a powerful way of communicating, and is also able to bring out nuances of a problem and present different arguments. Importantly, it is entertaining, and an independent study has shown that about 36% of Kenyans set aside time to listen to the soap opera.

Munyua, H. (2001) Information and Communication Technologies for Rural Development and Food Security: Lessons from Field Experiences in Developing Countries. Paper prepared for COAIM expert workshop on the role of ICTs in rural development and food security. June 2000. Rome, Italy: FAO.
This paper was commissioned as a background paper for the COAIM expert workshop on the role of information and communication technologies (ICTs) in rural development and food security. It examines the effect ICTs have already had on decision-making processes, markets, the media, local empowerment, the targeting of marginal groups and employment. The potential of new ICTs for rural development, and applications of ICTs in rural areas, are examined with examples from Latin America, Africa and Asia. It then discuses the use of ICTs for improving linkages with reference to VIRCON, FARMNets and FITS. Finally it addresses constraints in the establishment and management of community-based ICT projects and the role of partners in ensuring appropriate use of ICTs. In particular difficulties encountered with the policy environment, infrastructures, illiteracy, gender discrimination, costs and the lack of human resources. It concludes by calling for greater international co-operation to harness synergies of the respective partners and urges FAO to forge alliances and coalitions with other international, regional, national, donor, multilateral and development agencies, public and non-public institutions and rural groups. The partnership could then work jointly in planning, piloting, promoting and implementing innovative initiatives that seek to harness ICTs for food security and rural development.

Mytton, G. (2000) From saucepan to dish. Radio and TV in Africa. In R. Fardon and G. Furniss (2000) African broadcast cultures. Radio in transition. Oxford, UK: Currey.

Negroponte, N. (1995) Being digital. New York, USA: Vintage Books.

Nelson, J. and Farrington, J. (1994) Information Exchange Networking for Agricultural Development: A Review of Concepts and Practivces. CTA.
Nelson & Farrington identify two types of networks: information exchange networks (IEN), and organisations with a networking function (ONF). IENs usually have a flatter structure than ONFs, as IENs tend to share information through mutual communication, increasingly via the internet. ONFs have a more centralised structure, and therefore more often provide one-way information services such as CD ROMs and databases. There are also large variations within each of these two types of networks, and Nelson & Farrington give several illustrations of this. For example, networks can

function in a hub-and-spoke formation, where various members have multiple objectives, thus requiring an element of centralisation in order to coordinate these different interests. Alternatively, the rim-effect network relies much less on a central institution, and instead the members profit from the opportunity of linking up with each other. The book concludes that there are some tensions inherent in networking which are important to address. The three tensions identified are leadership versus responsiveness, degree of formalisation, and defining boundaries

Norrish, P. (1998) Radio and video for development in The first mile of connectivity. Advancing telecommunications for rural development through a participatory communication approach. Rome, Italy: FAO.

Norrish, P. and Scott, A. (1999) Information and Communication Technologies (ICTs) for Sustainable Livelihoods. Briefing Document. AERDD & ITDG. Intermediate Technology Publishing.

This paper was presented as a contribution to discussions at the COAIM expert workshop on the role of information and communication technologies (ICTs) in rural development and food security. It focuses on new communication technologies and existing information systems and small-scale farmers and entrepreneurs in rural communities. Specifically the risks of ICTs further marginalising disadvantaged communities and how adverse affects might be mitigated, and whether and how modern ICTs can be used to strengthen and develop the information systems of small-scale farmers and entrepreneurs in rural communities with a view to reducing poverty.

Norton, A. and Foster, M. (2001) The potential of using Sustainable Livelihoods approaches in Poverty Reduction Strategy Papers. London, UK: ODI.

Pasteur, K. (2001) Tools for Sustainable Livelihoods: Livelihoods Monitoring and Evaluation. Draft for Comment posted on livelihoods connect website. Brighton,UK: Institute of Development Studies.

This paper was prepared for discussion on the livelihoods connect website. Livelihoods M&E is still in a process of evolution and experimentation. This paper draws on some early experience and conceptual thinking and outlines the added value that a Livelihoods approach brings to M&E

Pauli, G. (1999) Towards a Technology Strategy for Sustainable Livelihoods. Prepared for the Sustainable Livelihoods Unit of the UNDP. UNDP.

This is one of a series of strategy papers on the sustainable livelihoods approach put together by the UNDP SL unit. The paper advocates a systems approach to technology development which, while focused on grass roots level, incorporates all stakeholders in the development strategy from the local to international level. The purpose of this paper is to contribute to the definition of the Technology Strategy for Sustainable Livelihoods (TSSL).

Rees, D. et al. (2000) Agricultural Knowledge and Information Systems in Kenya - Implications for Technology Dissemination and development. Research & Extension Network Paper No. 107, July 2000. London, UK: ODI.

Richardson, D. (1997) The Internet and Rural & Agricultural Development: An Integrated Approach. Paper prepared for the FAO. Ontario, Canada: TeleCommons Development Group.

This paper was prepared for the FAO in 1997 following a fact-finding mission in March and July of 1996. The executive summary notes that the Internet is rapidly expanding in developing countries. This expansion is, however, largely an urban phenomenon and most rural communities are not yet

able to take advantage of the services available to their urban neighbours. The paper recommends an integrated approach to facilitating Internet services and applications that will benefit rural communities and agricultural organisation. This approach begins with the needs of rural people and grassroot agricultural organisations and works to establish vertical and horizontal channels of communication. In this way, rural people and farmers can open new communication channels to enhance relationships with one another, and they can participate in dialogue and information exchange with decision-makers, planners, researchers and others who may reside far beyond rural communities. Pilot projects linked to rural and agricultural organizations can help ensure that rural communities and agricultural organizations remain part of regional and national Internet initiatives. The paper includes recommendations for strategies, funding mechanisms and support systems, together with examples of innovative approaches in Mexico and Chile.

Richardson, D. (2001) The Practical Reality of Knowledge Management within Development Inititiatives. Paper prepared for IFAD's Electronic Networking for Rural Asia/Pacific Projects (ENRAP) 2nd Comprehensive Workshop. Singapore, February 6-9, 2001. TeleCommons Development Group.

Richardson argues that knowledge management is a very personal activity that, if practiced widely, can improve organization's ability to achieve development results. […] Personally accessible, immediately useful and relatively inexpensive personal knowledge management tools can empower development workers to take ownership of their intellectual assets. Knowledge management starts with the individual and moves through an organization. Every individual uses knowledge management tools – including personal memory, date books, notebooks, file cabinets, email archives, calendars, post-it notes, bulletin boards, newsletters, journals, and restaurant napkins. Knowledge management begins when an organization enables individuals to link their personal knowledge management systems with organizational knowledge management systems.

Richardson, D. (1999) The Virtual Research and Extension Communication Network: An Interactive Learning and Communication Network for Research and Extension Personnel. Concept paper prepared for FAO. Guelph, Canada: TeleCommons Development Group.

This concept paper prepared for the FAO describes a suite of networked electronic tools that can facilitate improvement in communication processes and information sharing among stakeholders involved in agricultural development. The suite of tools is described as a "Virtual Research and Extension Communication Network" (VRECN): an electronic communication network and set of learning tools that will be collaboratively developed and implemented by research and extension personnel within a Ministry of Agriculture, in consultation and collaboration with key stakeholders. The suite of tools are themselves artifacts of a planned and on-going process of stakeholder involvement in mapping communication and information sharing relationships and identifying critical relationships that require improvement in order to reach agricultural development and food security goals. The result of an effective VRECN will be research and extension personnel who are able to strategically collaborate in order to meet the challenges of agricultural development, in partnership with other stakeholders.

Rivera, W. (2001) Agricultural and Rural Extension: Options for Reform. In collaboration with Extension, Education and communication Service, SDRE, FAO. Rome, Italy: FAO.

This paper addresses some of the current issues that are prevalent in the debate about the future of agricultural extension regarding both the role of governemnt and the need for new institutional frameworks owing to the failure of many existing extension systems. The paper also reviews FaOs role in porviding extension support both through the development of alternative methodologies and the support for many of the institutions involved in extension services. The reforms outlined by Rivera focus on the market issues that are central to the debate over the changing role of public versus private extension funding and delivery. The commercialisation o f agricultural extension that

has taken place in countries like The Netherlands and England has led to the provision of services by the private sector with a decreasing role for government in terms of both funding and delivery. In many developing countries the market reforms that are needed to develop private sector extension services are taking place slowly. In order to support more market oriented agricultural production that is integrated with the globalising economy there is a growing diversity of needs among farmers that cannot be addressed through the existing governemnt extension services. The FAO (Axinn, 1988) has historically been a leading porponent of developing new and alternative extension methodologies in reponse to the recognition of diverse needs throughout its global programmes. The FAO programmes support extension activities at a number odf different levels ranging from government to NGOs and farmers. The global reality of a "new paradigm towards market-related reforms" is likely to require greater understanding of the needs of different target groups and the concomitant development of diverse extension systems to meet those disparate needs. FAO has considerable comparative advantage in both the identification of different target groups and the promotion of different approaches to reflect those needs. Farming Systems Development (FSD), Farmer Field Schools, Distance Education, the National agricultural Extension Systems Reform Initiative (NAESRI) FarmNet and VERCON are some of the range of approaches developed by the FAO and used across the technical units for different sectoral programmes. One common approach is the use of participation theat is reflected most explicitly in the FFS but also a key feature of the wide range of activities. Rivera explains that "Empowering local communities and small farmers in the use and development of extension services through participatory approaches remains one of FAOs most central and important tasks". Participation is also capable of being integrated into any number of market-based and non-market based reforms as it relates to the extension methodolgy and not an institutional arrangement affecting government structure

Robinson, SS. (2001) Rethinking Telecenters: Knowledge Demands, Marginal Markets, Microbanks, and Remittance Flows. e-OTI: OnTheInternet March/April 2001 Screen Version. An International Electronic Publication of the Internet Society http://www.isoc.org/oti.

Roling, N. (1995) What to think of extension? A Comparison of Three Models of Extension Practice. AERDD Bulletin.

This paper provides a critical assessment of the prevailing extension model which is known as the linear model and is based on technology transfer from agricultural research to famers as 'users'. The paper refers to numerous other critical analyses of the linear model and explains that certain basic tenets of the model are wrong most of the time. Specifically, technologies are usually re-invented as they are adopted by others and farmers themselves are keen experimenters and researchers leading to most new ideas resulting from practice rather than research. The linear model despite its problems in practice, fits well with existing structures an dprovides a logical and simple approach to extension. Roling argues that few people can envisage an alternative but further understanding of the dimensions that underlie extension models can help to introduce two new and different models. Five dimensions of extension models are explained and used as a comparative framework for the three models.

Roling, N. (1988) Extension Science. Information systems in agricultural development. Wye studies in agricultural and rural development. Cambridge, UK: Cambridge University Press.

Scott-Goldman, J. (2001) Literacy Programmes and Sustainable Livelihoods. London, UK: DFID.

Shankland, A. (2000) Analysing Policy for Sustainable Livelihoods. IDS Research Report 49. September 2000. Brighton,UK: IDS.

Siochrú, S. (2001) From Knowledge Management to Knowledge Empowerment. Paper produced as part of the IFAD/ENRAP Project (Electronic Networking for Rural Asia Pacific Project) January 2001. Nexus.

This report examines the applicability of the principles of knowledge management in the context of IFAD's development activities. It is premised on the idea that the relationship between a development organisation and its ultimate clients, disempowered and poor communities, is, of necessity, very different to the relationship between a corporation and its customers. The objectives of the two processes are different, as are the intermediary actors between the core organisation and the final customers. Knowledge management techniques such as those espoused by the World Bank are certainly relevant in the IFAD development context. However, while their relevance is greatest at the institutional level it tapers quickly as one enters the world of IFAD Projects, and at the level of the target communities, it requires modification to the point of obliteration as a coherent guiding set of techniques. It is argued that the philosophy and techniques of empowerment, and the use of knowledge to empower, should be the guiding principle in supporting the development of poor communities. This report is primarily concerned with the Project level, interactions between Projects and their target communities, and the use of knowledge by poor communities themselves.

Skuse, A. (2000) Information Communication Technologies, Poverty and Empowerment. London, UK: DFID.

Increasingly, questions concerning who will benefit and who will be left out of the ICT revolution are coming to the fore in policy debates. Equally, concerns over areas of the developing world being left out of globalisation or being slow to develop ICT infrastructure centre on the potential negative impacts upon economies, economic decision making and the networking, advocacy and empowerment potential that ICTs can bring to civil society groups. This paper provides a very general review of the opportunities and constraints associated with trends in globalisation and information and communication technologies. In particular it looks at information rights, empowerment and the economic barriers to access to ICTs that create an 'information excluded' underclass.

Starkey, P. (1997) Networking for development. London, UK: IFRTD.

Sutton, R. (1999) The policy process: An overview. ODI Working Paper 118. London, UK: ODI.

TDG (2000) Rural Access to Information and Communication Technologies: The Challenge for Africa. Final Report prepared by TeleCommons Development Group for the African Connection Secretariat, with support from the Information for Development Program (InfoDEV). Washington, USA: IBRD/World Bank.

Despite high demand for ICT services in Africa, and a growing telecommunications market, rural access to basic services remains a major concern. DFID UK, and the World Bank Information for Development Program (infoDEV) commissioned this critical analysis of recently available research and data on rural access to ICTs to generate concrete recommendations for action. These recommendations are designed to be presented to the 'soon to be created' African Connection Secretariat, a regional, African-led and managed initiative to harmonise improvements in infrastructure and management of telecommunications and information technology across countries

TechKnowLogica (1999) International Journal of Technologies for the Advancement of Knowledge and Learning Volume 1. Introductory Issue 1, September/October 1999.

Thomson, AM. (2000) Sustainable Livelihoods Approaches at Policy Level. Paper prepared for FAO e-conference and Forum on Operationalising Participatory Ways of Applying a Sustainable Livelihoods Approach. March 2000. Rome, Italy: FAO.
An SL-friendly policy process would, as discussed in this paper, allow for much greater participation in the process of setting priorities and formulating overall policy structure. However the nature of this participation and its relevance to the policy process is likely to vary according to the policy area concerned. In some cases, particularly for macro policies, the concerns of the poor have to be reconciled with the need for an economically sustainable macro-environment, and the demands of lending agencies. In other cases, countries may have signed up to international conventions that, in theory at any rate, define some of the aspects of policy choice.

UN (2000) Report of the High-level Panel on Information and Communication Technology, 17-20 April, 2000, United Nations. New York, USA: UN.

UNDP (2001) Human Development Report 2001. Making Technologies Work for Human Development. Washington, D.C, USA: UNDP.
In the Human Development Report 2001, UNDP charts the shift from the industrial age to the network age. Some of the defining characteristics of the network age is the current emphasis on scientific research and innovation, including rapid expansion of the possibilities of the internet; the changing nature of production towards more investment in research & development and e-business; a growing diaspora demanding accessible information and communication technologies; and a shift towards advocacy based on the globalisation of civil society concerns.This resource can be found at: http://hdr.undp.org/en/reports/global/hdr2001/. Last accessed 4/8/2009

UNESCO (1999) World communication and information report 1999-2000. Paris, France: UNESCO.

Warren, P. (2001) Survey at-a-distance on Assessment of Stakeholder Participation in FAO Field Programme. Final report prepared for the FAO, November 2000. Rome, Italy: FAO.
The preparation of this report was one of the activities of the Task Group on Analysis and Evaluation of FAO's Informal Working Group on Participatory Approaches and Methods to Support Sustainable Livelihoods and Food Security. It is based upon an email survey carried out in August-October 2000, with the aim of eliciting the views (and experience) of selected FAO regional and field staff on monitoring and evaluation of stakeholder participation in FAOs field programmes.

World Bank (1999) Knowledge for Development. World Development Report 1998-99. Oxford, UK: Oxford University Press.
The report on Knowledge for Development highlights the role of international development institutions as intermediaries in the transfer of knowledge, and the need to manage knowledge as a global public good. The authors observe that revolutions in communication have often been at the centre of societal changes. In most developing countries, however, the use of new information and communication technologies is still limited. There are several reasons for this, such as low income, inadequate human capital, and weak competitive and regulatory environments. Sociocultural differences also play a part, since all people tend to adopt new technology mainly when they trust it.

As a result, it is important that new technology is introduced through local and familiar channels. Community street theaters might be one way of doing this. Another reason why poor farmers may be slow to adopt new technologies, is risk-aversion. Farmers in risky environments tend to choose a safer though less profitable portfolio of assets. This must be taken into consideration when attempting to introduce new technologyThis resource can be found at: http://www.worldbank.org/wdr/wdr98/index.htm. Last accessed 4/8/2009

Zjip, W. (1994) Improving the Transfer and Use of Agricultural Information: A Guide to Information Technology. World Bank Discussion Paper 247. Washington, D.C, USA: The World Bank.

Zijp gives a few examples of the role information technology (IT) can play in rural development. While they are not intended to suggest that IT is a panacea for solving development problems, they demonstrate some of the ways IT can be used to benefit rural communities. The objective of this paper is to enhance awareness and understanding among Bank staff, borrower staff and consultants of the immediate and future contributions IT can make to agricultural extension. The paper aims to provide practical and easily accessible information about IT applications to task managers dealing with rural development. It is therefore neither a philosophical study on information in society, nor an essay on details of the technologies themselves. Based on informal reviews of Bank staff needs, this paper is presented in two parts.