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Livelihoods Approaches to Information and Communication in Support of Rural Poverty Elimination and Food Security

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Document Summaries

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DFID

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Short summaries of the documents marked * are provided in Appendix 1

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Appendix 1: Document Summaries

Ballantyne, P., Labelle, R. and Rudgard, S. (2000) Information and Knowledge Management: Challenges for Capacity Builders

Information and communication technologies for many people represent 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, unlike other commodities, information multiplies when it is shared.

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. Effective partnerships will also be those that give priority to local capacities and, where external technologies are necessary, reduce the 'costs' through the use of open standards that do not require constant upgrading and license fees. Capacity builders must also recognise their end goal is to exit the partnership arrangement with a strategy in place for the other partners to continue to enjoy the benefits of the intervention. If long-term capacity building is required, then a process of reviews should be used to monitor the effectiveness of the partnership.

Some key questions are also raised to help promote and monitor capacity building activities including:

- Whose capacities are being built? Decision-makers; champions; information custodians and producers; ultimate beneficiaries.
- What capacities are being built? Awareness and empowerment; skills; resources.
- How are capacities being built? Partnership; collaboration; appropriate methods.

The paper also concludes that complementarity flows from attitudes, cultures and the extent that people and organisations are willing to cooperate. Cooperation and partnership do not always flow of their own accord. Funding agencies need to be creative and use incentives where appropriate to foster partnerships which may involve building their own capacity and addressing specific issues and problems.

Berdegú, J. and Escobar, G. (2001) Agricultural Knowledge and Information Systems and Poverty Reduction

This discussion paper builds on the AKIS concept originally coined by Roling and developed by the FAO and the World Bank over the past decade. 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 flows 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. An appreciation of the multidimensional aspects of poverty is required in order to understand the potential impact of both direct and indirect effects of agricultural innovation on poverty.

Berdegú and Escobar argue that poor farmers can be largely alienated from the direct effects of agricultural technological innovation. In many cases this is 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 prices, agricultural employment, 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.

Key findings of the paper include:

- Poverty is multi-dimensional and is a highly heterogeneous phenomenon. Failure to recognise this fact has led to a succession of fads of simplistic ‘one size fits all’ approaches. It is time we learn to deal with diversity by means of customised approaches.
- Agricultural innovation is a socially constructed process. Innovation is the result of the interaction of a multitude of agents and stakeholders. If agricultural research and extension are important to agricultural innovation, so are markets, systems of government, social norms and a host of factors that create the incentives for a farmer to decide to change the way in which he or she works, and that reward or frustrate his or her decisions.
- When the goal is poverty reduction, agricultural innovation policies and programmes cannot start from agricultural research and extension towards poverty. This can only lead to standardised ‘one size fits all’ solutions. The starting point has to be the analysis of the different types of poverty (rural and urban), their determinants, the contexts in which they occur, and the livelihood strategies that the poor implement to respond to their condition. From there we can move back to determine possible strategies for agricultural innovation, and only then can we look at the potential role of agricultural research and extension within each strategy.
- The development of small scale family farms offers the greatest potential for poverty reduction through agricultural innovation in developing countries.
- Agricultural innovation policies aimed at very poor households in unfavourable environments can only lead to sustainable progress in poverty reduction if they are part of broad-based efforts that recognise the diversified livelihoods strategies of those households.

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

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; outlines on-the-ground initiatives and government policies to address them; and reflects on what is working best and what is failing – and why. The paper then makes 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. An extensive list of sources for further information is also provided.

A number of criteria are presented as key determining factors in whether or not people have ‘real access’ to technology, i.e. access beyond just physical access and makes it possible for people to use technology effectively to improve their lives.

- Physical access: Is technology available and physically accessible?
- Appropriate technology: What is the appropriate technology according to local conditions, and how do people need and want to put technology to use?
- Affordability: Is technology access affordable for people to use?
- Capacity: Do people understand how to use technology and its potential uses?
- Relevant Content: Is there locally relevant content, especially in terms of language?
- Socio-cultural factors: Are people limited in their use of technology based on gender, race or other socio-cultural factors?
- Trust: Do people have confidence in and understand the implications of the technology they use, for instance in terms of privacy, security or cybercrime?
- Legal and regulatory framework: How do laws and regulations affect technology use and what changes are needed to create an environment that fosters its use?
- Local economic environment: Is there a local economy that can and will sustain technology use?
- Macro-economic environment: Is national economic policy conducive to widespread technology use – for example, in terms of transparency, deregulation, investment and labour issues?
- Political will: Is there political will in government to do what is needed to enable the integration of technology throughout society?

The importance of policy is argued and stressed. National governments can play a fundamental role in creating an environment that will foster technology use, a skilled workforce and encourage national and international investment in ICT infrastructure development. Government action is also important in spreading the benefits of technology throughout society: governments have the power and mandate to balance the needs of their citizens for long-term economic growth and social prosperity. However policy directions must be directed to the local context. The local context – in terms of local needs, skills and political issues – has a significant impact on whether generally accepted policy reforms are actually adopted and put into practice. Effective policies and processes must be grounded in real life experience, in local circumstances, based on real user needs, and address the multiple issues of real access to ICTs.

A key conclusion is that there is a disconnect between on-the-ground efforts and policy-making processes. Both ground level initiatives and policy reform are necessary, and information flow between them will make both approaches more effective. It is argued that at the macro level the digital divide reflects failure at three levels: a failure of development initiatives; a failure of market forces; and a failure of government. All three failures need to be turned around if the divide is to be bridged. The report calls for a holistic approach which aims for real access to technology.

Carney, D., Drinkwater, M., Rusinow, T., Neeffes, K., Wanmali, S. and Singh, N. (1999) Livelihoods Approaches Compared: A brief comparison of the livelihoods approaches of the UK Department for International Development, CARE, Oxfam and the United Nations Development Programme

This review covers the approaches of DFID, Oxfam, CARE and UNDP. Representatives of these four development agencies bring together the fundamental principles behind the livelihoods approaches adopted by their different organisations. Concise comparisons are drawn and conclusions made about whether the differences between them matter. Variations in emphasis and interpretation of the sustainable livelihoods 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.

DFID stresses that there are many ways of applying livelihoods approaches (there is not one single approach) but that there are six underlying principles to all these approaches. Through use of the framework and a variety of tools, SL analysis asks a broad range of questions about poverty and its causes. It is not bounded by sectors or existing notions of what is important. The analysis is initially broad and relatively shallow, covering most or all aspects of the SL framework and employing various perspectives. As the main dimensions of livelihoods are uncovered, and the meaning and causes of poverty become better understood, the analysis becomes iteratively narrower and deeper. Participation is critical throughout, although external experts do also have a role to play.

Oxfam uses the SL approach in planning and assessment (of projects and wider programmes) and incorporates it as part of its overall strategic aim. UNDP perceives the main benefit of the livelihoods approach to be that it approaches poverty reduction in a sustainable manner. In particular, it attempts to bridge the gap between macro policies and micro realities (and vice versa). Neither poverty reduction programmes nor participatory development initiatives have been able to do this. The SL approach has the additional advantage of integrating environmental, social and economic issues into a holistic framework for analysis and programming. This results in sustainability being kept to the fore and being viewed simultaneously through environmental and socio-economic lenses.

The study concludes that in the short-term and at a conceptual level commonality certainly exceeds variation.

- All agencies adopt an asset-based approach. Differences in the number of assets considered by particular agencies are not likely to be important. Some agencies stress capabilities as well as assets and activities, others less so. However, this seems to be more a case of simplifying vocabulary than of abandoning the core ideas that lie behind the notion of capabilities;

- There is a somewhat different understanding of sustainability between the agencies. CARE, in particular, stresses household livelihood security. If this difference is carried through into practice, it could be significant (for example, the relative emphasis placed on the environment would differ). However, gaining an understanding of sustainability and incorporating its different elements into action programmes is perhaps one of the more challenging aspects of SL approaches;
- All agencies stress a need to understand and facilitate effective micro-macro links, and have quite strong opinions as to the extent to which they are doing this themselves and the extent to which other agencies are doing it. A good deal of the difference probably comes down to the different mandates and scale of operation of the agencies covered in this review. UNDP, and to a lesser extent DFID, tend to have higher level entry points than the NGOs. Yet both NGOs see a need to work more on macro issues in the modern development context. There is clear scope for complementary activity here with different agencies building on their existing strengths;
- Different agencies place a different level of stress on empowerment. Again, this may well be to do with comparative advantage issues, rather than an actual difference in opinion as to what is important;
- UNDP is the only organisation that explicitly stresses technology in its framework. It is not yet clear whether this has a specific impact on development activity. DFID certainly supports many technology programmes, despite the fact that it chooses not to single out technology.

Improved awareness of differences in approach can help these differences to be accommodated and future directions identified. It shows that a basis exists for inter-agency discussion and learning, and the promotion of in-country partnerships on livelihoods initiatives.

Coldevin, G. (2000) Participatory Communication and Adult Learning for Rural Development

This 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 FAO's Communication for Development Group is to enable farmers to access relevant information and knowledge according to their needs. The group's mandate includes both normative work: 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.

Priorities include:

- Identifying communication needs in support of agricultural and rural development;

- Effectively using communication methodologies and technologies with rural people;
- Developing appropriate communication policies, strategies, media approaches and messages;
- Developing and implementing communication training to build national capacity.

Radio has been a particular focus over the years as a mass media tool that can provide information to adult rural populations, many of whom are illiterate (44% in Africa (Population Reference Bureau, 1999)). General programming was criticised for attempting to reach everyone, with the result that it reaches no one, and there is now a clearer focus on defining and addressing target audiences. The FAO international workshop on rural radio in 1996 confirmed the continuing role of radio: radio remains the most popular, accessible, and cost-effective means of communication for rural people. Radio can overcome the barriers of distance, illiteracy and language better than any other medium. More recently the integration of radio and the Internet is being considered and a pilot project in Mali to connect rural radio stations to the Internet is being discussed.

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

This study, produced by the Rockefeller Foundation, presents a thorough review of over 50 case studies to examine the evaluation of processes of communication and social change. They highlight that while many development organisations are now aware of the role of communication in social change, there is little documentation of concrete experiences. The concept of participatory communication is still not widely employed. In addition, there are certain cultural and academic barriers in this field between donors, planners, governments and communities. The study argues that it is vital to work towards including communication analysis as an integral part of every development project. It further observes that, ironically, the evaluation processes of communication projects are often less participatory and people-centred than the projects themselves. This is seen to be due mainly to the lack of new participatory approaches to evaluation appropriate for the new technologies. One of the next challenges will therefore be to build up an adequate understanding of participatory evaluation processes.

FAO (1999a) The Strategic Framework for FAO: 2000–2015

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 Organization in relation to current and projected demographic and economic trends.

The document is divided into three sections. Section 1 'Overall strategic framework' details the risks and opportunities presented, reiterates the Organization's purpose, goals, mission and vision.

Section 2 'Corporate Strategies' outlines strategies to address members' needs (under the categories below) and strategies to address cross-organisational issues:

- Contributing to the eradication of food insecurity and rural poverty;
- Promoting, developing and reinforcing policy and regulatory frameworks for food, agriculture, fisheries and forestry;
- Creating sustainable increases in the supply and availability of food and other products from the crop, livestock, fisheries and forestry sectors;
- Supporting the conservation, improvement and sustainable use of natural resources for food and agriculture;
- Improving decision-making through the provision of information and assessments, and fostering of knowledge management for food and agriculture.

Section 3 'Implementation Programme' outlines the planning framework, methodology and new programme model, criteria for priority setting, major comparative advantages and implementation schedule.

FAO (2000e) Report of the First Consultation on Agricultural Information Management (COAIM)

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.

Proceedings of the consultation, including plenary discussions, workshop results and recommendations are summarised in this report. Plenary discussions focused on three main topics: a) improving access to agricultural information; b) strengthening information and knowledge management

capacities through international cooperation; and c) standards and guidelines for agricultural information management. Three parallel workshops were held on: a) AGRIS/CARIS; b) the role of ICTs in Rural Development and Food Security; and c) Impact Assessment for Information System Development.

FAO/CTA (2001) International Workshop Report on Farm Radio Broadcasting

This report of the Workshop on Farm Radio Broadcasting which 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 have the potential to further enhance its impact on agricultural and rural development. The linking of rural 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 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; and 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.

The report also provides summaries of the specific approaches to rural radio and activities of the workshop sponsors – Ford Foundation (West Africa), CTA, UNESCO, IDRC (Acacia Initiative) and IFAD.

The key outcomes of the workshop include:

- Networks linking African rural radio broadcasters with American farm radio broadcasters through the Internet;
- Strategies to strengthen the support of rural radio in the areas of food security and early warning systems;
- Approaches to improve access to meteorological and market information;
- Strategies to link WAICENT with rural and farm radio broadcasters;
- Action plan for North-South and South-South collaboration;
- Identification of country projects with the potential for obtaining outside funding.

FAO/PAIA (2001) A Spatial Information Management and Dissemination Strategy, 'GEO-Network'

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 Spatial Information Management PAIA in April 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 other UN partners in the longer term.

A common set of problems have been identified across the wide variety of users, such as:

- Varying ability to access data and information
- Access to singular or specific data sources
- Little data integration across programmes
- Scattered data management
- Unfamiliarity with the technology supporting the data access or use

The Geo-Network is therefore intended to provide comprehensive access to FAO's spatial information and related databases, including a number of key thematic databases (e.g. forest cover, crop zones (GIEWS), livestock distribution, nutrition profiles), regional and national datasets (Nile Basin, Africover etc.) and socio-economic data (poverty mapping, nutrition profiles). Key partners within FAO, such as FIVIMS, SDR and WAICENT, have been identified as the most relevant groups to develop the Geo-Network both internally and externally through the UN system-wide review. Partnerships will help to provide a wider platform of support for a broadly based mechanism, led by the spatial PAIA, which promotes spatial data and information networking concepts and implementation. External partners, such as ESRI and UNEP, will be involved in the development and implementation. A number of other external organisations such as UNESCO, ICSU (International Council for Science), ISO (International Standards Organisation) and other public and private organisations will be involved. The users in developing countries also need to be consulted and testing of the system should include the different conditions and applications.

This report shows that despite the potential links between ICTs and poverty reduction, direct access by the poor to ICTs is extremely limited. Citizens of poor countries have significantly less access than those living in rich countries, while poorer people within countries are even further excluded. Furthermore, women have even less access to ICTs. The lesson to learn however is that ICTs are not a luxury good that will remain out of the reach of most of the population, rather ICTs have important potential links to poverty reduction.

One chapter focuses on a narrow range of ICTs – primarily the telephone and the Internet, secondarily radio and postal services, with particular attention to strategies to overcome barriers to access, and impact monitoring and evaluation. Finally priority areas for use of ICTs in pro-poor government services are identified.

FAO/WAICENT/SDR (2000a) FarmNet – Farmer Information Network for Agricultural and Rural Development

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's experience with FarmNets began in the early 1990s where farmer electronic information networks were established in Mexico and Chile. Subsequent evaluations indicate that the impact of Farmnets has been highly significant. Essential information on inputs, prices, markets, weather and credit are exchanged through the electronic network (via the Internet) to farmer organisations, cooperatives and local government. The projects also provide training on how to analyse, retrieve and disseminate information of local relevance, using ICTs. This has enabled local farmers to plan and market their produce much more successfully.

FAO/WAICENT/SDR (2000b) VERCON – Virtual Extension, Research and Communication Network

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) Agricultural Knowledge and Information Systems for Rural Development: Strategic Vision and Guiding Principles

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 aim 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. In order to achieve this transformation of AKIS/RDs into being more poverty alleviating and empowerment orientated, a strategic emphasis has been made on:

- making the whole AKIS/RD financially, socially and technically more sustainable;
- improving the relevance as well as the effectiveness of the process of knowledge and technology generation, sharing and uptake;
- making AKIS/RD more demand driven through empowerment of farmers, particularly those who are marginalised and disadvantaged, so that they might participate more meaningfully in AKIS decisions and priority setting, in order that AKIS/RD programmes would be more responsive to their needs;
- increasing the interface between and integration among the various education, research, extension and farming activities;
- building accountability to assure that each stakeholder assumes his/her respective responsibilities, that performance failures are identified and that appropriate responses are made.

A comprehensive set of guiding principles for programme design are also included, such as a focus on economic efficiency, the use of pluralistic and participatory approaches, and the promotion of results-oriented monitoring and evaluation of all programmes.

Farrington, J., Carney, D., Ashley, C. and Turton, C. (1999) Sustainable Livelihoods in Practice: Early Applications of SL Concepts

This paper outlines a new approach to poverty alleviation – sustainable livelihoods – setting out its basic concepts and drawing lessons from early experience. Policy conclusions outlined in the paper are as follows:

Early experience in implementing a sustainable livelihoods approach suggests that it:

- Helps bring together different perspectives on poverty and integrate the contributions to eliminating that poverty that different skills and sectors can make, for instance in designing projects and programmes, sector analysis and monitoring;
- Makes explicit the choices and possible tradeoffs in planning and executing different development activities;
- Helps to identify the underlying constraints to improved livelihoods and means of overcoming these;
- Helps to link improved micro-level understanding of poverty into policy and institutional change processes.

Practical difficulties remain in:

- Understanding how conflict over access to resources impinges on livelihood choices, and what can be done to address this;
- Developing cost effective modes of livelihood analysis that ensures that the needs of the poorest are prioritised;
- Identifying appropriate in-country partners, and developing collaborative approaches to understanding the complexity of poverty, and integrating that understanding into a common livelihoods frame;
- Understanding how, in practice, to handle tradeoffs, for instance between local pressures (e.g. for increased short-term income or better infrastructure) and wider concerns about resource sustainability and national-level policy considerations.

Farrington, J., Chapman, R. and Slaymaker, T. (2001) Sustainable Livelihoods Approaches in Practice: Potentials and Constraints

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

- First to provide an overview of this experience in the project and programme context;
- Second to explore the interface between SL and other approaches to development, specifically rights-based approaches;
- Third to examine how SL approaches might complement the macro-level emphasis on policy and fiscal reform at sectoral (and wider) levels, which have been termed the ‘new architecture’ of aid.

The emphasis throughout is on identifying what preconditions have to be in place for SL approaches to succeed, and on drawing out general lessons and constraints. The review is hampered to some extent by the low level of detail available in some of the reports reviewed: as many observers have

suggested, the value of a SL approach lies to a large extent in the inclusive and non-threatening process towards the design of poverty-focused interventions that it encourages, in addition to whatever improved outcomes it achieves, for example better project design. However, the material reviewed often has scant detail on the process and where there is some detail, it follows different patterns in different reports, and so is not easily comparable. As noted by Krantz (2001), in some donor interpretations of SL (including those of DFID), it can be:

- A set of principles
- An analytical framework (suggesting how we can best understand poor people’s options and constraints)
- A developmental objective (i.e. to enhance the overall level and sustainability of livelihoods)

In this review, SL approach takes the developmental objective as given, and embraces both the principles and the framework. At several points, discussion focuses specifically on one or other of the three above characteristics rather than on the approach in general, and the relevant characteristic is specified at the time. SL approaches are considered in relation to five broad areas:

- The design of development projects
- The design and management of development programmes
- Monitoring and evaluation of projects
- Links with rights-based approaches to development
- Links with the ‘new architecture of aid’

Fraser, C. and Villet, J. (1994) Communication – a key to development

This paper promotes the concept of communication as the key to development. The authors note that participation is becoming the central issue of our time and argue that communication is central to effective participation. Furthermore development programmes can only realise their full potential if knowledge and technology are shared effectively, and if populations are motivated and committed to achieve success. It is recognised that unless people themselves are the driving force of their own development, no amount of investment or provision of technology and inputs will bring about any lasting improvements in their living standards. Communication enables beneficiaries to become the principal actors in development programmes, it empowers people at all levels to recognise important issues, find common grounds for action, and participate in the implementation of their decisions.

Increasingly the use of communication no longer depends so much on the availability of technology, but rather on the will and decisions of policy-makers to exploit its potential. The potential of development communication lies in two main areas:

- Communication approaches allow better planning and programme formulation through consultation to take into account the needs, attitudes and existing knowledge of stakeholder groups. They also improve coordination, teamwork and wider institutional support in development programme management and facilitate people’s participation and community mobilisation.

- Communication media and techniques can be powerful tools to advise people about new ideas and methods, to encourage adoption of those ideas and methods, and to improve training overall.

The paper makes recommendations as to how to make communication part of a national development policy. It also focuses in particular on communication for better agricultural knowledge and information systems. A better agricultural knowledge and information system should correctly identify, sort and match the needs and existing technical know-how of three main groups: farmers, extensionists and agricultural researchers. The basic aim of the system would be to bring the three groups into an equal partnership to communicate and to share knowledge. It recommends the innovative combination of communication skills, materials and methodologies in a 'demand-driven' mechanism, whereby farmers have enough status to demand and receive the best quality agricultural research and extension services they require. The emphasis is as much on promoting dialogue among farmers, to help them identify and articulate their needs, as on teaching agricultural techniques. In most cases this would require the reorientation and training of extension staff to provide them with adequate interpersonal communication skills and materials. In rural areas, the challenge is to increase the quantity and accessibility of information, to ensure its exchange in appropriate ways, and to elicit more information from rural people themselves in order to guide development planning.

Girard, B. (2001) The Challenges of ICTs and Rural Radio

This paper was presented at the First International Workshop on Farm Radio Broadcasting, 19–22 February 2001, FAO, Rome. It discusses 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.

The paper identifies three ways in which radio and Internet have been recently combined for development and democracy.

- National, regional and global networks of independent broadcasters have been established;
- Individual stations have used the Internet to find useful information for their communities, and then interpreted that information for the community, establishing themselves as gateways to the Internet;
- Stations have used the Internet to facilitate communication with emigrants, enabling communities and cultures to continue to flourish, despite the new configurations and locations imposed on them by globalisation.

The paper concludes that technology is neither an unavoidable barrier nor a panacea. Communication technologies and practices are changing. The rural radio/Internet combination presents an opportunity to mix the best of the two media and Next-generation Rural Radio can be a powerful tool,

combining research and reflection to harness knowledge for development.

Goldman, I. (2000) Micro to Macro: Policies and Institutions for Empowering the Rural Poor

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, and interviews and workshops at district level, the province and the centre. Sectoral issues were looked at aggregated to cover the 5 asset areas, and cross-cutting institutional issues were considered at four levels:

- The level of the community or village (micro);
- The level of local support services not located in the village, usually district (lower meso level);
- An intermediate supervisory level, often a region or province (upper meso);
- A central decision-making level, either national or, in a federal system such as South Africa, at provincial level (macro).

The paper looks at micro-macro issues using questions related to the role of each level and the relationship between levels:

Micro level

- Are rural people active and involved in managing their own development?
- Is there a dispersed and active network of local service providers?

Meso level

- Are district (lower meso) services effective, coordinated and responsive?
- Is the region/province (upper meso)-level supportive and supervising the districts?

Macro level

- Is the centre (province or nation) providing strategic direction, redistribution and oversight?

Examples of innovative programmes that are likely to make significant differences to sustainable livelihoods are cited. Programmes must build on existing institutions. In designing programmes/projects the requirement for effective systems for programme management should be used to build the capacity of existing institutions, not bypassing them by creating project-specific requirements which increase the administrative overload on government systems.

The SL Approach can help to identify the support required to assist the poor, notably through recognition of the importance of micro-meso-macro level linkages. At macro level, holistic national strategies are required on issues such as poverty, rural development, and local economic development. The SLA can provide a useful framework for these, so that they are based on a real understanding of micro-level realities, and

disaggregated to suggest specific, often sectoral, actions. There are examples of where this has happened without the SLA, e.g. Botswana, or using the SLA as in the Free State, SA. Such a holistic approach provides a useful overview and suggests specific sectoral entry points. These entry points may be at meso level on specific services which serve the poor, or broader macro-meso processes, such as decentralisation.

Gomez, R., Hunt, P. and Lamoureux, E. (1999) Telecentre Evaluation and Research: A global perspective

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 potential exists 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.

It concludes with a research agenda for telecentres which identifies research areas requiring concerted effort in future:

- the demand by people for telecentre services
- community involvement, participation and use
- gender and cultural issues
- training needs and materials
- marketing and operation
- policy, trade and regulatory issues
- technological choices and developments
- sustainability
- the social impact of telecentres, including identification of the conditions 'under which ICT contributes to equality or inequality'
- the role of ICTs in the development process itself

Furthermore the context for research on the social impact of information and communication technology is extremely important:

- future research should pursue empirical studies of existing technologies in real settings, as distinct from speculative or purely theoretical exercises;
- care should be taken to include representative organisations/ settings, not just cutting-edge or high-tech ones;
- studies of unintended consequences of IT, such as failures and discontinuance, are important for what they tell us about these technologies and about the process of change more generally. Researchers should be interested in the full range of impacts – intended and unintended;

- projects aimed at developing prototypes should routinely include a performance assessment of evaluation, and the latter should be conducted at arm's length from the former;
- contextual variables should be studied rigorously;
- we should reconceptualise what we are doing as social and economic studies of computing and communication technologies rather than technology impact studies, and try to avoid technological determinism.

Grace, J., Kenny, C. and Qiang, C. (2001) Information and Communication Technologies and Broad-based Development: A Partial Review of the Evidence

Information and Communication Technologies 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.

The paper examines the ways in which ICTs aid the development process. While it is clear that knowledge and ideas play essential roles in advancing economic and social welfare, it is important to recognise that the causal relationship is complex, and ICTs are certainly no panacea. The enthusiasm with which the development community has rushed into ICT-related programmes often seems to overshadow the question of precisely how ICTs contribute to national development. Exclusive emphasis on ICT projects, at the expense of careful analysis and consideration of the broader economic, social and political elements that interact to improve the lives of individuals, is likely to result in unanticipated failures and wasted resources. Unfortunately, technological change moves so quickly that it often surpasses substantive analysis, leading to an over-reliance on anecdotal evidence as justification for ICT projects. This in turn can lead to poorly designed programmes and haphazard implementation schemes that do not account for local conditions, resulting in projects which fail to meet their objectives or may even harm the welfare of supposed beneficiaries. Furthermore, as noted by Heeks (1999) investments in ICTs inevitably result in opportunity costs as they divert investment from other developmental needs and priorities.

Nevertheless, the revolution in ICTs has profound implications for economic and social development. The key issue for both governments and donors is to ensure that ICT access reaches even the most marginalised groups, while at the same time ensuring that ICT projects meet the needs and demands of the target population. This paper addresses this issue in detail in two sections – the first section discusses the role of ICTs in economic growth and development and the second section looks at the possible equity impact of ICTs within countries.

Because the majority of the poor live in rural areas, it pays special attention to the potential impact of ICTs on farm and rural non-farm income generation. It also discusses the 'digital divide' within countries – the disparity in access between rich and poor, men and women, urban and rural populations. The third section looks at the use of ICTs in improving social services, governance and empowerment of the poor. In turn, the general effects on service provision and governance and the particular potential impact on education, health and the environment are discussed. This section then turns to risks presented by ICT use in governance and service initiatives. The final major section of the paper briefly reviews methods to maximise the provision and impact of ICTs in developing countries. It discusses the determinants of ICT provision, methods to maximise community access, policy and legal reforms to increase the potential for ICTs to support income generation and rules for the better use of ICTs in government.

Gurstein, M. (2000) Rural Development and Food Security: A 'Community Informatics' Based Conceptual Framework

This paper was commissioned as a background paper for the COAIM expert workshop on the role of information and communication technologies in rural development and food security. It is concerned with how the opportunities associated with ICTs might be realised 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?

It is argued that a general model and a model of access specific to ICT's for Rural Development would include:

- support for a multiplicity of usage roles involving creation and dissemination, as well as retrieval of existing information;
- address the full range of possible users and the diversity of their life situations;
- recognise the interplay of social and technical dimensions in the development of infrastructure;
- encompass both conventional and new media;
- highlight 'access gaps', areas of social need likely to be left out by market forces acting alone;
- help identify what services should be considered essential.

This model is important because it will define the broader context within which ICT's for Rural Development can be framed and the limitations within each of these elements presents the constraints on making ICT's useful for Rural Development, both at the more general level and also specifically within each community or regional context.

The paper goes on to consider the potential of ICTs in this regard, including dissemination of rural development information, online service delivery, e-commerce, capacity building, and community organising. It concludes with a discussion of issues surrounding deployment of integrated service delivery systems using telecentres. The following components of a successful model are proposed:

- a community-based technical capacity to receive services and information;
- a social/organisational capacity to receive and redistribute services and information;
- a social and organisational capacity to utilise and implement the services and information in an organisational capacity;
- a technical capacity to receive Regional Development services and information;
- a technical capacity to mount and deliver this information;
- a human capacity to mobilise resources;
- an overall Rural Development programme development and management capability;
- a means to ensure evaluation and feedback.

Heeks, R. (1998) Information Age Reform of the Public Sector: The Potential and Problems of IT for India

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 management 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 recommended approach is the 'integrate' approach which builds on an understanding of the importance of information and the need for technology to play a supporting rather than leading role. Four simple steps are identified:

- Acceptance by the key stakeholders of the need for reform;
- Identification and communication of an agenda for reform;
- Identification of the new and/or re-engineered information systems requirements of this reform agenda;
- Identification of the role, if any, that information technology has to play in meeting these requirements.

These approaches are discussed in relation to reforms of the public sector in India and build on a wider discussion of India in the information age. Information Technology was promoted very strongly in the mid 1980s by the government in India and firmly set the stage for taking Information Technology seriously in government reform. However, the emphasis on Information Technology in relation to the need for reform should not ignore the role of information systems which tend to be overlooked. The paper provides two useful definitions. Information Technology can be defined as computing and telecommunications technologies that provide automatic means of handling information. Information Systems can be defined as systems of human and technical components that accept, store, process, output and transmit information. They may be used on any combination of human endeavours, paper based methods and Information Technology. Thus, information systems are much more than just Information Technology because they involve people and their actions.

Heeks, R. (1999) Information and Communication Technologies, Poverty and Development

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 achieving 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. Finally the following development priorities for Information, ICTs and Poverty are identified:

- The poor need knowledge to access, assess and apply existing information and need resources for action more than they need access to new information;
- The poor need access to new locally-contextualised information more than access to existing information from an alien context. The information needs of the poor will be met more by informal, 'organic' information systems than formal, ICT-based information systems;
- The poor need ICTs more to give them 'voice' than to give them 'hands', 'brains' or 'ears';
- The poor need intelligent intermediaries to use ICTs;
- The poor need 'community intermediaries' to use ICTs;
- The poor will only reap the fullest benefits of ICTs when they own and control both the technology and its related know-how.

Heeks, R. and Baark, E. (1998) Evaluation of Donor-funded Information Technology Transfer Projects in China: A Lifecycle Approach

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. 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. The paper analyses each of the projects and the nature of the technologies involved, with attention to the choice of technology and issues of installation, assimilation and use, adaptation, diffusion and innovation, and sustainability.

Hilliard, R.L. (2001) Farm and Rural Radio: Some Beginnings and Models

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 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.

Hussein, K. (2000) Farmers' Organisations and Agricultural Technology: Institutions that give farmers a voice

This paper was drafted for the 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.

The key practical policy lessons from the study include:

- While agricultural research is not usually a priority for farmers' organisations, these organisations are often effective in providing their members with better access to research, extension, inputs and marketing;
- Strengthening the technical, economic and management capacities of farmers' organisations is essential for them to be able to establish linkages with research and extension;
- Helping public research and extension services understand and take on board producer requests requires training in participatory methods, existence of fora for sharing lessons on successful partnerships, field experience of working with farmers' organisations and new professional incentives that make researchers and extension workers keen to make their work relevant to producer needs;
- The different actors often do not have the capacities required to successfully work in partnership. Hence capacity building work for farmers' organisations, public extension and research organisations, and the private sector is necessary to increase their use of participatory methodologies, increase technical skills and the ability to negotiate and make proposals, and increase social science skills.

This research was based on the premise that it is useful to compare diverse case studies of farmers' organisations in order to identify factors that contribute to an increased downward accountability of service providers in specific contexts.

The comparison of case studies across contexts and countries contributes to the unpacking of the policy, institutions and processes elements of the sustainable livelihoods approach, providing some answers to the question of why farmers' organisations are successful in achieving downward accountability in certain settings and not in others. The study assessed the role of the political context, history, legislative and economic reform in the process – elements not explicit in the sustainable livelihoods framework, but of key importance in shaping livelihood outcomes.

Kenny, C., Nava-Sabater, J. and Qiang, C.Z. (2000) ICTs and Poverty

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 post. 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.

The examples provided suggest that the role of ICTs in poverty reduction is through their 'catalytic and leveraging' effect on earnings opportunities, educational services and welfare provision. However because information exchange is central to almost all aspects of the economy, the impact of improved information exchange capacity will depend critically on how the rest of the economy functions. This necessitates an holistic approach to evaluating the impact of ICT development. For example, the impact of improved ICT access on farm earnings through increased knowledge of market prices will be muted if there are no roads to carry crops to markets, or no markets because of an unreformed agricultural sector. This lesson should be of particular concern to policymakers in the government services sector, as increased ICT use in government can only be effective as part of a larger reform effort.

There are ways to rapidly increase access through aggregating the poor's demand for services. There are also methods to intermediate access to the Internet using more widely available ICTs such as radio. Section 3 discusses demand and supply constraints which act as barriers to ICT access. Section 4 addresses methods for increased access, including sector reform, pro-poor regulatory policies and universal access funds. Section 4 also discuss methods to maximise the poverty-reduction impact of (government) investment in ICTs.

McConnell, S., Richardson, D., Doehler, M. and Wong, W. (2001) Telecentres around the World: Issues to be considered and lessons learned

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. Future challenges to telecentres are, amongst others:

- the need to build the independence of the community
- introducing new technology (including telephone) to rural areas
- overcoming illiteracy
- providing adequate information about telecentres – e.g. through the Internet, workshops, school programmes, free information to authorities and storytelling
- the need for local content and local training needs
- developing appropriate pricing levels
- addressing the lack of training and resources

Michiels, S.I. and Van Crowder, L. (2001) Discovering the 'Magic Box': Local Appropriation of Information and Communication Technologies (ICTs)

This paper was compiled as a desk study on the appropriation of new ICTs by local communities and groups in developing countries.

The objectives of the paper are:

- To provide information in support of the area of research and discourse on ICT appropriation, namely that of 'local appropriation';
- To draw attention to the need for a greater focus on grassroots, community-driven projects and initiatives involving ICTs;
- To highlight the pressing need for monitoring, evaluation and participatory impact assessments of ongoing ICT projects and initiatives, especially with regards to their effect on the economic and social livelihoods of communities;
- To present a selection of 'good practice' cases with the aim of promoting sustainable community development through local appropriation and application of ICTs;
- To draw on a review of the cases in order to identify some guiding principles for promoting socially and culturally appropriate community-based ICT initiatives.

The main findings of the study are:

- There are a limited number of cases of community-driven ICT initiatives or projects;
- There is scarce visibility and coverage of grassroots/community-driven ICT initiatives;

- Most of the documentation available on community ICT projects and initiatives is relatively new because the projects themselves are new. Few if any evaluations have been undertaken so far;
- Participatory needs assessments are rarely performed prior to ICT applications, for example in the installation or formation of telecentres. The emphasis is more often on providing access than on innovative ways of applying ICTs to the specific information needs of communities and local groups;
- The priorities of many ICT projects tend to be influenced more by the interests of external organisations rather than community-based organisations;
- The thematic sectors applied in the ICT projects often reflect an economic, market-related focus;
- Target groups/beneficiaries are hard to identify;
- There is a lack of local participation in the creation of content and selection of ICT tools;
- There is a profusion of information centres where computers, or other ICTs, are available but where a lack of awareness, ICT skills and literacy hinder the process of local appropriation.

The report offers some guiding principles for the formulation of socially and culturally appropriate community-based ICT projects.

Mundy, P. and Sultan, J. (2001) Information Revolutions: How information and communication management is changing the lives of rural people

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. (2000) Information and Communication Technologies for Rural Development and Food Security: Lessons from Field Experiences in Developing Countries

This paper was commissioned as a background paper for the COAIM expert workshop on the role of information and communication technologies 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 discusses the use of ICTs for improving linkages with reference to VERCON and FARMNets. 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 cooperation 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.

Nelson, J. and Farrington, J. (1994) Information Exchange Networking for Agricultural Development: A Review of Concepts and Practices

Nelson and 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 and 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.

O'Farrell, C., Norrish, P. and Scott, A. (1999) Information and Communication Technologies for Sustainable Livelihoods

This paper was presented as a contribution to discussions at the COAIM expert workshop on the role of information and communication technologies 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 it covers 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. The following policy conclusions and recommendations are made:

- Examples of good practice approaches to ICT projects are beginning to come thorough though failure is still being downplayed and accurate costings are rarely available. More rigorous monitoring and evaluation of projects is required. However, organisations need support in doing this;
- There should be a shift from technology driven projects to consider the wider systemic economic, social and communication needs of communities;
- Greater understanding of existing information systems – how information is gathered, stored, shared, concretised and evaluated amongst rural stakeholders – will aid the appropriate application of ICTs;
- Accommodating all sectors of society (particularly rural communities, women and the disabled) in the transition from traditional through to new learning societies is an urgent issue for policy-makers;
- Strategies should be developed for ICTs that specifically target women and young girls;
- Private sector ICT providers should be encouraged to provide services to rural areas;
- Donors should work in the short term to service the ICT needs of those unable to pay or operating outside monetary economies.

Pasteur, K. (2001a) Tools for Sustainable Livelihoods: Livelihoods Monitoring and Evaluation

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. Three key features of the Sustainable Livelihoods approach help to provide further insight, and improve on the focus, priorities and methods of conventional styles of M&E:

- Its broad focus highlights not just project impacts, but wider livelihoods goals;
- The livelihoods principles form the basis for innovative methodologies;
- The livelihoods framework helps with the design of better oriented and more relevant indicators.

Hence, livelihoods M&E outputs will differ from those of conventional M&E in a number of ways. They provide a broader, more dynamic view of project impacts throughout the project lifetime, rather than a one-off, ex-post assessment. They try to link the context with the outcomes and impacts – helping to explain why and how. Instead of policing, Livelihoods M&E builds a culture of learning and reflecting, and aims to provide relevant information for planning and policy-making.

How does livelihoods M&E fit in the project cycle? Livelihoods M&E can take place at the project, the programme and the country strategy level. The basic principles of this process hold also for programme and strategy planning, i.e. that monitoring should be seen as an iterative, learning process, with constant

feedback loops correcting implementation and operation, as well as lessons feeding back to the design stage of new projects or programmes under identification. Information and lessons generated at both the monitoring, and the evaluation stages should be made available to the range of stakeholders involved in the project through appropriate events (e.g. workshops) or media (e.g. posters, video). Sharing of lessons can also take place between sectors, programmes and even countries. However Livelihoods M&E is not intended as something that only feeds into the project cycle. Its goals should stretch beyond the project time frame, aiming to build capacity for continuous learning and the creating of relevant information for policy and planning decision. It should also stretch beyond project boundaries, and seek to understand the wider livelihoods context and trends.

Some of these problems can be at least partially overcome. Participatory methods are not always more costly than conventional methods, particularly if conventional methods involve international consultants with high fees, or purchase of technical equipment, e.g. for remote sensing. The costs of staff, training and other resources required to set up an M&E unit may be significant, but such a unit can be based within an existing structure, or its development can be gradual over time.

Furthermore, the value of establishing a sustainable, learning-process oriented and people-centred M&E system is, of course, considerable. Benefits include, amongst others:

- Costs saved in halting or redesigning activities that are having unforeseen negative effects;
- Benefits of a clearer understanding of the project goals and impacts including how they relate to Sustainable Livelihoods;
- Rewards from having more motivated project staff and beneficiaries who are not afraid to acknowledge difficulties and learn from experience.

The implications of these new goals and perspectives for implementation are only now beginning to be explored and tested in the field. As more experiences of Livelihoods M&E are documented and shared further insights and practical lessons can be added.

Pauli, G. (1999) Towards a Technology Strategy for Sustainable Livelihoods

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 grassroots 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). To do this, the document:

- looks at what is meant by a systems approach to TSSL;
- describes a three tier framework (national, meso and local levels) in which the TSSL takes place and outlines recommended action at each of these levels;
- outlines action which can be taken to improve linkages between the stakeholders who will be involved in the TSSL and discusses methods of ensuring community participation in technology development; discusses action that can be

- taken to ensure community participation in the TSSL;
- highlights the importance of technology for organisational systems (i.e. marketing and distribution);
- proposes practical action and entry points for the development of a technology strategy for SL.

Throughout the document the discussion is illustrated by a series of concrete case studies from Asia-Pacific, Africa and Latin America. It argues that the objective of a technology strategy for sustainable livelihoods must be the development and adoption of technologies which:

- improve the productivity of a communities assets;
- enhance capabilities and provide for new livelihood opportunities for the poor;
- are sustainable in an environmental and socioeconomic sense i.e. technology that promotes equality in society;
- empower communities especially vulnerable groups within this sector;
- link communities in similar circumstances and relevant stakeholders through appropriate networks.

Effective community participation in the technology development strategy will ensure that outside technology and know-how does not dominate in the development process. Traditionally an outside team of researchers would be brought in to survey the community and the information from this would be used to develop technologies for the community. In this scenario the community members act as informants and the outsider researchers as analysts. This traditional 'extractive' process needs to be changed into a more participatory process. To ensure this, a transition is needed whereby the outsider/analysts become facilitators in the development process while the community members become the researchers/analysts. Areas of intervention for the TSSL should be based on the underlying principles of the SL concept:

- Participatory – assessment to determine local assets, entitlements, adaptive strategies and local technologies and recommend appropriate technological developments designed to improve and contribute to SL. Promote networking and sharing of information, knowledge and lessons learned/best practice among stakeholder groups. This will also empower previously marginalised groups to better articulate their developmental needs and demands at meso and macro levels;
- Focus on strengths – the strategy should build on existing technologies and identify how modern technologies can strengthen traditional technologies and vice versa, and the optimum combination of each;
- Equity – assessment of the impact on vulnerable and marginalised groups. Often the easiest entry point is through elite groups in a community but this is likely to result in technologies subsequently being appropriated by the elite and should be avoided;
- Flexibility – technologies should be tailored to the specific socioeconomic and agro-ecological environment faced by each community, new technologies are likely to have a profound effect which goes beyond the immediate and verifiable impact of generating new wealth;
- Macro-micro linkages – an efficient networking capacity should be developed to enhance the interaction between stakeholders in the TSSL. The introduction of ICTs is an important part of this process;

- Stability – during the participatory assessment stage of the SL process shocks and stresses likely to be faced by the community must be identified and technologies adapted to cope with them;
- Monitoring and evaluation – a technology strategy is a constantly evolving process and should be modified as lessons are learned and new technologies/approaches are developed and discovered.

Richardson, D. (1997) The Internet and Rural and Agricultural Development: An Integrated Approach

This paper was prepared for the FAO in 1997 following a fact-finding mission in March and July 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 organisations can help ensure that rural communities and agricultural organisations 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. It concludes with a call for action and better ways for donor agencies to work together and share lessons learned in this rapidly moving area of international development.

Strategy recommendations include:

- promote policy and regional coordination of Internet strategies for rural and agricultural development;
- establish rural Internet pilot projects;
- promote FAO's communication for development approach;
- support efforts to liberalise telecommunication policies in developing countries;
- support local Internet entrepreneurs and other service providers in developing countries;
- assist stakeholders in advocating for Internet service provision, and telecommunication infrastructure and policy improvements;
- orient existing FAO and related Internet information services to users in developing countries;
- support rural and agricultural education sector Internet capability;
- provide Internet awareness building and demonstration;
- support rural and remote infrastructure development;
- support creative Internet applications and information services for rural and agricultural development.

The paper calls for immediate action to support Internet activities in developing countries. The contemporary world is characterised by elite information 'haves' and many information 'have-nots'. The new technologies available, provide an opportunity to change this and to support sustainable development in rural and agricultural communities. Adopting a proactive strategy and acting to bring the Internet to rural and agricultural communities in developing countries will help enable rural people to face the unprecedented challenges brought on by the changing global economy, dynamic political contexts, environmental degradation and demographic pressures. To deal with these challenges and make appropriate decisions, people at all levels of society, and especially the food insecure and the organisations that serve and represent them, must be able to access critical information and communicate. Improved communication and information access are directly related to social and economic development. Participatory development is fully dependent upon communication and information sharing processes. Richardson notes that the FAO has an historic opportunity to ensure that rural and agricultural communities link electronic 'village trails' to the 'information super-highway'.

The paper explores the benefits of rural Internet access, improved horizontal communication, elements for sustainability and success, and presents a vision of an integrated approach to facilitating Internet services. It reviews experience in this field to date and identifies common elements among successful rural and agricultural Internet communication and information systems.

Richardson, D. (1999) The Virtual Research and Extension Communication Network (VERCON): An Interactive Learning and Communication Network for Research and Extension Personnel

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 an extension and research communication network 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 VERCON 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.

The paper specifically addresses the following:

- Collaborative electronic media learning tools relevant to complex agricultural systems;
- Collaborative information and communication networks in agriculture today;

- Multi-stakeholder approach to designing information and communication networks and learning tools;
- Learning strategies and media applications that could be incorporated in the VERCON;
- The benefit that farmers will gain from the enhanced tools and the means that would enable them to become co-owners and active partners in the process of creating and managing a VERCON;
- Integration of VERCON within the organisational and policy framework of a Ministry of Agriculture's current agricultural knowledge and information system;
- The potential for linkage activities with various bodies of a national Ministry of Agriculture.

A key conclusion is that although anyone can create and manage a suite of electronic tools that might be used by agricultural stakeholders, only stakeholders themselves can create and manage a suite of tools that will be used to enhance agricultural sustainability and food security. Stakeholder ownership and management of a VERCON is a key outcome that requires careful planning and partnership development.

Richardson, D. (2001) The Practical Reality of Knowledge Management Within Development Initiatives

Richardson argues that knowledge management is a very personal activity that, if practiced widely, can improve organisation'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 organisation. 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 organisation enables individuals to link their personal knowledge management systems with organisational knowledge management systems.

Knowledge management tools only work when individuals see direct benefits in linking their personal knowledge management systems with organisational knowledge management systems. If development workers believe that the chores of contributing to an organisational knowledge management programme benefit only their bosses, and not themselves or the communities with which they work, they may decide the best way to take advantage of the value of their individual knowledge is to use it for personal or local advantage. This results in serious knowledge deficits for the wider organisation. [Introduction taken from paper]

Richardson, D. and Paisley, L. (eds.) (1998) The first mile of connectivity: Advancing telecommunications for rural development through a participatory communication approach

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). Richardson describes a growing international convergence between public and private sector interests that could be harnessed to provide a 'win-win' situation for all involved.

In recognising the enormous challenges of developing rural telecommunications initiatives that can meet these goals, a number of lessons from international experience are highlighted which include:

- Start working with community organisation leaders who instantly see the benefits of rural telecommunication services. Work with organisational leaders who are predisposed to collaborative, open and participatory communication approaches to community development. Do not expend too much time and energy attempting to convince organisational leaders who are predisposed to 'turf wars' and 'empire-building' and who demonstrate little regard for public participation processes. Their participation will follow, in due time, as rural telecommunication services gain popularity.

- Provide many opportunities for women and young people to actively participate and volunteer their time and energy for practical and identifiable tasks that support rural telecommunication systems. Recognise and reward their efforts at every opportunity, and provide mechanisms to ensure that they can participate in key management or advisory roles.
- Continuously remind all involved that, at its core, a rural telecommunications service has the dual goals of sustaining itself through revenue generation and supporting rural development.
- Recognise that telecommunication policies seldom contain the elements that actively and effectively enable the creative conditions, ownership models, interconnection agreements, and pricing arrangements that foster rural telecommunication services. Stakeholder engagement is one strategy to help change that if stakeholders can assume policy advocacy roles.

Rivera, W. (2001) Agricultural and Rural Extension: Options for Reform

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 government and the need for new institutional frameworks, owing to the failure of many existing extension systems. The paper also reviews FAOs role in providing 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 of agricultural extension that has taken place in countries such as 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 government extension services. The FAO has historically been a leading proponent of developing new and alternative extension methodologies in response to the recognition of diverse needs throughout its global programmes. The FAO programmes support extension activities at a number of 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, Farmer Field Schools, Distance Education, the National agricultural Extension Systems Reform Initiative, 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 threat, reflected most explicitly in the Farmer Field Schools 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 methodology and not an institutional arrangement affecting government structure.

The diversity of extension approaches could also be reflected in the approach taken to institutional reform. The institutional structure of agricultural extension systems in many countries involves a wide range of actors from government, to NGO, to private sector, including partnerships and consultants that blur the boundaries between them. For this reason the FAO engages the full range of institutional actors in developing countries and often adopts a policy of 'institutional pluralism', especially regarding the delivery of services. This enables increased flexibility in the delivery of services from a wide range of organisations including cooperatives, consultancy firms and non-profit NGOs. The AKIS/RD helps to identify the institutional relationships that are central to extension reform. However, Rivera questions whether participation and pluralism amongst extension providers can genuinely create new partnerships that are themselves pluralistic? There are a number of further issues that need to be considered for the extension reform agenda, such as the partnerships that may form between farmers and the private sector; the development of improved cost-recovery systems; decentralisation by government to allow decision-making at the lowest levels; subsidiarity of operational responsibility; and diversification of the non-farm economy.

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

This paper provides a critical assessment of the prevailing extension model known as the linear model and is based on technology transfer from agricultural research to farmers 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, and provides 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.

Comparative model (1) Advisory Work:

Advisory work focuses not only on raising productivity but on improving the farm business as an enterprise. This holistic model has many of the characteristics of the Sustainable

Livelihoods approach and it assumes an active problem solving farmer who seeks advice from outside sources when a problem cannot be solved locally, and other sources are available and appear useful:

- Dimension 1. The nature of innovation: Innovation in this model is driven by the entrepreneurship of the farm manager, with innovations ranging from technical change to finding new markets. Innovation can take place at the strategic, management or operational level.
- Dimension 2. The assumed nature of learning about innovation by farmers: Farmer learning by adoption of introduced technologies is but one of the many aspects of entrepreneurial learning. Farmers learning is more about improving the farmer's problem solving ability, such as through problem/opportunity definition, diagnosis, identifying options, adopting and implementing solutions and evaluating results.
- Dimension 3. The assumed nature of extension: Extension is advisory work and responds directly to farmer's needs. The extension adviser is an expert who has a wide repertoire of knowledge on which he can draw depending upon the farmer's need. Specialists will also be required to support extension workers who will not be able to answer all the farmer's needs. Databases of information and networks of relevant specialists could also provide a useful supporting infrastructure to the advisory work of extension.
- Dimension 4: Institutional framework: The AKIS in the advisory model is totally different from the linear model. The farmer needs access to a cadre of highly specialised and mobile advisors who are backstopped by various experts, on-line computer services, written information sources etc. These advisors are part of the network of specialised services which the farmer uses such as bookkeeping, banking, input supply, genetic material supply, insurance etc.
- Dimension 5: Conducive policy framework: The conducive policy framework for the advisory model focuses on stimulating business and market development subsidises a network of highly specialised services and information sources, making available market and other information.

Comparative model (2) Facilitation:

The facilitation model has emerged especially in situations where farmers need to apply general principles to their own conditions, where few external inputs are available or desirable, and where the farmer must be the expert instead of the extension worker. This approach appears to be of particular relevance to poor farmers who are often excluded from existing extension services and for the pursuit of low external input agriculture development. The focus on sustainability is exemplified by the IPM programmes in Indonesia and elsewhere. The focus on sustainability and a holistic approach to farm management and exploiting diversity make the model comparable to the Sustainable Livelihoods approach in many ways:

- Dimension 1. The nature of innovation: Innovation in the facilitation model is basically the improvement of the management of the farm as an agro-ecosystem, by applying ecological principles, using natural processes to their best effect, exploiting diversity and anticipating events based on informed observation.

- Dimension 2. The assumed nature of learning about innovation by farmers: Farmer learning consists of discovery learning, group discussion and builds up a reliance on own observation, knowledge and ability to make good decisions.
- Dimension 3. The assumed nature of extension: The focus of facilitation is to help people learn to become experts on their own farms. Facilitation of learning is promoted for example by the Farmer Field Schools for the IPM Indonesia Programme following the failure of the linear approach and Training and Visit type of extension.
- Dimension 4: Institutional framework: The AKIS required for facilitation is a network of facilitators who are able to visit learner groups regularly. Networks of trained farmers are also essential to exchange experience and stimulate each other to continue to learn. Farmers must be able to meet regularly and exchange information.
- Dimension 5: Conducive policy framework: Funding for farmer horizontal networking, removal of subsidies on inputs and appropriate accounting of environmental costs.

The range of models represents the different goals such as productivity, business success and sustainability. Models serve different purposes and are not inherently good or bad. The linear system is entrenched and fits with bureaucratic structures. The diversity of the role of extension and the call for a more holistic and livelihoods focus suggests that alternative extension models should be considered to support the diversity of needs.

Shankland, A. (2000) Analysing Policy for Sustainable Livelihoods

The sustainable livelihoods framework has now been widely adopted, tested and adapted. There is an emerging consensus among users that, while it provides a valuable way of structuring micro-level studies of livelihoods, it gives little practical guidance on how to link the findings of such studies with macro-level issues and in particular, with policy analysis. As a result, there remains a wide gap between bottom-up livelihoods analysis and top-down policy analysis, with the findings of the former generally being seen as too context-specific to guide policy-making, and the findings of the latter generally being seen as too highly aggregated to reflect the complexity of livelihoods. This report argues that it is possible to use the SL approach as a starting-point for bridging this gap, but that doing so requires three elements which have so far been lacking: a model of the interactions between policy and livelihoods, which is consistent with the SL framework; a clearer understanding of the role of social and political capital within the framework; and an approach to policy analysis, structured to ensure that it can both draw on and feed into SL analysis. In presenting and discussing an outline of each of these three elements, the report draws on the academic social capital and policy process literature, as well as on lessons from recent experience of using the framework in applied research.

However, theoretical discussion is kept to a minimum, since the principal intention is to provide a practical guide to identifying entry points for policy-focused interventions to promote sustainable livelihoods. Detailed guidance for application of the concepts discussed in the report is presented in the Annex, structured around a checklist of key questions

and illustrated with case material from studies carried out by the IDS Sustainable Livelihoods Programme in Ethiopia and Mali.

The discussion of interactions between policy and livelihoods, and people and policy identifies a number of key issues for SL-focused policy analysis. These issues can in turn be used to generate a checklist of questions around which such processes of analysis can be structured. This checklist is presented below, illustrating a proposed five-stage process designed to move iteratively between policy and people, combining macro-level analysis of policy with insights from micro-level SL analysis.

A checklist for analysing policy for sustainable livelihoods:

Part 1: Livelihood priorities:

1. Who and where are the poor?
2. What are their livelihood priorities?
3. What policy sectors are relevant to these priorities?

Part 2: The policy context:

1. What is policy in those sectors?
2. Who makes policy in those sectors?
3. What is the macro policy context?

Part 3: Policy measures:

1. What measures have been put in place to implement each policy?
2. What are the characteristics of these policy measures?
3. Through what institutions and organisations are these measures channelled?

Part 4: Policy in the local context:

1. In what shape do these institutions and organisations exist locally?
2. What other institutions and organisations affect local responses to policy?
3. What other local institutions and organisations might policy affect?

Part 5: People and policy:

1. What resources can poor people draw on to influence policy?
2. What opportunities exist for poor people to influence policy directly?
3. What opportunities exist for poor people to influence policy indirectly?

Siochrú, S. (2001) From Knowledge Management to Knowledge for Empowerment

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.

The report proposes a strategy for capacity building of poor communities to use knowledge to achieve their goals. The central focus of all knowledge interactions between Projects and communities should be on empowering communities. IFAD Project knowledge interactions with communities should therefore have three general aims:

- To support Project processes, such as identification of target groups, planning, monitoring and evaluation. IFAD already vigorously pursues the introduction of participatory approaches, an essential precondition and aspect of empowerment, and this should be continued. Additional elements might include greatly expanded transparency and information provision to communities and their organisations, including pro-active measures and facilities for community consultation of all relevant material and for engaging in Project-community dialogue.
- To support implementation of Project actions. This includes technical and other information provided directly by the Project to supplement and reinforce development actions taken. However, more empowering are measures that allow communities and people to learn together and from each other, such as agricultural fairs, farmer study tours, community run newsletters and bulletins, and community media, such as radio, video or traditional media, where the communities have some levels of direct participation.
- To build knowledge utilisation capacities. Poor communities' capacity to use knowledge should be enhanced, not just to support IFAD actions, but to enhance other (non-funded) aspects of community livelihoods, and social and cultural organisation; and especially to help them and their organisations to tackle the structural factors that underpin their oppression, through social organisation and partnership building, solidarity networks and ultimately social movements. IFAD already engages in literacy and leadership programmes, and in social mobilisation actions. However, the potential of effective knowledge use, and of the use of media, is not exploited nearly as much as it might be and IFAD Projects should place a higher emphasis on this.

TeleCommons Development Group (2000a) Rural Access to Information and Communication Technologies: The Challenge for Africa

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 (ACS) – a regional, African-led and managed initiative, to harmonise improvements in infrastructure and management of telecommunications and information technology across countries.

Suggestions for core principles to guide the work of the ACS include recognition and promotion of:

- the need for open and progressive government agendas to facilitate rural telecom access;
- the need for liberalised and regulated telecommunications environments as a prerequisite for improving rural ICT access across the continent and catalysing profitable rural telecom services;
- the important role the Secretariat can play in meeting decision-makers' needs for ICT sensitisation and education;
- ensuring that rural ICT access programmes are built on demand-driven and appropriate technologies;
- utilising the strengths of both new and traditional media to enable the greatest dissemination and sharing of information, and involving traditional media in ICT advocacy;
- enabling environments for creative, multi-stakeholder partnerships focused on rural ICT access solutions;
- full and active participation of women and youth in rural ICT initiatives;
- capacity-building for the operators and users of rural ICTs;
- encouraging the sharing of knowledge related to rural ICT successes and failures.

Recommendations for immediate action include the identification and promotion of rural market opportunities. Secondary steps include: development of a dynamic rural ICT toolkit to provide recommended basic standards and steps for rural ICT project initiatives; establishment of a rural ICT fund; and convening of a conference to present the outputs of ICT demand studies. Ongoing steps include: options for sensitisation and education on ICT infrastructure and policies for rural connectivity; maintaining and updating the Rural Access Inventory; encourage African telecom sector reform; encourage stronger ICT evaluation and dissemination techniques and practices; and integrate micro-credit programmes with rural telecom operators.

The following research is recommended:

- tactics to overcome policy and regulatory obstacles to rural ICT investments;
- case study examples of nations which undertook the construction of cross-boundary telecom networks;
- to identify successful technologies in rural Africa;
- to assess market demand for rural ICTs;
- focus on tactics to attract new rural telecom service entrants;
- focus on the impacts of ICTs on rural African society and culture;
- to identify effective approaches to ICT awareness building at the local level;
- focus on determining what forms of multi-sector partnership are working for rural ICT initiatives;
- to identify the role of micro-credit in creating locally owned and operated rural ICT business;

- focus on gender and universal access, and on youth and rural ICT initiatives;
- focus on improving the role of women and youth in rural ICT initiatives;
- focus on how evaluations of rural ICT initiatives can meaningfully assess and monitor gender-related issues.

TeleCommons Development Group (2000b) Internet Use and Diagnostic Study – East Africa

Use of the Internet to support innovation in agricultural extension has been a recurring topic in the European Donors' Neuchâtel 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 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).

The IT diagnostic study forms part of the Linked Local Learning (LLL) process which emerged as a response to helping farmers, NGOs, government ministries, departments and donors deal with the massive changes being imposed on the district and village levels of their society through policies of decentralisation. LLL's aim is to assist changing roles and responsibilities of different actors involved in natural resource management, and to continue to develop the capacities of farmers. This enhanced capacity sets the stage for building effective demand by farmers on government research and extension services. It also sets the stage for handing over responsibility to local actors for every stage of the project cycle, from design through to evaluation. The difference that LLL offers to traditional approaches to direct communication linkages with farmers is that LLL intends to work with existing, community-based organisations. Implicit in the objective of strengthening the linkages among the different levels of actors involved in the LLL approach is the concept of enhanced communication processes. International Support Group of the Netherlands, on behalf of CTA commissioned TDG to examine the potential which exists for integrating ICTs into existing communication systems in the three LLL pilot countries.

The telecommunication environments in all three countries were found to be optimal for the kind of work proposed and envisioned in the report. Internet service providers and telecommunications operators, both mobile and fixed line, are very quickly placing rural communities and areas in contact with one another that did not have such connectivity before. The recommended overall approach emphasises coordinating a country-specific communication planning workshop to sensitise the LLL stakeholders on the importance of utilising the many different forms of communication media available to them and ensure they understand the concepts behind the LLL-IT network. It is also important for them not to champion the use of these technologies to share information and

knowledge among one another in a manner that has until now been impossible, but to integrate these electronic media with the more established non-electronic media currently being used throughout the region. Establishing an effective LLL-IT Network on any scale requires more than just providing stakeholders with a fax machine, a telephone or an email account. It requires commitment and a sense of ownership on the part of the stakeholders to ensure that the overall system that they are involved with is relevant, meets their needs and encourages not only information acquisition but also information input from the users.

Thomson, A.M. (2000) Sustainable Livelihoods Approaches at Policy Level

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.

Three types of policy are described: macro policies; public provision of services; and infrastructure and institutional reforms. These are intended to be taken as illustrative, rather than exclusive. For macro policies it is unlikely that either communities or CSOs can, or arguably should, be involved directly in decision-making, but access to this process should be ensured for lobbying purposes. Monitoring impact on livelihoods, particularly by national bodies and through CSOs, is also an important element, to ensure that policy analysts and decision-makers consider the interests of the poor.

The paper notes that an SL approach to poverty reduction can change our perspective at the policy level in a number of different ways:

1. At a very fundamental level, an SL analysis may improve analysts' understanding of how existing policy, and the resulting institutions and structures, affect the livelihood possibilities of the poor. In particular, analysis of experience at the micro-level may help identify important micro-macro linkages.
2. SL analysis can provide a common framework and language for analysts and policy-makers from different sectors. In some ways, it could be argued that the development of SL analysis is analogous to Sen's development of the entitlement approach in food security. When Sen's work was first published some analysts argued that it contained nothing new and that good analysts took all the important elements of his theory into account anyway. However, the presentation of these in a generally recognised analytical framework broadened out discussion and analysis on the issue in an extremely productive manner.
3. Similarly the adoption of SL terminology may improve communications and broaden out the agenda for poverty reduction.

4. The more an SL approach underlies the collection of data on poverty, both case study data and survey data, the better the quality of information flowing up to the policy-makers. The better policy-makers' understanding of the diversity and complexity of livelihood opportunities facing the poor, the more likely it is that policy choices will improve.
5. If the implications of the SL approach are carried to their logical outcome, then the focus should be not just on policy analysis and policy choice, but on the policy process. Governments have to commit themselves to opening up the policy process at all levels to participation by all stakeholders, and in particular, community-based organisations and representative national NGOs. There are a variety of ways in which participation could be introduced. Policy and plans can be built from the grassroots up, in some areas policy-making can be decentralised, and civil society organisations can be represented on executive and advisory bodies.
6. Policy implementation should also be opened up to participation by stakeholders. For example, when establishing a Medium term expenditure framework to public finance management, participation can be built in at the level of setting targets and monitoring performance.
7. Civil society organisations should also be encouraged and assisted to develop appropriate capacity and skills to undertake effective lobbying to force relevant issues onto the policy agenda.

The fundamental question, for both governments and donors, is does an SL approach make it easier or more effective to address the issue of poverty reduction, or does it simply provide a different slant on an intractable problem? And if it does provide a practical approach to improving poverty reduction policy, in which of the areas outlined above will government and/or donors get the greatest return for focusing their efforts? Is the policy process so interlinked with policy content that resources should be spread over both?

At present there is insufficient experience to answer any of these questions. The answers may well be different for different countries. Certain approaches may simply not be feasible in given political contexts. It will also depend on the timeframe being considered. Thomson argues that the best possibility for achieving a sustainable improvement in livelihoods policy is to focus on increasing civil society and stakeholder participation in the policy process. This is, however, a medium to long term strategy. Some would argue that in the short-term, improved understanding of the impact of policy on sustainable livelihoods could give better returns through informing policy-makers.

If the rationale for increased emphasis on stakeholder participation in policy is accepted, this has implications for the focus of external assistance. More effort should be put into improving capacity and access for grassroots and community-based organisations, as well as small-scale unions. Such organisations should be encouraged and assisted to carry out their own analysis of livelihood opportunities and then to use the results as a basis for influencing policy, through representation and lobbying.

Finally, one of the problems noted by Thomson in writing this paper was accessing documentation on recent efforts to

increase participation in the policy process. Missions report on policy papers and policy analysis, but process usually has to wait for a number of years until the publication of studies by academic political scientists. If our understanding is to improve of what works and what does not work in encouraging participation, then more effort has to go into documenting process.

UNDP (2001) Human Development Report 2001: Making Technologies Work for Human Development

In this report UNDP charts the shift from the industrial age to the network age. Some of the defining characteristics of the network age are 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 and 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.

UNDP assert that technology can no longer simply be viewed as a reward of development. Rather, it is now a critical tool for development. They therefore examine countries' technical capacity as a key factor in their development opportunities. In order to map the scale of technological development, they have constructed a new approach using a Technology Achievement Index. The Technology Achievement Index assesses a country's ability to create new technologies; its use of recent innovations; its basic communications infrastructure; and its level of human skills. The index ranks countries into four categories: leaders, potential leaders, dynamic adopters, and marginalised.

Warren, P. (2001) Survey at-a-distance on Assessment of Stakeholder Participation in FAO Field Programme

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 from August to 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 FAO's field programmes.

The email survey aimed to address six open-ended questions:

- Who are the stakeholders involved in different types of FAO assisted field projects with a significant participatory dimension? Which roles are these social and institutional stakeholders playing (expected to play) in these projects?
- What methods are being used to facilitate such participation?
- Which type of costs such participation entails for each stakeholder involved?
- What are the benefits of participation for different types of stakeholders?

- What are the effects (actual and/or expected) of such participation on project (programme) performance?
- What methods are being (could be) used to assess (monitor and/or evaluate) different aspects of the participatory process (i.e. degree and quality of participation; costs and benefits; effects on project/programme implementation and outcomes)?

The main findings of the research suggest that:

- Participatory processes are described by key-informants as the result of a complex interaction among a variety of primary, secondary and tertiary stakeholders. More than 25 different stakeholder types were identified. Primary stakeholders include community and societal actors in projects and programmes. Secondary stakeholders include local governance institutions and 'interface' institutions such as technical services, NGOs, private sector organisations, and (sometimes) the project itself. Tertiary stakeholders include national-level development agencies, national NGOs, policy-makers and international support agencies. The report outlines the roles played by each stakeholder group in the participatory process.
- Relatively consolidated methods for stakeholder participation (e.g. Participatory Rural Appraisal or Farmer Field School packages) are almost always used in combination with common sense means such as consensus-building practice, social communication, and adoption of a participatory style of management. 14 main types of methods/means for stakeholder participation are identified and described. However findings suggest that the overall participatory methodology adopted by the projects surveyed to facilitate stakeholder participation cannot be reduced to the application of a single standardised method or itinerary. Rather a particular site-specific blend of these different means is developed (sometimes in a very creative manner) to fit the particular social and institutional setting, and the political context within which the participatory process takes place.
- Project/programme-borne direct costs are only part of the overall cost of participatory processes. For primary stakeholders especially opportunity costs are of major significance. Intangible costs or losses (of a social and political nature) are also to be considered. A brief description of the identified cost types is presented, the different costs (direct, indirect and intangible) borne by primary, secondary and tertiary stakeholders are then classified.

World Bank (1999) Knowledge for Development: World Development Report 1998/99

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 theatres 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 technology.

Zijp, W. (1994) Improving the Transfer and Use of Agricultural Information: A Guide to Information Technology

In this paper for 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 World Bank staff, borrowers 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 World Bank staff needs, this paper is presented in two parts. The first part of the paper discusses the major issues related to the use of IT in rural development and shows some of the ways IT has been and can be used in developing countries. It seeks to contribute to the understanding of the key factors needed to ensure effective use of IT in a developing country context, as well as the pitfalls to be avoided. It also aims to galvanise interest in concrete actions the Bank can take to realise the potential benefits of IT for rural development. The second part of the paper consists of 10 annexes, each of which focuses on a particular technology that can have immediate importance and value for Bank projects. Each annex is produced as a separate, stand-alone document, providing concrete information on the technology under examination. The aim of the annexes is to provide practitioners and Bank staff with a minimum of practical information which they can incorporate into Bank projects, which enables them to write terms-of-reference for IT related studies, and to make it easy to find further information on the particular technology. [Introduction taken from paper]