Information and Knowledge Service Markets: A Guide

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Definitions

Innovation The first significant commercial use of new ideas, new technologies and new ways of doing things.

Innovation System A network of institutions and organisations which collaborate (within the network) to use new information in new ways to address a common development concern or opportunity.

Information services Offer information in a useful form, for example prices, fact sheets, guides.

Knowledge services Enable people to acquire and utilise knowledge in productive ways.

Knowledge services may operate in direct one-to-one or one-to-many modes but, increasingly, they also put people in touch with networks of other actors.

As agricultural economies grow and diversify people get more and more knowledge through market interactions, with other buyers and sellers, input retailers, market intermediaries and financial services, for example. There is a trend towards 'multi-tasking' by rural service providers who provide technical advice alongside inputs, marketing or business development services.

Knowledge services are not new – in the context of a rural services market, however, knowledge services include 'repackaging' of existing types of service in a way that emphasises these services as conduits for knowledge, even where this may not be the primary role or raison d'être.

Knowledge Market Flows of knowledge within an innovation system in response to economic, social and political drivers.

Information and Knowledge Service Market Financially (and otherwise) sustainable arrangement to enable many-to-many exchanges of information and knowledge for innovation based on public/private market making collaborations, dynamic private sector business and information and communication technology service models.

In its simplest form, an information and knowledge service market is a real or virtual market place inhabited by *providers* (sellers) and *users* (buyers) of information.

Examples are training, consultancy and field schools, as well as specialist information 'helpdesk' services. Community radio or mobile phone companies may offer knowledge services, for example market information.

Knowledge Market Services Improve upon or establish a widely accessible marketplace for knowledge service providers and their clients. These services coordinate, broker, reduce the costs of exchanging information and enable transactions.

Knowledge market services bring the knowledge services market 'together'. They promote competition and choice, and align incentives such that providers of knowledge services respond to market/consumer demand. In the context of poverty alleviation and pro-poor innovation, knowledge market services may also subsidise demand amongst particular groups, enhance skills and promote particular exchanges of knowledge that are otherwise constrained.

Note:
The term *knowledge market services* is a relatively new concept in agricultural development, but has direct and well established precedents in more developed economies (financial brokerage for example). The challenge is how to promote this essential function in a rural development context. The concept should not be equated simply with monetisation or commoditisation of knowledge, but more with ensuring that knowledge flows through the system in response to economic opportunities, whether these are publicly or privately financed, or a combination of the two.

1. Context: RIU innovation systems approach

The Research Into Use (RIU) programme is challenged to up- and out-scale information and knowledge generated and field-validated through previous DFID-funded research programmes. Although local communities took up many of the new technologies, practices, policies and processes and improved their livelihoods, the number of people impacted was relatively low.

RIU is identifying ways to ensure that large numbers of resource-poor communities adopt some of these research products. The existing linear approaches (research-extension-farmer) do not work well because they lack sufficient funding, trained personnel and appropriate messages, for example.

RIU is using an innovations systems approach to achieve wide scale adoption. In this approach the farmer is a central but not sole recipient of new information because strengthening the entire system which provides farmers with goods, services and access to markets is more likely to achieve wide scale adoption than strengthening the farmer alone.

The concept of information markets is key to the innovations systems approach because it emphasises the importance of satisfying the needs of all those who demand (use) and supply information and of the value of information to society.

This 'guide' for the research community and national innovation coalitions (NICs) is a preliminary attempt to explain how 'information and knowledge service markets' can help wide-scale adoption of research products.

2. Why information and knowledge service markets are important in innovation systems

Rural communities need access to new knowledge in order to innovate: to take advantage of opportunities and improve their livelihoods in a rapidly changing world (Box 1).

Box 1. Innovations that improve rural livelihoods

Village internet information kiosks that marry existing information with new technologies.

The innovative use of mobile phone technology to give villagers access to information and services they've never had before.

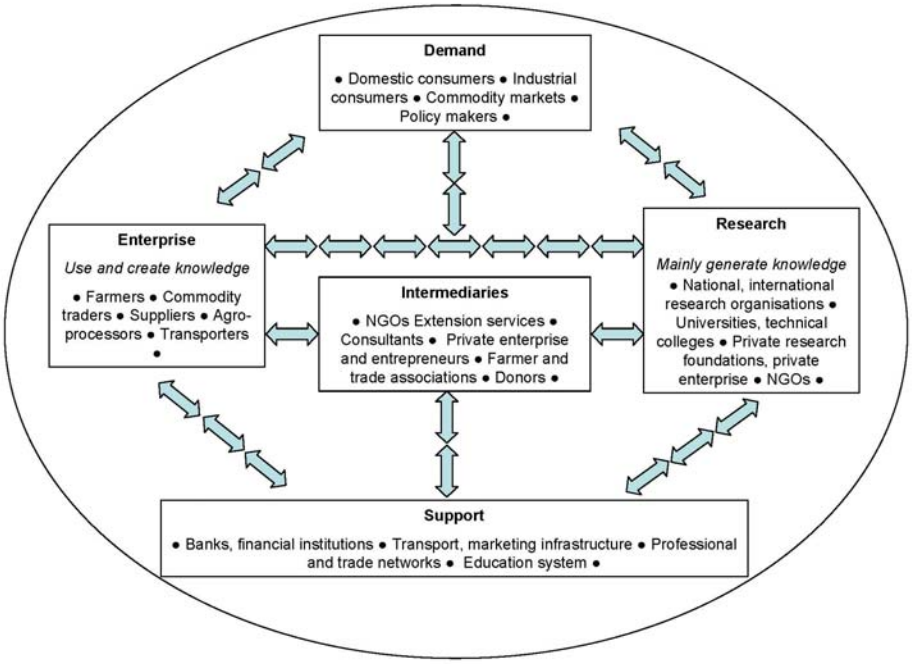
Generating and using new knowledge involves a network of actors, activities and other factors:

- Farmers
- Effective, accountable rural institutions
- High quality inputs, advisory, communications and marketing services
- Sound public sector policies and administration
- High quality research and development to support evidence-based policy and generate a stream of new technologies.

The interactions between this wide range of actors are said to take place in the context of an innovation system. Each part of the innovation system and its knowledge has equal value. Pro-poor innovations may originate in any part of the system. But the 'spark' for such innovations often happens at the interface between the parts through interaction between people with different perspectives or who work in different environments.

In a well functioning innovation system knowledge flows freely (Figure 1).

Figure 1. Knowledge flows freely between the parts of a well-functioning innovation system



The problem in a development context is that the knowledge flows and interactions essential for a well-functioning innovation system very often don't take place, for a variety of reasons.

This is why there is increasing interest in *information and knowledge service markets*. Interventions in this sphere have great potential to bring about improved knowledge flows, make agricultural innovation systems work better, and thus support efforts to tackle poverty.

Many of the current 'markets' are very lean either in terms of a shortage of appropriate information or a lack of motivated buyers. So the challenge RIU faces is how to populate the market place – how to ensure that the sellers provide the information required by the buyers, and how to encourage the buyers to come to the market and try out some of the products on offer.

3. Role of intermediaries in information and knowledge service markets

In a thriving agricultural sector, farmers use a range of services to access knowledge about technologies, markets, policies and livelihood strategies. The services may be provided by local or community organisations, farmer associations, village shopkeepers, private firms or public agencies that supply or provide services for farmers and the media, for example. Information may be communicated face-to-face or through a range of communications media. Farming households learn and expand their horizons by using such services. Indeed, their success and outlook is increasingly defined by the uptake of such services.

In innovation systems such services and their providers are often termed *intermediaries*. They link farmers with other parts of the innovation system and are conduits for flows of knowledge.

But intermediary providers and services themselves need to be kept informed of new developments in technologies, processes and communications.

In low income rural environments, where most poor people live, intermediary services tend to be fragmented, and not in touch with changing needs. There are often problems of sustainability, particularly

where services rely on public finance. Weak effective demand, high costs and limited political 'clout' create a vicious cycle that is hard to break, and acts as a barrier to innovation and economic progress.

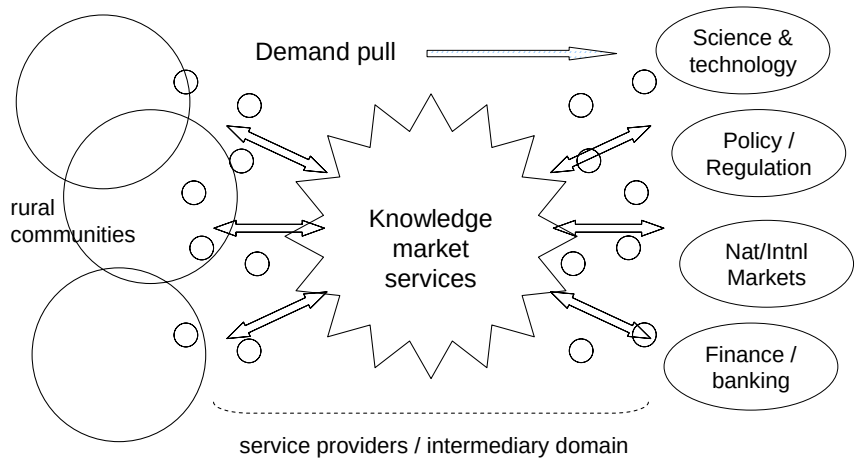
Getting the intermediaries working

But, the performance of intermediaries can be enhanced. This can be done by improving the information environment within which intermediaries operate, to encourage flows of information amongst different service providers and between service providers and their clients.

The aim is to ensure that farmers and other rural actors have much better information about what services are available, on what terms and from whom. And, at the same time, to ensure that providers of services are better informed about the demand for services and about others working in related areas, so they can target resources and efforts, and create productive alliances.

Creating this improved environment requires another, specialised form of service, known as *knowledge market services* (KM services). Figure 2 illustrates how KM services put together and coordinate an information-rich environment for service providers and their clients. This information-rich environment is known as an *information and knowledge services marketplace* (IKSM).

Figure 2. An information and knowledge system market



Linking the information and knowledge services marketplace with research, policy and enterprise

Setting up a 'marketplace' for rural services also creates a very valuable information network for other national and international stakeholders with an interest in the agriculture sector, for example policy makers, development agencies, research and technology services, agribusiness firms and communications companies. Each can use such marketplaces as conduits to the rural sector, or 'channels to market'. These stakeholders are likely to use and support the development of rural service markets because they are a way to be 'in touch' with rural communities and service providers. Through these marketplaces, stakeholders can learn more about changing demand, and can 'plug into' economic activities and investment opportunities. Box 2, based on discussions with the Kasisi Agricultural Training Centre (KATC) in Chongwe District, Zambia, shows how an IKSM might operate.

Box 2. How an information and knowledge services market might work

Kasisi Agricultural Training Centre (KATC) becomes a member of an IKSM initiative in Zambia and, shortly afterwards, receives a request via a text service to bid to provide a series of training courses in organic production and marketing for the Zambia National Association for Peasant & Small Scale Farmers. Courses have to be given at a new training centre in a remote district many miles from Chongwe where KATC has few contacts or experience.

However, using the IKSM service, KATC identifies a local partner who may be able to offer the courses using KATC materials. A deal is struck and the new partnership wins the bid. Over time the partnership is able to further develop its training and advisory services and pilot promising new technologies by pursuing linkages with national and regional research organisations that are also members of the IKSM service. This is an IKSM in operation.

As marketplaces expand:

(i) rural service providers gain better access to sources of knowledge, finance and the political process, and
(ii) national and international stakeholders gain a common knowledge network and opportunities to cooperate.

When services marketplaces begin to operate in this way they become true 'knowledge markets' - knowledge flows around all parts of the innovation system in response to economic, social and political drivers (Box 3).

Box 3. Knowledge market in Sierra Leone - Partnership for Agricultural Innovation and Development (PAID)

PAID is an open membership-based social business network of rural service providers, government agencies, agribusinesses and the Sierra Leone Agricultural Research Institute (SLARI). PAID promotes and pursues opportunities for productive ventures and alliances using knowledge market services. The RIU Sierra Leone country programme is providing the initial support to establish PAID.

Harnessing the power of modern telecommunications technologies

Virtual trading networks and communities to link people together and exchange ideas and services across different areas and sectors would have seemed fanciful even a few years ago. But, advances in mobile and web technologies, the massive demand for communications services, and the financial muscle of emerging ICT giants in Africa and elsewhere, mean that they are now a reality (Box 4). Although the 'digital divide' limits the use of these services in rural areas and by poorer households, the challenge for rural development actors is to be creative in working with ICT companies, and target public investments to overcome these challenges.

Box 4. Information services for the rural poor enabled by new technology

With mobile phone use increasing rapidly in Sub-Saharan Africa, and network coverage of remote areas achievable at low cost, m-banking allows poor people to access vital financial services. Phone handsets are adapted to handle transactions, and people who previously had no access, or very limited access, to banks, are able to receive payments and send money to others' accounts.

More than 600,000 customers have signed up to the M-PESA service since 2007 and over $38 million of transactions have been processed. This innovative project was made possible by a £1 million grant to Vodafone provided by the DFID-funded Financial Deepening Challenge Fund (FDCF), which works with the private sector (including banks and multinational companies) to bring financial products and services to more people in the developing world.

Source: http://www.dfid.gov.uk/news/files/davos-08.asp

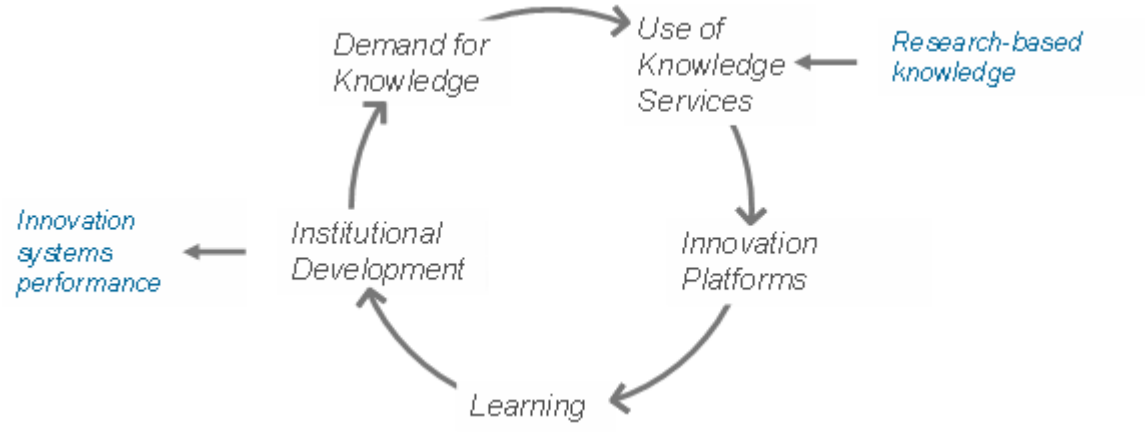
Rwanda has a high population density and low rural teledensity. Officially launched in 2006 after a year-long pilot with 50 micro-entrepreneurs operating Village Phone businesses, Village Phone Rwanda was created as a joint venture between Grameen Foundation and MTN Rwanda. The Village Phone business is called Tel'imbere, loosely translated as "telephone forward" in Kinyarwanda, Rwanda's main language. Currently located in 14 of 30 districts, Grameen Foundation plans to have over 3,000 Village Phone Operators by 2009.

Source:
http://www.grameenfoundation.org/where_we_work/sub_saharan_africa/rwanda/village_phone_rwanda/

How information and knowledge service markets help innovation systems work better

Knowledge market services and the application of new knowledge generate learning and institutional development, which in turn strengthen the demand for knowledge and further use of KM services. Over time the demand for knowledge develops and supports the application of increasingly advanced research and technology options. This breaks the vicious circle of weak effective demand, high costs and limited political 'clout' and creates a virtuous circle in its stead (Figure 3). But, for this to happen, an IKSM initiative is best undertaken within an institutional context, such as a membership network or coalition of actors who are committed to common goals.

Figure 3. The virtuous circle created by knowledge market services



4. Assessing existing information and knowledge service markets

Encouraging information and knowledge service markets to help innovation systems work better means first assessing the existing situation to identify needs and opportunities. The main steps in such an assessment are:

- Deciding on the scope of the assessment and who should participate
- Mapping how information and knowledge currently flows in the innovation system
- Understanding the key factors, drivers and trends
- Identifying options

Deciding scope and participation

The scope of the innovation system to be assessed, whether national, sectoral, or subsectoral, must be established first. Then, participants who will be involved in assessing needs and opportunities should be chosen from the main parts of the innovation system:

- Farmers, farm-based organisations and other representatives of rural communities
- Processors, wholesalers, retailers, consumers and other representatives of economic/market demand
- Machinery, finance, goods and services companies, and other agricultural enterprises
- Technical advisory and business development services, communications services and media, and other primary conduits/intermediaries
- Representatives from research and education, and others knowledge generators who are widely cited as sources of knowledge
- Policy/decision makers/regulators with influence over 'framework conditions', both in agriculture and other relevant sectors, such as science and technology, communications, transport, environment

- Women, youth, diasporas and other key sub-sectors or groups.

Mapping how information and knowledge currently flows in the innovation system

Knowledge flows through economies in several ways: through the labour market, as people move from one occupation or place to another and spread their knowledge; through market interactions and value chains, where there is an exchange of knowledge around production and marketing of particular goods and services; through traditional and family networks; through other social, business, research or political networks; and through specific information or advisory services.

How well these channels currently work in 'moving knowledge' between the different parts of the innovation system depends on many factors (Box 5).

Box 5. Factors affecting the flow of information in an innovation system

- Level of effective demand: in particular the extent of viable natural resources-based economic opportunities and other incentives that can drive demand from the poor for new knowledge
- Extent and performance of existing rural service markets
- Status of the communications sector - transaction costs in knowledge flows through communications and other infrastructure services for example, the strength of the communications sector, internet services, software skills, costs, competition, regulatory and business environment for internet service providers
- Cultural factors - sometimes people aren't talking because they never have done
- Capacity, literacy, education levels
- Political economy, political instability, rent seeking, governance
- Trust and social capital: movements of people, structure of land and labour markets
- Capacity, financing and mode of operation of the science, technology and research sectors and the relationship between science and the production/business sectors
- Framework conditions for entrepreneurial activity, trading environment for small and medium enterprises, agribusiness
- Dynamics of other sectors and factors such as health (HIV), infrastructure, security

Mapping the key features of an existing local agricultural innovation system and knowledge economy (Box 6) can help in analysing the strengths and weaknesses, identifying gaps and missing links and, lastly, devising ways to address the weak points.

Box 6. Key features of a map of a local agricultural innovation system and knowledge economy

Centres of demand. Identify the main centres of demand for relevant knowledge. Who is asking for information?

Sources of knowledge. Identify the actors that are widely cited as sources of knowledge. Who is being asked for information?

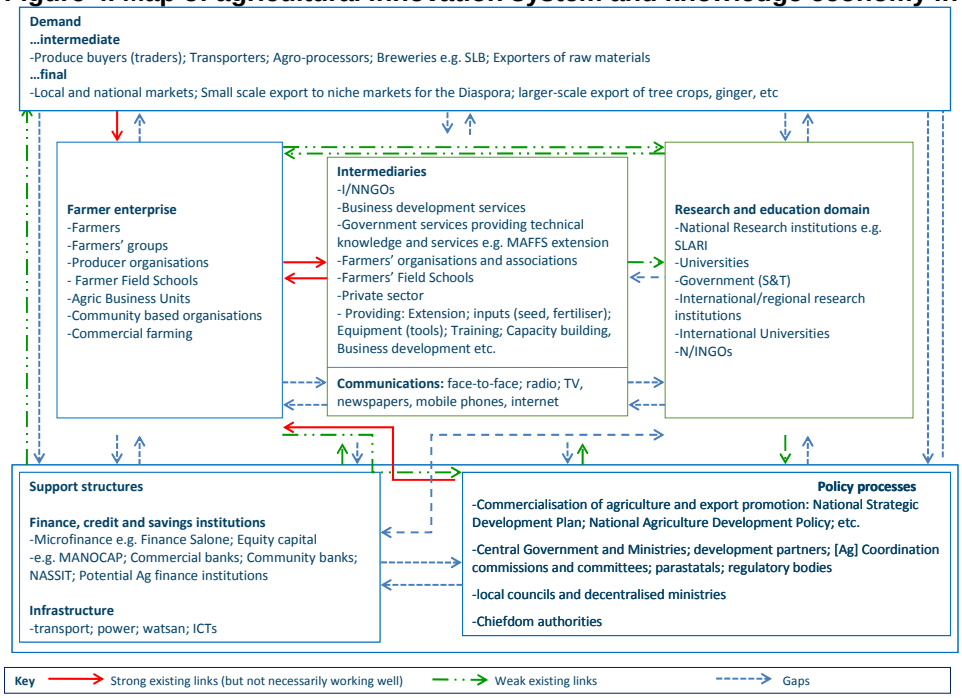
Primary conduits/intermediaries. Identify the primary conduits/intermediaries for information. Who is in contact with whom?

Communication services and media. Identify the communications services and media by which knowledge currently flows. Examples might include radio programmes, SMS services, newspapers and extension workers. How is information being spread?

Understanding the key factors, drivers and trends

The map will show the issues and actors that are important to the local agricultural innovation system and knowledge economy. Figure 4 is a map produced by a workshop in Sierra Leone showing strong, weak and missing links in the knowledge economy.

Figure 4. Map of agricultural innovation system and knowledge economy in Sierra Leone



The map shows where links are missing in the knowledge services market. For example, in Sierra Leone there are very few of drivers of a healthy knowledge services market. Maps will vary from country to country. For example, in Zambia many links in the knowledge services market are already present but, in Sierra Leone, it's a matter of almost starting from scratch.

Identifying options

The map is a tool for analysing an innovation system and knowledge economy to help identify options to encourage a knowledge economy. Questions such as those in Box 7 may help in doing this.

Box 7. Analyzing an innovation system and knowledge economy
What is currently driving and encouraging the exchange of knowledge?
What is preventing or slowing the flow of knowledge?
To what extent is the knowledge and information that is being exchanged being used by the small-scale farming sector to help producers escape poverty?
What are the main drivers, trends, and programmes that are changing/influencing the current knowledge economy?
What drivers or programmes could be used to further change/influence the knowledge economy?
Who are the main actors with a stake in the knowledge economy?

Thoroughly exploring and mapping the knowledge service market as it stands will help identify opportunities to put in place new information and knowledge services and to strengthen those that are already there. The aim is to find ways of connecting the actors who can help unblock information and knowledge bottlenecks. At this stage, asking questions such as those in Box 8 may help identify opportunities.

Box 8. Identifying opportunities to strengthen knowledge services markets
Who needs to be better connected with whom?
What flows or exchange of knowledge needs to take place?
Who are the providers and potential users of this knowledge?
On what terms are these providers or users willing to make use of this knowledge?
How can this market be brought together and made to work?
Who do people trust to provide useful, accurate information?
What information and knowledge services are needed to make this system work better?
How will these different services be coordinated and what business models can usefully be used?

5. Strengthening knowledge service markets

In innovation systems that function well information and knowledge flows easily because there is a demand for it, because demands are met, and because actors are motivated to interact and benefit from each other's knowledge (Box 9). In innovation systems that aren't functioning as well as they could, we can use a information knowledge services market approach to identify missing services, tackle bottlenecks and improve the interactions that need to take place.

Box 9. Information and knowledge flows easily in innovation systems that function well

Rural service providers and other intermediaries are able to communicate, exchange information and trade with each other and their clients via readily accessible and affordable media and services

The private sector is investing in provision of knowledge (market) services

The IKSM is operating within a sound institutional/governance framework that maintains standards and protects the interests of all members

A range of public-private instruments and partnerships are being used to ensure that services are inclusive, relevant, and valued by rural communities including those who are resource poor or otherwise marginalised

The marketplace is open to, and utilised by all relevant innovation system actors including researchers (national and international) and policy makers

Learning mechanisms are in place to capture lessons and continually improve the quality of information and knowledge flows.

'Market making' services

Knowledge market services bring together existing service providers, their clients and others to easily demand, supply and exchange knowledge and services. They 'make' the information market (Box 10). True information markets begin to open up. Organisations and networks no longer operate in isolation.

Box 10. Market making services

Coordinate Provide a market place where people can 'meet' on or off line, find out more about each other, the extent and nature of demand for services, and the range, price and quality of services currently available.

Lower transaction costs Provide simple low-cost ways to exchange information and for direct trading using internet, mobile devices and other means.

Clear or broker services Actively match demands for services with the most suitable sources of supply, and vice versa.

Assure quality Provide quality assurance services and tools to maintain standards and protect market participants.

Market making services that provide platforms that many different organisations and networks can use are widespread in developed market contexts, typically in the financial sector, but are rare and still poorly understood in agricultural innovation systems (Box 11).

Box 11. Market makers in Africa

In **Uganda**, the Market Place for Agricultural Information and Services (MPAIS) is an online trading area where both buyers and sellers meet and trade in agricultural information products and services. MPAIS members use an online portal to post requests for information and trade-related technical information and services. MPAIS provides brokerage and other services, including training to help members understand and access products and service via mobiles, internet cafes or other online points of access.

The currency for exchange is based on virtual information 'credits', which successful 'sellers' can convert into cash through MPAIS. Development agencies can support and strengthen 'pro-poor' uptake of information and services by sponsoring credits for use by selected communities.

In **Zambia**, the Organic Producers Association and the Agricultural Business Forum coordinates information and services for members, and connects them with sources of new knowledge and market opportunities.

In **Rwanda**, a Science and Technology Intelligence Gathering Facility matches demands for new knowledge from within the Rwandan innovation system with potential suppliers both nationally and internationally.

In **Sierra Leone** an innovation finance facility will provide knowledge brokerage services to support financing of pro-poor innovations.

Developing knowledge market services to reach and benefit resource poor households generally means providing some kind of support. But it's important to target any support carefully.

Targeting efforts

Supporting only one element of a knowledge services market in isolation just doesn't work. Just supporting a rural radio project, for example, isn't enough. What is also needed is to support those who feed useful information to farmers through the radio station, as well as ways to ensure that people know about the radio station and will listen in to the services it is providing. This means that any measures to strengthen knowledge services must be carefully targeted (Box 12).

Box 12. Guidelines for targeting efforts to strengthen information and knowledge services markets
Ensure inclusive representation Ensure that the network that will form the basis for the IKSM is inclusive of and well represented by farmers and farmer/community based organisations.

Be businesslike Demand for knowledge is generally driven by economic opportunity. Embed the IKSM within an institutional setting that is business like, and supportive of entrepreneurial activities, but also reduces the costs and risks of productive endeavours and investments with beneficial linkages into areas where poverty is acute (e.g. PAID in Sierra Leone).

Build on existing programmes Look for links to existing investments and programmes that are generating livelihood opportunities for resource poor communities, for example market links and SME development activities such as the Agriculture Support Programme in Zambia and, in Uganda, links between the MPAIS initiative and the National Agricultural Advisory and Development Services (NAADS). In Sierra Leone a Demand Support Facility will link rural actors including local producers associations with the newly decentralised rural district administrations.

Consider incentives Consider the use of special incentives, such as voucher mechanisms, to raise effective demand (e.g. MPAIS). Combined with the use of new technologies, such as cashless payment mechanisms available by mobile phone, these potentially offer an effective and targeted means to selectively subsidise the use of the services by particular communities.

Consider strengthening capacity Consider additional training and capacity development specifically to help rural service providers working in remote areas to engage with and make best use of knowledge market services, both as 'users' and 'suppliers' of useful information relevant to their client communities (e.g. SICTAF initiative, Bolivia).

The assessment of needs and opportunities will have identified what services are and aren't in place, and what needs to be put in place to boost the knowledge service market. In general, the most effective kinds of support are:

- For demand, for example through a voucher scheme
- For services at the 'middle' of the market, such as brokerage
- For capacity development on the 'supply side' to engage with the market

Supporting demand

Information and knowledge services markets cannot work without demand for knowledge. Nor will uptake of research products increase without more use of knowledge services. These are generic and difficult

challenges particularly in remote and resource-poor areas with little market integration. The aim is to strengthen the demand for knowledge and the use of knowledge services (Box 13).

Box 13. Strengthening demand for knowledge and the use of knowledge services in Sierra Leone

In Sierra Leone a Partnership for Agricultural Innovation and Development (PAID) has formed. This membership network will be supported by knowledge market services designed to boost demand for knowledge, match this demand with knowledge services, and facilitate the financing of innovative new ideas and partnerships.

Demand drives supply. Currently, too many subsidies are going to the supply side of knowledge services. What's needed is to boost demand (Box 14).

Box 14. Boosting demand for knowledge services

A good example of creating demand for information is to give farmers vouchers that they can use to pay for knowledge services or technical advice.

Vouchers also encourage farmers to use the same service again and again. This boosts demand for information services.

Build trust and accountability New partners may not be comfortable with being part of a network. Their confidence and trust may be built up by, for example, getting agreement on rules to protect people. Codes of conduct and accountability in the knowledge supply chain prevent exploitation. Individuals trusted by the community, such as a graduate of a Farmer Field School, may be good choices for contact persons.

People tend to rely on very local knowledge networks. As networks widen there can be a breakdown in trust. By encouraging demand-driven systems, suppliers can be held more accountable (Box 15).

Box 15. MPAIS builds trust in Uganda

The Market Place for Agricultural Information and Services (MPAIS) system in Uganda guarantees that if information is paid for it will be delivered. The system also ensures that information is technically accurate.

Supporting services

Work with existing knowledge service providers A range of existing services - traditional public extension services, publicly and privately operated and financed technical advisory services, marketing, finance or business development services, NGOs and government 'infomediaries' – already offer free information services for rural communities.

Often it is the lack of market opportunities and effective demand, rather than the lack of skills, that limits these existing services. Supporting these services could help them operate more effectively (Box 16).

Box 16. Supporting existing knowledge service providers in Zambia

In Zambia, the National Farmers Union (ZNFU) is collaborating with a major mobile phone company and an independent internet services provider to provide a text-based market information service linking commodity buyers and sellers. By supporting this collaboration, the service might be extended and developed to provide a more inclusive platform for wider exchange of services. Other existing services such as LinkNet and the Kasisi Agricultural Training Centre could be brought into such a scheme.

Work with related services Programmes that support development of small and medium enterprises are also avenues for strengthening technical advisory and related services. In Zambia, the Agricultural Support Programme (ASP) is one of several initiatives that are working with progressive farmers and producers associations to train and support new rural entrepreneurs. Ways to link such programmes to IKSM initiatives where they can identify new clients, opportunities and partnerships could be explored.

Information and communication technologies Web and mobile phone services can provide cheap 'many-to-many' communications. The communications sector is dynamic and fast moving. The range and coverage of web and especially mobile services is increasing rapidly. Plus, ICT companies are generally

very keen to expand their networks and services into rural areas. This means there is a natural alliance of interests with IKSM initiatives.

However, areas where poverty is most intractable are also often the areas where ICTs are least available and/or are expensive compared to peoples' ability to pay. Various factors limit effective use by rural communities. Often, the public policy environment may be supportive, but capacities for implementing and regulating policies weak. The sector may be dominated by relatively few firms, often in competition with a state provider. Thus:

(i) initiatives using ICTs must build in measures to extend the range and affordability of services, and
(ii) the use of ICTs needs to be embedded within a wider communications strategy which includes approaches and media that are trusted and effective, for example community radio services.

Initiatives need to take into account what offers the greatest 'bang for the buck'. In Rwanda, for example, the strength of the ICT sector and supportive policy environment enabled the RIU country programme to move forward quickly with a tender (Box 17).

Box 17. National Agricultural Innovation Network (NAIN), Rwanda

The RIU programme in Rwanda will help to launch a National Agricultural Innovation Network (NAIN). The NAIN will be supported by an independent knowledge market services provider; it will operate effectively as a business service open to all Innovation System actors in order to facilitate linkages, knowledge flows and trade in knowledge services.

Provide incentives Offering tenders and joint funding may be an incentive to service providers to make their services available in a way that will boost agriculture and agri-businesses. Rwanda is using this approach, for example, by making joint funding available to businesses. The winning businesses will have to show that they have a sustainable, profitable business model in order to secure funds.

There may already be providers who might be interested in expanding the services they offer. If not, there may be providers who offer similar services in another country who may be interested.

Link potential knowledge service partners In inactive or slow knowledge services markets many of the services and actors may already exist, but may be working in isolation. In such cases, a way forward is to encourage potential partners to work together.

This means coordinating all the important or potentially important actors in the innovation system and knowledge economy. These will range from local, national and international businesses, to NGOs and local micro-credit providers, but they must have funds to invest in projects to boost the knowledge service market.

Encourage information brokers Information brokers and 'market makers' need to be encouraged because they have a good understanding of the market. They know who is doing what, what their needs are and what can be provided. In making their profits, either by buying and selling or acting as agents, they link different players in the market together (Box 18). For the market to function well, however, care needs to be taken to ensure that these actors trade ethically and fairly.

Box 18. Market makers - brokers and aggregators

Market makers act both as brokers (passing on information and goods) and aggregators. So, for example, if a particular type of fertiliser is only available in 20 kg units, which would be too much for any one small farmer, the broker can aggregate demand and split the 20 kg package into 1 kg units that are more useful to small-scale farmers.

Supporting supply

Work with knowledge generators Supporting supply means working with 'knowledge generators', research agencies and public sector intermediaries, such as agricultural information services. For example in Sierra Leone one element of the country strategy is to work with the newly rejuvenated Sierra Leone

Agricultural Research Institute (SLARI) to support linkages and working relationships with other innovation system actors.

Encourage good neutral advisors Africa's markets sadly lack neutral disinterested advisory services that will give people the information they need. So, one way of strengthening a knowledge service market is to encourage neutral advisors.

Neutral advisors do exist, for example, small business chambers sometimes fulfil this role. But they are often heavily subsidised and don't work widely across the market. So, the first step is to identify potential neutral advisors. Then, ways of rewarding them need to be found. For example, they may receive some kind of commission.

6. RIU initiatives to support development of IKSMs

Documented experience on implementing strategies to support development of IKSMs is limited. Current RIU initiatives are based on 'market making'. In other words RIU encourages the use of public resources to support entrepreneurs and investment rather than to simply deliver knowledge services directly through projects. Initiatives take into account two important aspects for long-term sustainability:

(i) institutional, in terms of how the network will be constituted, and the governance arrangements that will apply to membership, decision-making etc.; and
(ii) financial, in terms of how the operating costs of the network will be paid for, including where any public subsidy should be targeted.

Coordination and facilitation

RIU organises consultations and workshops to bring together key actors and undertake needs assessments. These provide 'space' for actors to, for example jointly explore key issues, form partnerships and platforms, develop governance mechanisms for any proposed new networks and participate in pilot IKSM activities (Box 19).

Box 19. Facilitating knowledge services in Zambia

The RIU strategy for encouraging information and knowledge service markets in Zambia includes regulators, mobile phone companies, internet service providers, farmers' organisations and other relevant actors to work through challenges and propose new services.

Specialist studies and consultancies

In Sierra Leone, RIU made a rapid appraisal study to identify key actors in the communications sector and opportunities for an IKSM. In Tanzania, RIU studied the feasibility of a competitive challenge fund mechanism to promote IKSMs.

Public-private partnerships

Public-private partnerships can bring dynamic private sector ICT firms into IKSM initiatives. Such schemes need to be performance based, with unambiguous 'game rules' and clear expectations on all sides. Where they are clear, a tender process may be used to attract competitive bids from competent suppliers. This approach was used in Rwanda (Box 20).

Box 20. Public-private partnership to provide knowledge market services in Rwanda

In Rwanda, RIU studied opportunities for a public-private partnership to provide knowledge market services to members of the National Agricultural Innovation Network (NAIN). The Rwanda National Innovation Coalition (NIC) will provide core resources and demand-side market support. Competitive tenders were invited from private sector ICT companies to provide additional investment to expand and sustain the business.

Challenge fund

In Tanzania, proposals for information and knowledge services have been invited by way of a challenge fund. This route was chosen because although the bottlenecks and challenges have been clearly identified, there is no clear strategy or apparent opportunity to resolve these through existing capacity or ideas. The challenge fund opens the door to new ideas and approaches by offering grants (full or partial) on a competitive basis.