

## Thematic Report

# The Rural Information System of the Uganda Commodity Exchange

**Arjan de Jager**

October 2007





# **Rural Information System of the Uganda Commodity Exchange**

**A study carried out by the International Institute for Communication and Development (IICD).**

**The Hague, October 2007**



# Contents

<b>The case</b>	<b>1</b>
<b>Short introduction to Uganda</b>	<b>1</b>
<b>General statistics on commodities</b>	<b>1</b>
<b>Uganda Commodity Exchange</b>	<b>1</b>
<b>Background of the Rural Information System (RIS) project</b>	<b>2</b>
<b>Results</b>	<b>3</b>
- Survey	3
- Impact of the project	4
<b>Agricultural Information Systems</b>	<b>5</b>
<b>The key factors of the RIS project</b>	<b>6</b>
<b>Lessons learned</b>	<b>9</b>
<b>References</b>	<b>10</b>
<b>IICD Profile</b>	



# The case

## Short introduction to Uganda

Uganda is one of the poorest countries in the world. In 2004, the per capita income was estimated to be approximately US\$250. Life expectancy at birth remains low: 43 years in 2002, compared to 47 years in 1990. Similarly, infant and child mortality has not improved much over the same period and today remains at around 100 respectively 150 per 1,000 live births.

Nevertheless, the country's firm commitment to poverty reduction, as spelled out in its Poverty Reduction Strategy, and supported by the International Institute for Communication and Development (IICD) and other development partners' contributions produced several positive results in the area of development, which brought the country closer to reaching the Millennium Development Goals:

- The number of adults with HIV/AIDS declined significantly over the last decade from about 18 percent in the early 1990s to 6.1 percent in 2003.
- Access to safe water increased from 54 percent in 2000 to 65 percent in 2003 in urban areas and from 50 percent in 2000 to 55 percent in 2003 in rural areas.
- Net enrolment rates for primary schooling increased from 62.3 percent in 1992 to 86 percent in 2003.
- Total youth literacy increased from 75 percent in 1995 to 81 percent in 2003.
- The gender gap (ratio of girls to boys) in primary and secondary schools has improved from 93 percent to 99 percent since 1992 and from 67 percent to 86 percent since 1997, respectively.
- GDP per capita has grown on average by 3.6 percent since 1995.

## General statistics on commodities

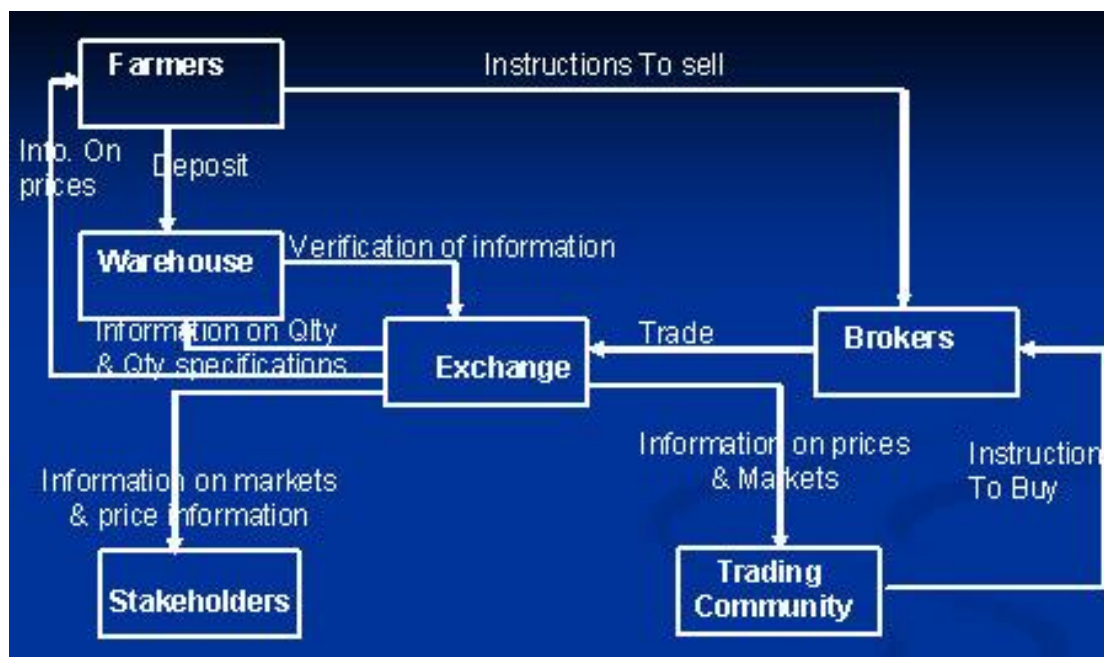
Data on the increase in agricultural production is hard to obtain. This was estimated to be around 3.5% in 2004 while the growth in the country's population was estimated to be slightly higher at 3.7%. In this respect, it can be said that the increase in agricultural production is not keeping pace with the growth in population. It is evident that something has to change in the way in which subsistence farming is trying to compete in this globalised world. The Rural Information System (RIS) project as described in this paper is a step in this direction as it aims to:

- Establish an efficient communication system to enable effective collaboration between all stakeholders in the agricultural sector.
- Provide accurate and timely information from all sections of the agri-industry system.
- Enable rural farmer groups to produce and trade in a more commercial manner.

## Uganda Commodity Exchange

The Uganda Commodity Exchange (UCE) was registered in 1998. Its main goal is to facilitate trade between buyers and sellers of any agricultural commodity in Uganda and the world at large. UCE is mandated with the task of improving the marketing of agricultural commodities by shortening of the marketing chain, reducing the cost of transactions, and providing reliable and timely market information to all its stakeholders (including farmers in the rural areas). It is for this reason that it is involved in developing systems that enhance the dissemination of marketing and trade information such as the Rural Information System (RIS) project with support from the International Institute for Communication and Development (IICD).

Today, the Uganda Commodity Exchange (UCE) acts like a stock exchange through the auctions of agricultural commodities.



**Figure 1: Information flows at UCE**

Depending on the need for a particular commodity and its current market price, farmers set the selling price for what they wish to sell (in addition to the selling price, the farmers also set a minimum price or floor price below which they will not sell the commodities). The farmers then select a broker to represent them and present their selling price of their goods to UCE for listing on the 'trading floor'. Brokers representing the farmers and sellers converge on the UCE trading floor, where the buyers bid on the commodities that have been listed. During the final stage of this process, UCE facilitates sale contracts between farmers and the highest bidders.

Throughout this process, the dissemination of market information to the farmers on a whole host of issues such as current prices, market trends, and price fluctuations, is critical as this enables them to make informed decisions with regard to production planning and pricing. The most efficient way to make this happen in today's globalised economy is to use information and communication technologies (ICTs).

## Background of the RIS project

In response to this need for timely and accurate information, UCE set up the so-called Area Cooperative Enterprises (ACEs) in Uganda, from where all the necessary information for the farmers about prices, markets, trade opportunities and production methods is provided. One component of the ACE is the Rural Information System. The idea for this project emerged during a Roundtable conference (IICD, 2004) organised by IICD and the Ugandan Ministry of Trade, Tourism and Industry in November 2002. With support from IICD, each pilot ACE was equipped with a computer, a printer, an Internet connection and other office equipment. Tailor-made databases were developed to facilitate information management and sharing both at UCE and the different ACEs. These included an up-country, customisable database at the different ACEs and a larger central database at UCE in Kampala. The information in these databases is synchronized three times a day. This means that the price/market information is always up-to-date. Using a remote database and a central database enables a smooth exchange of information, avoids data being replicated and ensures that the latest market and price



information is not accidentally deleted. The system is much more user-friendly than a system that would use email to transfer this information. Moreover, as information is a commodity in its own right it is vital to ensure that farmers to have frequent access to quality information. For this reason, information about market prices and trends should always be up-to-date.

The price/market information is disseminated by the ACEs using a variety of different media: announcements posted at the centres (see figure 3); team leaders linked to farmer groups who distribute the information to the farmers (travelling from group to group on bicycles or motorcycles); radio; and, in the near future, MMS messages.

In turn, the farmers (who are united in farmer groups) provide the ACEs with information about the type, quantity, and selling price of the commodities they currently produce along with information about the crops they intend to produce over time. This information is keyed into the remote ACE databases and then synchronized with the central UCE database enabling traders to buy. Consequently, the information transferred through the RIS project flows in two different directions: on the one hand, farmers gain access to price/market information, on the other, traders obtain information about the number and type of commodities produced by the farmer groups associated with the various ACEs. In other words, the RIS centres facilitate trade by linking buyers with producers.

The RIS project acknowledged from the start that information about prices and markets fulfilled only one of the information needs of rural farmers. The value chain in agriculture is complex and requires a lot more than just information services about prices and markets. It also requires information about regulatory bodies, weather forecasts, market analyses, mainstream magazines and newspapers, agricultural advice, veterinary advice, the current transport situation (particularly the state of the roads, availability of vehicles to transport goods, etc.), descriptions of the quality of the commodities being traded, changes in market fees, local taxes, etc. These different types of information services are also available via the RIS component of the ACEs.

Another key feature of the RIS project is that the centre is always located in an area where farmers can have easy access to other organizations that provide the type of services they need such as banking and microfinance, transport and storage facilities, and organisations that offer specific agricultural extension services, agricultural chemicals, fertilizer, machinery and equipment, etc.

Last but not least, the equipment of the RIS component is not for free! Centres are required to pay back part of the investment (€4,000; about 40%) over a 30-month period. The reimbursed funds are then used to set up other ACEs in the other parts of the country. (See the article by Tulp, E. (2006) for more background details about the project).

## Results

### Survey

In 2006, a survey was carried among end-users of the first three centres, 91.2% of whom were actively involved in farming and agricultural activities. The survey revealed the following:

**Satisfaction with the services provided.** Findings on the proportion of respondents who were satisfied with the services provided are presented in the following table.

**Table 1: Proportion of respondents (total of 92) satisfied with the services**

Service	Percentage that was satisfied
Training	86.6
Quality of service	79.2
Cost of service	72.8
Timeliness of information	59.4

## Impact of the project

A critical analysis of the impact of any project is a vital ingredient in evaluating its success and identifying areas of weakness, where adjustments should be made to correct and redirect efforts or realign activities towards improving the services. In this survey, the impact of the implementation of this livelihoods project was assessed using a four dimensional approach: measuring its impact in relation to: 1) heightened awareness; 2) empowerment; 3) economic impact; and 4) organisational impact.

It was established that, in general, the project had made a positive impact in raising awareness (73.1%). However, just over half (50.7%) of the respondents claimed that they had been empowered as a result of taking part in the project and that they had gained the skills to be economically productive. There was a significant variation in opinion with regard to the level of awareness between male and female respondents. A higher proportion of male (81.4%) respondents had been impacted in terms of awareness compared to the female respondents (58.3%). As the project was implemented in a rural setting it is also possible that the women lagged behind the men in terms of their awareness because of their domestic cores, which is a common phenomenon in rural settings. The results of the proportion of female and male respondents whose lives had been positively impacted are presented below in the following table.

**Table 3: Proportion of respondents impacted positively**

Impact	Proportion impacted			
	Female (%)	Male (%)	Total (%)	P-value
Awareness	58.3	81.4	73.1	0.04
Empowerment	50.0	51.2	50.7	0.93
Economic impact	45.8	53.5	50.7	0.55
Organisational impact	37.5	48.8	44.8	0.37

Whereas overall, more respondents (50.7%) stated that they had been empowered and had become economically productive as a result of taking part in the project, a lower proportion of the female respondents gained from the project compared to their male counterparts.

## Impact at commodity level

More research is needed about the actual increase in production levels among the participating farmer groups. In Kayunga, one of the districts where the Rural Information System is being implemented, there has been a 130% increase in the production of maize, from 300 metric tonnes in 2006 to an expected 700 metric tonnes in 2007, as a result of improved access to

marketing information. Upland rice was introduced in Kayunga in 2005 arising from the communication opportunities of the RIS project. The group produced 500 metric tonnes in 2006. Production for 2007 is expected at 1000 metric tonnes: a 100% increase.

## Agricultural Information Systems

Evidence shows that if and when farmers are able to access relevant and qualitative information regarding their production methods and commodities, they are able to increase their production levels as well as obtain better prices for their products. This benefits both the farmers and their families as well as the national economy. Information and Communication Technologies (ICTs) can support this in a variety of ways. The following examples show how this is done:

- ICTs can be used to provide generic information (for example, weather forecasts, production methods).
- ICTs can provide access to (new) markets. This will support efforts to reduce the gap between imports and exports. The introduction of local products to larger international markets should lead to improvements in the quality of traditional and non-traditional products for export.
- ICTs can empower farmers to negotiate for better prices with intermediaries, and in some cases completely bypass the intermediaries. Access to the emerging global electronic markets can become an important driver of economic development in the agriculture sector. Farmers can market their products globally and get online access to market-oriented information.
- ICTs can enhance relationships in the value chain. Closer relationships between customers and suppliers of agricultural products could be fostered through direct contact over the Internet. Selling products directly to the customers reduces the need for intermediaries, and may better support efforts geared at product quality improvement, diversity, timeliness of delivery, and feedback; all of which go a long way towards strengthening relationships in the value chain.
- ICTs can be used for the preservation of natural resources. Monitoring systems such as remote sensing and geographic information systems (GIS) are being increasingly used in countries to monitor the physical environment, analyse spatial information, and determine the location and extent of environmental problems.
- ICTs can be used during the early stages to improve management. ICT can be used early on to improve routine administrative processes and financial management. With greater experience, ICT can be used to improve policy analysis, planning and decision-making, debt adjustment, including a number of other applications.

For this paper a classification of how ICTs can be used in agriculture will be based on the information flows at the "tail of the value chain in agriculture". This classification focuses mainly on the first four applications of ICTs mentioned above. In this classification, a distinction is made between the five models of market information systems listed below.

- **Information centres/telecentres:** Making general information available to producers. Often, the transfer of information (which might involve in-depth information about new agricultural commodities or how to treat diseases) is mainly from macro organizations to the farmer communities: in short, one-way systems.
- **Price information systems:** Making **price information** available to producers. Again, these are often one-way systems *from* macro organizations *to* the farmer communities
- **Market information systems:** Making **price and market information** available to producers. Sometimes these systems include services such as transport and storage of commodities.
- **Marketing systems:** Making **product (price, quality, quantity) information** available to buyers.
- **Trade/transaction systems:** Facilitating trade by linking buyers with sellers.

The RIS project is a two-way trading system. Customising information to meet the needs of the farmer groups is possible because the system has two databases: the central database at UCE and the up-country database at the level of the farmer groups. The up-country database can be customised (for example, it will not show commodities that are not relevant for that particular area) while the interface of both databases can easily be customised to meet existing needs.

The system can only work when the information is put into the system on time at both the central level and the up-country level. In other words, the two-way transfer of information is needed to change the data into usable information: the farmer groups must demonstrate "information commitment". Last but not least, the databases are simple systems. User friendliness was achieved by using low-end ICT tools.

There are currently three pilot projects funded by IICD operating under the name of Rural Information System (RIS): one is based in Sheema, one is in the area of Masaka, and the other is in Kayunga. Another 13 centres will be set up in 2007 and an additional 25 will be established in 2008. This will be done in close cooperation with the National Agricultural Advisory Services (NAADS) and the Netherlands Development Organization (SNV).



Figure 2: The Centre Manager of Kayunga standing in front of the building with the Chairman of Kayunga and Lira district.

Figure 3: The Managing Director of IICD, Mr Jac Stienen, pointing at the latest commodity prices.

## The key factors of the RIS project

The approach used in the RIS project seems to be highly successful. So much so, that it has attracted the attention of other players inside and outside Uganda. So what are the project's key factors?

1. **A new system for coordinating transactions.** The RIS centres facilitate trade by linking buyers with sellers and vice versa. The main participants in the traditional market chain are: the producer, the seller, the wholesaler, the buyer, the consumer and the transportation company. The innovation of the RIS approach is that, because of its close collaboration with UCE, it introduces a new generation of electronic wholesalers. They regulate supply and demand and coordinate transactions in an Internet business environment using enhanced market knowledge. The RIS approach introduces eight types of agents (see also fig. 1):

- **The customer** (buyer or consumer) is responsible for executing the customers' queries and monitoring results.
- **The provider** (producer or seller) is responsible for reporting orders and demands for the producers' products and for overseeing the transaction process.
- **The marketing agent** is responsible for promoting the providers' products to the customers.

- **The information agent** is responsible for matching supply and demand in the system. He communicates with the customers and the providers.
- **The negotiating and contracting agent** is authorized to negotiate terms concerning exchange and payment. This negotiation process can be multi-faceted and very complex.
- **The financial agent** focuses on transaction management following a successful negotiation.
- **The scheduling agent** is responsible for managing the transportation process following a successful negotiation.
- **The security agent** is responsible for protecting all the information relating to a given deal and safeguarding it against any threats linked to the open and insecure nature of the Internet. Other key factors include the following:

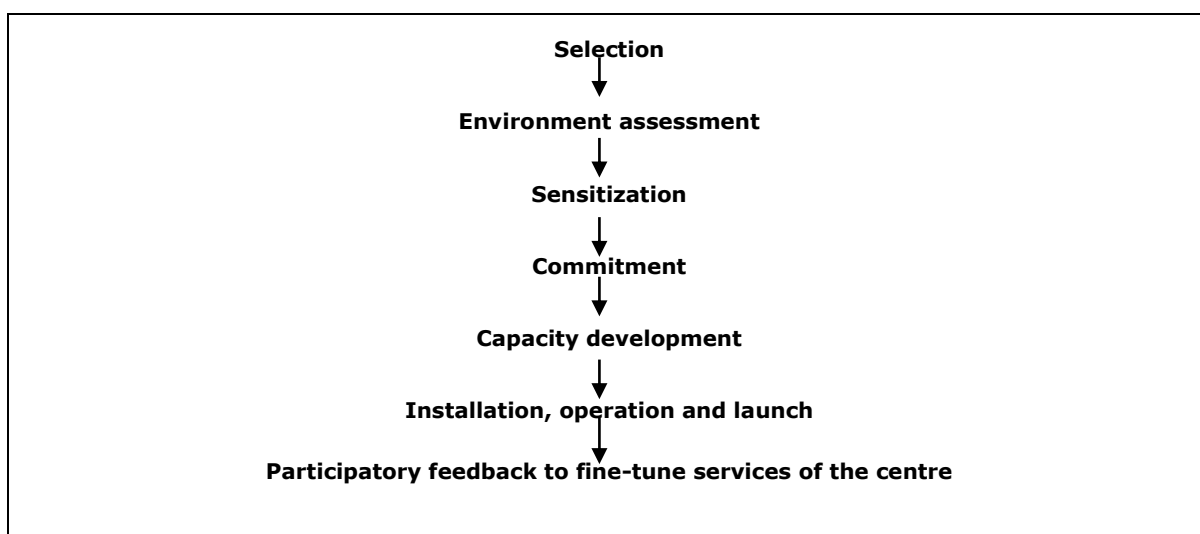
2. Farmers have access to a wide range of other services which are present at the same location as the RIS project. These services include banking and microfinance, transport and storage facilities, organisations that offer specific agricultural extension services, agricultural chemicals, fertilizer, machinery and equipment, etc.

3. The RIS project tries to improve the value chain not only at the end of the chain by making market information available but also throughout the whole process by providing information about regulatory bodies, weather predictions, market analyses, general magazines and newspapers, agricultural advice, veterinary advice, the current transport situation (the state of the roads, the availability of vehicles, etc.), a description of the quality of the commodities being traded, changes in market fees, local taxes, etc. These different types of information services are also available at the RIS centres.

4. **Change Management procedures.** Each project is about change. For this reason, the centres should be set up very carefully and the beneficiaries of the project should be involved in the process of setting up the centres from the outset. Experience has taught us that the participatory approach is the most successful approach and that each centre should be looked upon as a new project. The project cannot simply be copied from centre to centre. Each centre needs to be carefully customised. In fact, all that can be 'copied' from centre to centre is the process through which the project logic provides an answer to the needs of the specific farmer groups involved, in combination with applying ICT at the grassroots level, developing customisable databases, and pursuing ICT change management.

5. **The participatory approach.** The participatory approach is the foundation of the RIS project. The step-by-step approach that UCE and IICD use when setting up an RIS centre consists of the following:

**Figure 4: Change management by using a participatory approach**



a) *Selection*. This involves identifying the prospective farmer group. It involves actual visits to the prospective groups to determine whether they meet the selection criterion, as well as having preliminary discussions with them about the activities of the RIS project. In the cases where the groups do not meet the criterion, they are advised on the different steps they need to take to become eligible to take part in the RIS project. Preparatory activities are then held with the selected farmer groups. Determining factors in this selection process are:

- The size of the farmer groups. They should consist of over 200 farmers to enable the group to hire the ACE manager and to pay back the €4,000 (revolving fund; with a size of 200 farmers in a farmer groups each farmer has to contribute €15 annually).
- The type of operations carried out by the specific farmer group (for example, if they are already involved in marketing, tradable commodities, etc.)
- Commitment to the RIS project. Are the farmers' groups able and willing to invest (via membership fees) in the project and to hand in quality information about the commodities they produce?
- The results of assessing the environment.

b) *Environment assessment*. At the same time, an assessment is carried out to determine the situation regarding the existing office space, the availability of Internet connectivity in the area, the power supply, possible linkages with other initiatives, levels of ICT literacy, training needs, the availability of staff and their information needs.

c) *Sensitization*: The preparatory activities start with sensitising the farmers about the benefits of the Rural Information System (RIS) and their role in the project. This is done through workshops that are held for the actual farmer groups in the rural areas. During these sensitisation meetings the following issues are discussed:

- The main problems faced by the farmers and the type of information that could help them overcome these problems.
- What the system could do for them.
- How the (customisable) system should look (for example, the type of information it should include, the language it should use).
- what role can the farmers play (and are indeed willing to play) in the project once the system has been adopted by the group.

d) Commitment to the project at two levels:

- A Memorandum of Understanding (MoU) is signed between UCE and the selected farmer groups. The memorandum of understanding spells out the terms of the project and the obligations of each party. The farmer groups show commitment to the project by signing the Memorandum Of Understanding, amongst others, for the equipment that is worth about €4,000.
- Information commitment: The farmer groups guarantee that they will regularly hand in timely information to the ACE manager about the price, quantity and quality of the tradable commodities.

e) *Capacity development*: Capacity development starts with identifying training needs: ICT and soft skills to enable the ACE managers and coordinators of the farmer groups to set up a customised training programme. In this way, training can be used as a tool for change management. At each centre staff are trained so that they become ICT literate, can maintain the equipment, and are able to use the up-country database and accounting packages. The training programmes are offered on site, are continuous, and are adapted to local training needs. At this stage, the staff members of the farmer groups begin to participate in the training activities that are organized and the project is in fact starting to become integrated into the day-to-day activities of the farmer groups. In other words, capacity development can contribute towards embedding a project (see also Bitwayiki, C., de Jager, A., 2004).

f) *Installation and launch*: After the above steps have been carried out, the equipment is procured and installed at the farmer group offices. Then the equipment is handed over to the groups at a launch activity at which the farmer groups assume ownership.

g) Staff members and beneficiaries are then asked to take part in monitoring and evaluating the services provided by the centre. This participatory feedback mechanism is used to fine-tune the services of the centre.

The approach is not uncommon. Still, the success of the first centres can be contributed to this gradual, step-by-step approach.

## Lessons learned

The increase in agricultural production in many sub-Saharan African countries is not keeping pace with the population growth. Agricultural intensification is the most environmentally-friendly option to increase agricultural productivity, increase food security, and reduce poverty in sub-Saharan Africa. Intensification requires appropriate technologies, sound policies, and a sustainable agricultural input supply system supported by a well-functioning market information system. However, most smallholder farmers and private sector input dealers, especially rural distributors and stockists, have limited access to information. As the socio-economic environments of sub-Saharan Africa continue to change and the private sector actors are becoming the main providers of services previously provided by the public sector, a properly established and well-coordinated agricultural information system is required. The RIS approach can facilitate the establishment of such a system as it:

- Has the potential to promote free trade based on an open, transparent and competitive agricultural marketing system.
- Serves as a decision support tool for policymakers, private sector input dealers and farmers.
- Offers support in trade and production methods to farmers.
- Offers business intelligence to farmers.
- Offers direct trading opportunities with the possibility to boost exports.
- While implementing the RIS valuable lessons were learned. These are outlined below.

### Lessons learned at the project implementation level

1. *The participatory approach*. It is vital to involve beneficiaries at the very beginning of the project during the initial stages of setting it up. This made it possible to accurately assess demand while at the same time creating ownership and understanding of the opportunities and possibilities available as a result of using ICTs, such as the ability to access (new) markets, analyse price trends, and so on. Moreover, the approach generated commitment and support for the project's activities which is illustrated by the following:

- The ACE leadership committed office space for the centre and remuneration for the administrators.
- The ACE leadership allowed staff to take part in training courses as and when necessary.

2. The groups adjusted quickly from sending and receiving information via email, to information management at the farmer level using the customised databases.

3. *An environmental assessment*. This is essential as it helps to create a deeper understanding of the factors that will affect the project. The assessment enabled those involved to make informed investment decisions, decide what type of information services should be set up, identify the kind of services should be set up at a later stage (for example, warehouse, transport, banking, etc.). For example, during the second pilot phase of the project it was discovered that the farmer groups needed an accounting system.

4. *Capacity development*. This is also a key factor. The training programme should be continuous, partly because there is such a high turnover of staff.

5. *Financial sustainability*. Specific income-generating activities should be supported, for example secretarial and photocopying services. Not only will they enable the farmers to pay back the loan, they will also contribute to the self-esteem of the farmer groups and ensure the sustainability of the project. After the first pilot year the scope of the project was extended to include 'photocopiers' as an additional revenue stream to repay the soft loan.

## Challenges and lessons at the macro level

Initiatives that attempt to integrate the use of ICT in agriculture have to contend with a number of potential threats as well as some significant challenges such as those listed below.

1. *ICT can lead to a complete restructuring of the sector*. ICTs have the potential to radically change the approach and thinking about how the agricultural sector is structured and governed. For instance, ICT may significantly alter information flows between farmers, consumers, and other market players, thus leading to a complete restructuring of the sector. Therefore, a step-by-step approach is vital. (See Fenenga C, de Jager A., 2006).

2. *ICT investments*. Farmers and other key players have to be persuaded to make the necessary investments in ICT tools, personnel, and training, along with corresponding adjustments to their existing operations. The fact that returns on investments are not immediately apparent creates a situation in which the centres should offer other advantages to the farmer groups. In the RIS project it was observed that increased self-esteem as a result of having a centre fitted out with ICT equipment did in fact increase farmers' willingness to invest. The need to invest also contributed strongly to the sense of ownership and willingness to provide up-to-date information to the system.

3. *Efficient information management is the key to success, yet at the same time the greatest challenge*. It requires significant information processing skills, analytical ability, and communication skills that may not be readily available in the existing skills base up-country. Therefore, capacity building is a vital component of these types of initiatives in which ICTs are used in a rural setting (see also van Reijswoud, V., de Jager A., 2006).

4. *The need for coherence*. Since so many initiatives are taking place it is vital to involve other development partners that are already operating either market information systems or information systems in general to create synergies.

5. *The impact of capacity building*. These capacity building initiatives can lead to a situation in which it becomes more attractive to live up-country. Internet connections are closing the gap between rural areas and the rest of the world. Alternatively, the capacity building initiatives can also lead to a brain drain. The first couple of years tend to show that the latter effect is dominant. Capacity development programmes should therefore be continuous.

## References

Bitwayiki, C. & A. de Jager, "Building Capacity for Embedding: The DistrictNet Uganda Programme". IICD, 2004 (capacity.org-2004; download available at [www.capacity.org](http://www.capacity.org)).

Fenenga, C. & A. de Jager, "Health management Information Systems as a tool for organizational development" (download available at [www.iicd.org](http://www.iicd.org)), 2006.

IICD, The ICT Roundtable Process: Lessons Learned from facilitating ICT-Enabled Development. International Institute for Communication and Development, The Hague, 2004.

Tulp, E. "Farmers use ICT to get better prices" (download available at [www.iicd.org](http://www.iicd.org)), 2006.

van Reijswoud, V. & A. de Jager, "E-Governance in the Developing World in Action: The Case of District Net in Uganda" (download available at [www.iicd.org](http://www.iicd.org)), 2006.





# IICD Profile

The International Institute for Communication and Development (IICD) assists developing countries to realise sustainable development by harnessing the potential of information and communication technology (ICT). The driving force behind IICD's activities is that local 'change agents' themselves identify and develop proposals for realistic ICT applications - local ownership forms the essential basis for sustainable socio-economic development.

Acting as a catalyst, IICD's three-pronged strategy is mainly delivered through a series of integrated Country Programmes. First, IICD facilitates ICT Roundtable Processes in selected developing countries, where local stakeholders identify and formulate ICT-supported policies and projects based on local needs.

Second, working with training partners in each country, Capacity Development activities are organised to develop the skills and other capacities identified by the local partners.

Third, IICD draws on its global network to provide information and advice to its local partners, also fostering local information exchange networks on the use of ICT for development. The best practices and lessons learned are documented and disseminated internationally through a Knowledge Sharing programme.

In support of these activities, IICD invests in the development of concrete partnerships with public, private and non profit organisations, thus mobilising knowledge and resources needed by IICD and its local partners.

Country Programmes are currently being implemented in Bolivia, Burkina Faso, Ecuador, Ghana, Jamaica, Mali, Tanzania, Uganda and Zambia. For more information, visit: [www.iicd.org](http://www.iicd.org)