

Using ICT in the Agricultural Livelihoods Sector

IICD's agricultural livelihoods sector projects are aimed at improving the incomes of small-scale farmers and improving levels of efficiency in the agricultural sector, using ICT. This sector is the largest focus for IICD, with a total of 65 projects, programmes and policies. Across the nine countries in which IICD is active, the projects have so far reached approximately 180,000 active users and no fewer than 2,500,000 direct and indirect beneficiaries. The users primarily include small farmers and farming associations, traders and trade organisations and informal small and medium-sized businesses. The ICT users are reached through a combination of information centres with internet access, mobile services, rural radio and television and voice radio.

Better access for better lives

Our Livelihoods programmes focus on providing information to farmers on inputs, market prices, and supply and demand; exchanging scientific and experience-based information about traditional and modern production techniques; and providing ICT-based business support services such as multimedia tools for planning and administration, marketing and promotion.

Improving the productivity among small producers has not been effectively targeted by private sector and development partners over the past few decades. And yet, their productivity, including their ability to efficiently store and process stocks, can provide the basis for tackling both local economic problems as well as global food shortages. Currently, many small producers do not have access to more efficient production techniques and markets.

One way to enhance production and therefore improve competitiveness can be achieved through provision of better access to information and market prices, supply and demand and more effective production techniques. Over the past few years, this has become strongly dependent on ICT access. This can particularly be seen amongst the IICD programmes which look to enter foreign markets.

In line with all IICD's sector programmes, at project level, emphasis is focused on three key goals. Firstly, improving the competence of the producer: in this case the farmer. In practice this means, for example, reducing



Mango production facility. Mali.

household risk and vulnerability to income loss by building awareness in the community of crop protection and diversification strategies.

Secondly, improving the quality of the product or service. Improving the channels through which knowledge is gathered, stored and accessed and information disseminated has been proven to naturally encourage an overall improvement in product quality.

Lastly, improving organisational processes for production, trade and exports. Enhancing administrative processes from plantation, processing, storage, packing and delivery, can both improve the quality of the produce, as well as address issues related to both national and global food shortages.

Country case: Livelihoods in Mali

IICD's livelihoods sector programme began in Mali with two Roundtables, one in 2004 and the other in 2005 – from which 10 projects were eventually taken into formulation. In Mali, the livelihoods programme uses ICTs to improve five main areas:

Access to price information

Farmers in isolated rural areas such as the province of Sikasso in the south of Mali are often found to be unaware of the value of their crops in main markets. They find themselves in a poor negotiating position with regard to middlemen, who routinely under-represent the final selling price and overstate transaction costs. The same holds

Rural Information System for Farmers in the Sikasso Region

The Regional Committee for Coordination of Rural People (CRCR) in Sikasso began a project called Jèkafo Guèlèkan, with the aim of improving communication and information flows between local farmers' organisations in the province of Sikasso, and the regional and national authorities: thus elevating the voice of the farmer in the political debates surrounding agriculture. Local Committees for Coordination of Farmers' Organisations (CLCOPs) in seven main towns and villages in the Sikasso province form the anchor points for a communication system for the farmers' organisations affiliated to CRCR – covering 215 local organisations, and a total of more than a million stakeholders (51 % female). The project is using computers and the internet to improve the information streams to and from the CLCOP's, and local radio to disseminate specific information on a broader scale.

for the price of seeds, fertiliser and other inputs, with farmers paying an inflated price for inputs. Farmers may also be unaware of strategic opportunities within their own region: which crops and commodities are fetching higher prices in surrounding towns; which products are in high demand, and so on. Getting accurate and up-to-date price information to farmers, therefore, can have a

dramatic impact on their negotiating position in the agricultural economy and on their cash income.

TV Koodo

Early in 2005, the Institut Africain de Bio-Economie Rurale (IABER), with financial support from IICD, initiated a project to provide information on agricultural markets through a puppet-animated television programme entitled "TV Koodo", which is linked to the IABER website (www.iaber.bf). This project provides television viewers in Burkina Faso with information on market prices for livestock and grain every two weeks, in addition to discussing various topics with guests who are invited to participate in the broadcasts.

Access to agricultural information

A review undertaken in 2003 of global and national agricultural information systems carried out by IICD with support from UK Department for International Development (DfID) indicates the need for coordination and streamlining existing agriculture information sources, both internationally and within developing countries. There is a discord between the information needs of farmers and the information provided, which is insufficiently localised and overly scientific in its presentation. Generating local information and customising content is an area where national systems can play a role.

Information Network in Mandé

This project tackles the information and communication problems of farmers in the Mandé region, south of Bamako. The almost total lack of infrastructure in this region makes it very difficult for the implementing organisation, Fabema, to reach its constituent members and to inform them about activities, awareness workshops and market prices. Through a combination of telephone-Internet technology and an audio-based radio communication system (RAC), this project will establish a pilot network between the small town Bancoumana (where Fabema's headquarters are located) and Bamako (where the offices of 3AG are located) on the one hand, and four villages on the other hand.

Access to national and international markets

It is important to work towards increasing the level of access farmers have to potential

markets, to facilitate contact between sellers and buyers, promote agricultural exports, facilitate online trading, and make producers aware of potential market opportunities including consumer and price trends in northern markets. It is also important to help intermediary organizations and programmes, such as CRCR, IER, PCDA etc. working with farmers to monitor the quality of production and apply standards in order to comply with regulations set out by major importers, including the European Union.

Information System to Increase Exports of Fruits and Vegetables

Fruilema, an enterprise linking 5 major fruit exporters and hundreds of mango producers, was seeking to acquire the tools and resources needed to meet the stringent requirements for exporting Malian farm products to international markets. IICD has been supporting a project which involves setting up an information and communication system to identify the producers, farm plots and the quality and quantity of produce for the purpose of analysis, understanding and decision-making support. The database is coupled with a website to enable the information to be disseminated to various stakeholders such as producers, trackers, collectors, importers.

Increasing production efficiency

Farming is an uncertain business, with farmers facing many threats to their harvest from poor soils, drought, erosion and pests.

Sene Kunafoni Bulon

This project is collaboration between three large farmers' organizations in Sikasso (the Union of Mango producers, the Federation of Potato producers and the Federation of Women Mango Transformers) and the regional branch of Mali's National Institute for Agricultural Research (IER). It focuses on the transformation chain of products like mangos, onions, potatoes, etc. In response to requests made by members of the farmers' organizations, IER looks up information on production and transformation methods and passes it on to them. The project is improving the flow of information to and from IER and between farmers using a combination of the internet, video, local radio and posters.

Climate change is adding another level of instability to the lives of farmers; increasing weather instability and increasing temperatures require adapting techniques to the changing ecological conditions. In this environment, stimulating and enhancing the flow of information from organisations, such as the National Institute for Agricultural Research in Mali, about production techniques to farmers can open up new opportunities for farmers to document and share experiences with each other.

Creating a conducive policy environment

Development and sustainable growth of the agriculture sector depend on a favorable policy environment, including a favorable investment climate, transport and communications infrastructure, and research and development in the service of innovation in the sector. Supporting agricultural development must include development of reliable and affordable country-wide infrastructures and particularly measures that target rural communities.

Mali is currently undergoing a major reorientation in the roles of the state and the other actors in agriculture. The recently adopted Loi d'Orientation Agricole is reflecting this new dynamic.

While national ICT policies address broad areas of telecommunication policy and infrastructure, it is important that sector policymakers to reflect on how ICT can be utilised to support their over-arching aims.

Impact of IICD's Agricultural Livelihoods projects

The impact of all IICD livelihoods projects are analysed through a number of key indicators. The Monitoring and Evaluation (M&E) data collected from the outset looks at 4 indicators (*Awareness, Empowerment, Economic Impact and Impact on Livelihoods*), which can all give a strong indication of the effectiveness of our programmes. Three will be briefly discussed here:

Empowerment

This measure gives an indication of whether end-users perceive an improvement in their social status, experience greater sense of self-confidence, an influence on their decision-making skills, behavioural change and an overall improvement in skills.

Empowerment is an important indicator for all types of projects, but in particular for the

projects that directly aim to empower farmer communities.

Economic Impact

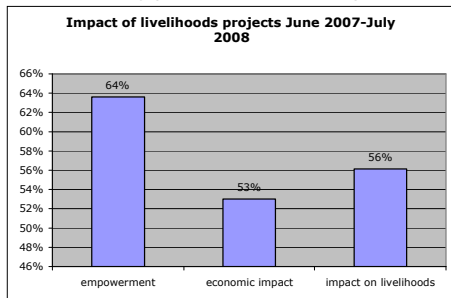
This is measured on three different aspects that together give an indication of whether end-users perceive improved market access, an improved negotiating position, and change in their levels of income.

Economic impact is the ultimate aim for all farmers who participate in the IICD projects, and most of our projects likewise aim to directly increase economic impact for farmers, for example the projects focusing on price information systems and on market access.

Impact on Livelihoods

This is measured on four different aspects that together give an indication of whether end-users perceive improved levels of cooperation, access to information about efficiency and production methods, and improved infrastructure/connectivity in their community

The types of projects focusing directly on aspects like improved access to information are especially found in the projects that promote agricultural information systems and increasing production efficiency.



Analysis of results

The results (shown below), are drawn from data collected between June 2007 and July 2008, and show a significant increase of around 20% over time in the levels of empowerment felt by participating users. This increase can be explained in part by the rise in the number of users trained through the project, which means that more people can interact directly with the information services provided by the project. There is also an indication of a better orientation of project partners in terms of the specific information needs of farmers and small and medium-scale entrepreneurs.



Focus group meeting for the two farmers unions of Sene Kunafoni Bulon and Jèkafo Guèlèkan. Mali.

For most projects, IICD found both an increasing economic impact in terms of improved revenues and a sector-specific impact in terms of efficiency, cooperation and productivity. While it was difficult to achieve an increase in economic impact during the implementation period, over 50% of all current users indicated having directly benefited from using the ICT facilities and information services provided through the projects.

More information

For more detail on any of information contained in this document, or more general information about IICD's work visit our website: www.iicd.org

If you have any further questions, please get in contact with Information Services, who will forward you enquiry to the most suitable person: information@iicd.org