

The use of IT in agriculture for increased transparency and traceability at cooperative level

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Country: Rwanda

Sector: Agriculture



CHALLENGE

In the past, the Rwanda coffee industry relied on traditional processing, with low quality and without any added value. Since 2002, the coffee sector made huge strides towards improving processing technology producing better quality coffee referred to as 'fully washed coffee'.

In Rwanda, this specialty coffee industry is built on a relationship business model instead of the conventional spot market business model. This new business model is based on building up personal trade relations, which requires new means of communication, standards, ethics, transparency and traceability where close interaction with the supply chain is possible. Related to that one of the key activities carried out by SNV Rwanda over the last two years is the follow up of management standards of coffee cooperatives and private coffee washing stations, and compliance on Fair Trade Labelling Organisation (FLO) standards, to introduce new coffee cooperatives for certification, and ensure a good tracking cost and information records.

Challenges in the agricultural sector are related to high operating costs, difficulty in accessing credits, poor statistical data, poor financial management and poor traceability of the product. Coffee washing stations need to acquire proper financing skills in order to optimize available resources and current credit access options need to be restructured. CWSs can reduce the cost of operations and increase profits if they are properly managed, stated the stakeholders when setting up the new strategy. In a recent analysis made by OTF Group (2008), best management practices would increase incomes in coffee sector by 8 million US\$ per year.

Information technology plays an increasingly important role in linking cooperative members to high quality product supply chains. In order to take advantage of this, SNV developed under its partnership with IFAD aimed at '*Brokering Knowledge for upscaling best practices in inclusive market access in ESA*', the Information Management System (IMS). This to enhance transparency as a means of following up on the management system of any cooperative and improves traceability, which allows for the location of product origin by farmer and/or collection site

CLIENTS

Our main client and partner in developing the tool was OCIR CAFÉ, the National Coffee Authority. It is a coordinating and regulating body, having as mission to promote the coffee sector and to ensure an enabling environment for coffee business.

Since 2006 SNV Rwanda has been working in partnership with OCIR CAFÉ and other stakeholders (USAID, IFAD, FLO), to boost the coffee sector. Activities have focused on organisational and institutional efficiency, technical issues, access to financial services, marketing, communication, and creating synergy between stakeholders with respect to services and products. SNV Rwanda currently supports 64 coffee cooperatives out of the 125 spread in the whole country, with an outreach of 37,000 farmers.

METHOD / SNV INTERVENTION

SNV developed the Information Management System (IMS) initially for coffee washing stations in 2009. This was done in collaboration with OCIR café, SNV's main partner in the coffee value chain. Later in 2010 it was adapted to the beekeeping sector.

IMS aims to correct weak information flow mechanisms throughout the value chain, particularly technical and financial information flows. Organising this information electronically helps farmers improve their management performance and help processors and distributors expand their trade networks, resulting in better products for the consumer.

IMS has many features that give it various advantages over other similar tools. These include:

- A user-friendly interface
- Tracking both cash flows and product flows
- Safe data storage and possibilities for data retrieval and editing
- Fast processing of data
- Linking to geographical information systems
- Access based application which can easily be adapted
- The ability to centralise statistical data on cooperatives (if further developed)

The IMS allows for location specific data processing by using a Geographical Information System (GIS). This enables interactive mapping of product and production data on digital maps on an online interface. It registers daily cherry purchases at different collection sites, and when needed, produces orderly overviews, reports and financial statements thereby allowing registration of cooperative members and non-members.

Figure 1 Example of map outputs: Number of suppliers per sector/Cherries purchased in KG/Number of trees

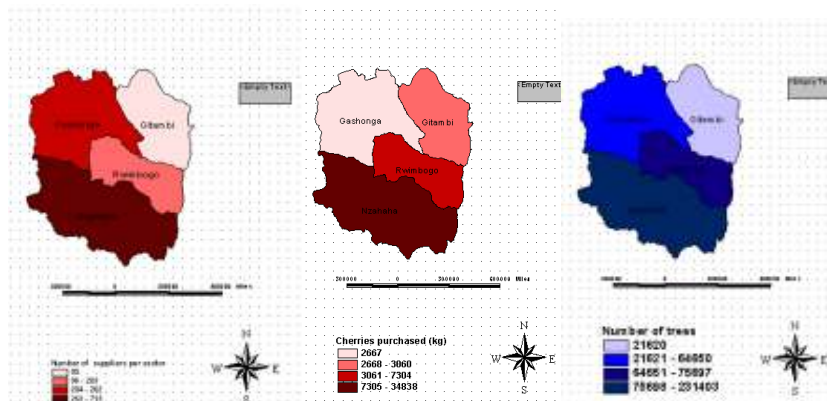
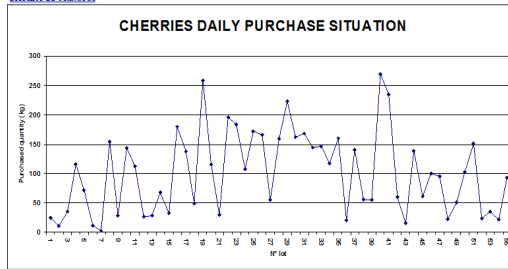


Figure 2 Examples of reports as output of IMS – Cherries daily purchase situation /Operating cost /breakeven analysis

COOPERATIVE COCAGI
SECTEUR DE RWIBOGO
DISTRICT DE CYANGU



Breakeven Analysis

DESCRIPTION	TOTAL EXPENSES	FIXED EXPENSES	VARIABLE EXPENSES
Permanent staff	1,605,180	1,605,180	0.0%
Communication cost	387,575	387,575	0.0%
Washing station maintenance cost	295,600	295,600	0.0%
Local taxes	0	0	0.0%
Fuel	880,145	880,145	0.0%
Insurance WS and Store	0	0	0.0%
Purchase of cherry	48,454,791	0	64.8%
Bags-cherry	792,200	0	1.1%
Cherry transportation	11,111,872	0	14.9%
Travel allowance (travel,accommodation & allow.)	1,308,809	0	1.8%
Casual labor	5,259,900	0	7.0%
Fuel & lubricants, Electricity	1,168,736	0	1.6%
Office supplies	978,611	0	1.3%
Stores rent	11,947	0	0.0%
Transport of parchment	31,200	0	0.0%
Loading/offloading fees	389,630	0	0.5%
Hulling cost	0	0	0.0%
Bags-parchment	0	0	0.0%
Wires on bags	0	0	0.0%
Bags-Green coffee	0	0	0.0%
Charges - Rwashocoo	27,530	0	0.0%
Depreciation	2,057,647	0	2.8%
Security expenses	0	0	0.0%
Total fixed expenses:		3,148,501	
Total variable expenses:			95.0%
Breakeven sales level:			74,770,274

OUTCOME

The pilot phase

The first pilot was conducted successfully by the Rusizi-based, COCAGI coffee washing station cooperative, and covered the 2009 coffee season.

COCAGI started in 1998 with 22 members and presently totals 1260 members. It has been FLO certified since 2006. Over the years it has encountered many problems from poor leadership, lack of technical skills to financial mismanagement as workers went unpaid for months. Through SNV's support it was able to overcome these adversities. These supports included trainings in, and advise on leadership and ownership, governance, technical and financial management, as well as the introduction of IMS.

The results from the pilot were presented during a national workshop held in 2010. These were very positive.

- Through the use of IMS, COCAGI was able to regain trust among its farmers, buyers and financial service providers. With the IMS, farmers are now able to follow all transactions and can ask for print-outs at any time.
- Because of this, farmers sold more coffee through the cooperative, and production went up from 350 tons in 2009 to 620 tons in 2010 (a 44% increase).
- Financial service providers also gained more trust in the cooperative due to the improved reporting (balance sheets in due time). In consequence of this, credit received from banks almost doubled from 45 000 USD in 2009 to 86 000 USD in 2010.
- IMS allows produce to be traced back to the individual producers, thereby complying with buyer and certification demands
- Finally the adaptability of the tool to local circumstances allows scalability and ownership. Indication of this is that the tool is highly sought after beyond the coffee and beekeeping value chain, and the Rwanda Development Board has now officially taken the lead to upscale the tool at national level.

Upscaling

Because of the positive results from the pilot, it was decided to extend the pilot phase to 15 other coffee washing stations targeting a total of about 9000 coffee producers. SNV also adapted the tool for beekeepers' cooperatives. There is clear need for a tool like IMS as many of these cooperatives have poor record keeping practices making it impossible for financial institutions to see trends, performance, income and profits realised from beekeeping and thereby limiting members' access to financial services¹. SNV Rwanda works currently with 26 beekeepers' cooperatives (out of the 60 in Rwanda) with a total outreach of about 13,000 beekeepers. Pilots by five beekeepers' cooperatives have been planned by the Rwanda Development Board (RDB) and SNV in the coming year. This represents a total number of 30,000 beekeepers in 8 districts with a total annual production of 64 tons of honey.

Even though it has been decided that the pilot phase should be extended, funding is not assured yet. The IFAD-SNV partnership which helped develop the tool, ended June 2010, making it necessary to find external funding. For this reason SNV and OCIRCafé presented the IMS tool to over 35 different stakeholders May 2010. Strong interest in the tool was expressed by RDB (Rwanda Development Board), Rwandan Tea Federation, Banque Rwandaise de Development (BRD), RHODA (Rwanda Horticulture Development authority), Rwanda Animal Resources Development Authority (RARDA) and a follow-up meeting would be the next step.

IMS was also presented at the learning event under the regional IFAD-SNV partnership that was held in Nairobi in June. Other countries such as Kenya, Zambia, Ethiopia, Mozambique, Uganda, have shown their willingness to develop the tool for the livestock, oilseed and horticulture sectors. Together with these countries SNV Rwanda will need to look at the possibilities on how to develop it over the border.

Ownership

Before continuing the meetings on up-scaling it was necessary to clarify the ownership of the tool. From the start it was clear that it would and should not be SNV as our outreach is limited and it would not fit within our development objective to make the tool as widely available as possible. Thereby we would need government support for sustainability.

In Rwanda, the Rwanda Development Board (RDB) is best indicated to manage and take ownership of the tool. They bring together all government agencies related investment in the country under one roof. They are independent and report directly to the President. They are guided by a board that includes all ministries. RDB has an ICT department in which the tool could further be developed and upscaled over the different agricultural sub-sectors. Hence RDB can play the linking role with other government institutions and potential financial partners to further develop the IMS package. SNV will support the initiative technically and follow-up where necessary. We will need to assure intellectual property so that upscaling can be freely done in other SNV countries.

Discussions on the ownership issue were initiated with RDB in June and they agreed to further take the lead. A follow-up meeting was organised in July with the interested parties constituting of stakeholders from agriculture sectors, banks, donors, private companies, farmers organisations. The objective was to pave the way for further upscaling. Unfortunately no commitments were made on the request of RDB who wanted a clearer picture of roles and responsibilities and actual budget. SNV and RDB therefore agreed to formalise the collaboration before continuing and currently an MoU is being elaborated..

The process has thus not always been very easy but progress is made and the tool has been very much appreciated by many.

"The information management system helped us to combat frauds. Our members are proud to find their names in the system and that they are able to retrieve information on transactions whenever they want. This tool has improved management, reporting, and trust between our partners, members and staff." Japhet Habimana. Executive Secretary of COCAGI

¹ Beekeeping/Honey Value Chain Financing study 2009

LESSONS LEARNED

IMS is only as good as the data entered. It is thus important that the package includes clear regulatory guidelines, procedure manuals, training, as well as a backup system to prevent data loss. This makes the total package quite expensive at around EUR 7 000.00 per cooperative. This includes the application, training, user guides, cashbooks and technical support for one year. Costs for a computer and/or qualified personnel should be added to this amount if the cooperative does not have access to one or the other, as well as power supply. A reduction of costs is foreseen through upscaling, so that cooperatives will be able to pay for maintenance and updates through their membership fees.

Challenges at cooperative level, include a possible reluctance of cooperatives to increase transparency and traceability. They may therefore decide not to apply the system. This will need a change of mindset, but it is hoped that the pressure to ensure traceability from both buyers as producers will help in this respect, as was shown by the COCAGI example. Information exchange on the use of this tool between producers will be important in convincing the cooperatives to implement it.

Further technical challenges are related to practical issues, such as electricity and computer literacy.

On a macro level, we need public support for upscaling but the regular reforms at government level and the often limited human capacity make it difficult for government institutions to allocate the necessary time to take the lead and follow-up on the implementation process. It is important to embed IMS into a long-term project as soon as possible and key will be our collaboration with the government.

CONCLUSIONS AND NEXT STEPS

Even though IMS has proven its value in the coffee sector its application needs to be upscaled and the number pilots extended. The uniqueness of IMS is that it is easy to adapt and can be used by any cooperative in any sector. Collaboration between government, private sector and financial service providers is key for a successful implementation of the tool.

The roles and responsibilities of each of the agricultural sub-sectors for the upscaling and implementation of the IMS at their cooperative level have already been outlined in a project proposal prepared by SNV. The proposal will be discussed with RDB and worked into an action plan for 2010-2011.

SNV will give support to the SNV countries willing to take up the tool and we will continue to market the tool abroad, during international conferences and expos and contribute to its development.

STANDARD DATA

- ASSIGNMENT: Rwanda Coffee Sector capacity strengthening
- CLIENT: OCIR CAFE
- LEAD ADVISOR(S): SIHIMBIRO François
- PPD: 106
- CONSULTANT : 64 PPD
- CLIENT REVIEW SCORE: 85