Agriculture, libraries and human development: Case studies of Europe, Africa and Latin America

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Abstract:

Information is crucial to sustainable farming in developing countries, yet public library services that address farmers' information needs are hard to find. There are vast stores of useful information on the Internet, about new farming methods, pest control, crop disease, insurance, care of livestock, market prices, the weather. Yet it is even more difficult to find public libraries in developing countries serving farmers through information and communication technology (ICT). But the examples of innovative public libraries, successfully serving farmers, demonstrate the potential which can be realized at the local level. Being local and close to the communities that in developing countries has big representation allows them to reach out to a significant part of small farmers and traditional crafts makers. Farmers in developing countries need information, but often they lack access to infrastructure, ICT skills and sometimes are even illiterate. Public libraries, equipped with ICT and knowledgeable librarian, can meet needs of local communities, providing a) physical access; b) skills training c) guiding in information resources and selection d) if trained, even transfer of knowledge to illiterate farmers. This case study presents a number of public libraries in various countries, who have developed training strategies to prepare staff of rural libraries in order to provide necessary skills to their communities to address challenges of their environment: educational, health, agricultural and others. Training of trainers, transferring skills to the community and generation of human and social capital have been strategies that have been successfully implemented by some public libraries across Europe, Africa and Latin America.

Introduction

Increasingly, the mission of public libraries includes contributing to social inclusion and development of local communities: encouraging community participation and learning, and

expression and sharing of culture and identity. Today public libraries in many countries have taken on the role of managing the creation of services using information and communication technologies (ICTs), for example, the internet, mobile and smart phones and social networking tools, to express and disseminate local knowledge and to enable communities to share socio-cultural identity. These libraries are making significant contributions in the areas of health, politics, education and community communication. By providing access to information focused on community needs and interests, and demonstrating proactive approaches to service delivery that include active participation of service beneficiaries, public libraries are contributing to social and economic development in their communities.

For the 70 percent of the world's poor who live in rural areas, agriculture is the main source of income and employment[1]. Information is crucial to sustainable farming everywhere, and there are vast stores of useful information on the internet, about new farming methods, pest control, crop disease and insurance, care of livestock, market prices and the weather. This information could play an especially vital role in developing countries, where resources are scarce and communities are marginalized by distance, difficult terrain and poor transport infrastructure. Local libraries are close to the communities they serve, enabling them to reach out to significant numbers of small-scale farmers and traditional crafts makers.

Yet it is hard to find public libraries in developing countries that use ICT to serve farmers. However, the few examples there are of innovative public libraries that use ICTs to offer information and communication services for farmers demonstrate their impact at local level.

Public libraries serving agricultural communities

Serbia, Europe

With support from EIFL's (www.eifl.net) Public Library Innovation Program (EIFL-PLIP)[2] Public Library Radislav Nikčević (Jagodina, central Serbia) has revitalized four rural libraries and created a network of libraries that provide information and communication services especially for farmers. With a small grant from EIFL-PLIP, the library equipped four rural libraries with computers and the internet; they also increased stocks of books on agriculture. Staff of the libraries started to train farmers to use ICT to research more effective farming methods. The website www.agrolib.rs/pijaca was developed to enable farmers to advertise their produce, crafts and village tourism.

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[1] World Bank. URL: http://data.worldbank.org/topic/agriculture-and-rural-development

[2] EIFL's Public Library Innovation Programme works in developing and transition countries, at grassroots level, to improve standards of living and transform lives through supporting innovative use of information and communication technology in public libraries. EIFL-PLIP's target audience is the communities served by the libraries, especially people in need of information and ICT skills, but who lack access to ICT. Since 2010, EIFL-PLIP has awarded small grants to 39 library projects in 23 countries in Africa, Asia, Europe and Latin America. Communities reached include farmers, health workers and patients, women and girls, job seekers, the disabled and vulnerable children and youth.

The libraries acted in partnership with various institutions. The town assembly of Jagodina gave financial support for adapting and renovating the four village libraries to accommodate the new service for farmers, and to employ village librarians. They also allocated additional funding for books.

The Ministry of Agriculture through its Rural Development Support Network provided technical and administrative support and help in educating farmers. The Network representative encouraged farmers to attend lectures on agriculture. Each time the Network representative took part in lectures and panel discussions, farmers learnt more about important regulations, grants, competitions and significant agricultural loans provided by the Ministry.

The Agency for Small and Medium Enterprises and Registered Households provided assistance in registering farms and for the service's education program. The representative of the Agency attended and observed each professional lecture organized in the village libraries. Each time the villagers and farmers were informed about current measures of local and federal government to support rural life.

Library also offered ICT training to the farmers but before training the target group, librarians had to be trained to be able to pass on their knowledge. Village librarians were trained to use computers: the basics of the Windows environment, file and folder work, copying, cutting and pasting objects. Then, librarians were trained to open webmail accounts, to use Skype and to register and use social networks and forums, depending on their needs and interests.

The project changed the attitude of the rural population and farmers towards the library, and towards ICT. More farmers became members of village libraries and have started using the internet service, books and magazines on agriculture, and services of the AgroLib market for advertising their products. They also now regularly use other agricultural websites.

In 2012, a year after the end of the EIFL-PLIP project period (2010/2011), Public Library Radislav Nikčević conducted a survey of farmers. Ninety farmers filled in the questionnaire. Responses showed that the skills obtained and the resources now available in the library are actively used, especially the internet. According to survey results, 87 percent of farmers used the internet in the library to look for agricultural information, 67 percent searched for information in printed resources and 67 percent received information through agriculture related events in the library.

The survey also highlighted important outcomes arising from the use of library. First of all it proved that library had succeeded in equipping farmers with vital ICT skills – 62 percent of farmers said that, thanks to the library, they managed to obtain basic ICT skills.

The farmers also answered questions about the economic impact of the service, arising from the knowledge and skills gained: 70 percent of farmers said that information found in

the library helped them increase their production and / or improve their farming conditions; 50 percent said there had been direct financial benefits – that the information found had helped them to increase their income through sales of production or subsidies.

Latvia, Europe

Klintaine Public Library reached over 1,800 farmers with information by using webinars. The library organized eight live webinars for farmers and rural entrepreneurs, in co-operation with 20 rural public libraries and the Latvian Rural Advisory and Training Centre (LLKC) and webcast them, attracting 1,878 viewers.

The library demonstrated that webinars are a cost-effective, efficient way of reaching farmers with vital information. The webinars helped farmers learn about accessing European Union (EU) support and government subsidies; farmers learnt about farm accounting and tax reporting, agri-environmental measures and the pros and cons of organic farming. The library established a strong partnership with the LLKC, whose specialist trainers presented interactive webinars, stimulating debate and responding to farmers' questions during webinars and afterwards, via email.

After 8 webinars library organized a focus group of farmers to discuss the value and impact of the service. Feedback was positive. Among benefits farmers noted was the value of the information gained through the webinars. Participants also said they valued the opportunity to ask questions during webinars, and get immediate responses. Farmers said the webinars saved them time and money, because they did not have to travel to a central institution to obtain information. They said they were able to manage their agriculture related documentation better, as they had learned about e-services. There were social benefits: farmers who came to the library to view webinars said they appreciated meet other farmers, and they felt that they knew each other better, and would communicate more often in future.

Inspired by the library, its main partner organization, the national LLKC has decided to adopt the library's approach for its distance education programs with farmers. The library also convinced the Ministry of Agriculture to use webinars for live webcasting of regional agricultural conferences.

Uganda, Africa

The Connect Uganda service is an internet-based database of information for farmers throughout Uganda in local languages. This initiative is driven by Maendeleo Foundation, which promotes use of computers in East Africa in order to improve the economy of the region. The Foundation is working through five community libraries to test the service and if the pilot succeeds, it will be scaled up to reach the whole country.

With financial support from EIFL-PLIP the foundation planned to install three Android-based tablets in each of the five libraries, and to connect them to the internet through existing 3G and GSM cellular networks. However, during the implementation stage it was

decided to install 3 netbooks instead, because of connectivity issues. In three libraries, which had no electricity, solar systems were also installed.

The libraries are packaging existing and new agricultural information into a Wiki-based web page and translating it into three local languages. Libraries also offer farmers free access to the computers in the libraries, and librarians train them to use the computers.

At the time of writing this paper, 570 farmers were benefiting from this service. They had been trained to use computers, and currently have free access to computers in the libraries. In four of five partner libraries, Maendeleo Foundation surveyed 49 farmers, the majority of them owners of farms, to establish perceptions of benefits arising from the use of the service. The survey found that 57 percent of respondents had started to use library in the last 6 months, which suggests that the new service attracted new users. Half of surveyed farmers had no ICT skills before the training and 96 percent of them said that the ICT and e-literacy skills learned in the IT training had improved their farming. 94 percent of respondents also took part in agriculture related events at the library and 73 percent of them said they had applied the knowledge and skills obtained in their farming practice. 60 percent of respondents continue using library as a source of agricultural information, mainly finding information on the web. 88 percent of them said that this information had helped them to increase their production and / or to improve their farming conditions. As a result, 96 percent of respondents said that in the last 12 months library had become much more important to them personally.

Uganda, Africa

Rwenzori Information Network (RIC-NET) coordinates a network of community libraries. Working through its member library, Busongora Rural Community Library (BRIC), RIC-NET created a unique partnership between librarians, 'plant doctors' and Community Information Facilitators (CIF), who all work together to enable local farmers to access timely and reliable information. The plant doctors investigate and photograph plant diseases and send the photographs to research stations; the research stations respond by proposing solutions. The CIF ensure that information is repackaged into local languages. The library, equipped with relevant literature, technologies, skills and capacity ensures access to information and sharing of information by the farmers, and plant doctors.

Sharing of information is based on smartphones and a web-mobile portal through which farmers can locate and share agricultural information, news and advertise (URL: http://library.ricnet.co.ug). An online data base is also supported by an agricultural section in the community library with books, videos, periodicals and magazines on agriculture.

In just one year the service increased farmers' knowledge and skills to diagnose plant diseases and manage pests; this has translated into a reduction of crop pests and diseases and increased farmers' yields and income. The library reported that 780 people accessed the web portal and 1,050 came to the library between April 2012 and February 2013.

Chile, Latin America

In Araucania Region, a group of women from the indigenous community sector Juan Calfuman of Quinquerhue are involved into growing vegetables. Each of them used to produce their vegetables on their own, but thanks to the training received in the local public library and a website, they understood that partnering could increase production and profits. This resulting partnership enabled the creation of an association of women producers of vegetables, which generates income for their households.

Another public library of Chile, which operates in Panguipulli, earned its place as an important player in agricultural development. The library trained 201 farmers, mostly women, in online research and social networking skills. They also connected farmers to an online market, increased the library's stocks of books and journals on agriculture, and hosted lectures on farming methods. The new service fills an important need. Panguipulli is known for its beautiful scenery and lakes. But roads to the rural areas in the mountains are poor and the climate is harsh, especially in winter. As a result, farming communities have lived in isolation for many decades, with limited access to information about modern farming methods. The library, working with partner agencies, also reached the farmers through local radio. Fifteen programs on different farming topics were broadcast on a community radio station.

The public library can also be a space for development of other opportunities in the agricultural world: supporting local traditions, heritage and local customs though so-called "rural tourism". In the Toltén community public library enabled creation of local rural tourism business, providing microenterprise skills training, access to technology, meeting space and the opportunity to contact with the rest of the world.

Development and public libraries in agricultural world

Farmers in developing countries need information, but often they lack access to infrastructure, ICT skills and sometimes are even illiterate. Public libraries, equipped with ICT and knowledgeable librarians, can meet needs of local communities, providing a) physical access; b) skills training c) guidance in finding and selecting information resources, and d) if trained, transfer of needed knowledge to illiterate farmers.

Impact

The examples presented examples demonstrate that public libraries can achieve significant impact on the life of farmers. They demonstrate that improved ICT skills lead to improved farming practices. They also demonstrate that a whole range of benefits arise from access to the technologies – finding information on more effective farming methods, looking for new markets, connecting with existing and potential customers and so on. ICT access and skills also help to build new communities – both real ones, when the farmers through the activities in the library start to communicate more and share their experiences, and virtual, where farmers sell their products in virtual markets, and communicate their practices and

experiences through ICT, using video and other tools. Library survey results show that through ICT-enabled libraries, farmers are increasing their production and income, and their perception of the value and role of the library, and the value of ICT is changing.

Challenges

Operating in rural environments, where telecommunication infrastructure is often poor, and there are very few people trained to work with ICT, libraries need technical support related to power, connectivity and choice of ICT. Low-power ICT, going beyond the personal computer, for example, laptops, tablet computers, netbooks, smartphones, etc., are potential solutions. Above presented libraries from Uganda overcame this challenge finding technologies that require low electricity and building their content on the platforms that do not require a lot of internet bandwidth.

Rural librarians need training and preparation for their new roles. Research in Africa shows that in some countries, over than 50% of librarians lack technology skills[3]. Some rural librarians may have no library-related education and no ICT skills, and need training to use technologies in ways that serve community needs. This training should include technology skills development as well as knowledge about web and social networks.

Partnerships

The examples presented also suggest that public library services for farmers are successful when partnerships, for example, with agriculture experts, universities, development agencies, are developed. For these organizations public libraries can be a local actor, grounded in the community, with the skills to organize and deliver content deliver to the target group. With training, librarians can also help repackage information into local languages, and into relevant formats for dissemination (for example, audio, SMS messages).

These public libraries, which usually deal with poverty and despite of all challenges do everything to empower farmers to access vital information by library community, should be seen as important players in provision of special information. Operating at local level, they could benefit from partnerships with academic libraries which are generally located in larger towns and cities and have more resources and expertise in the area. The example of RIC-Net, above, shows how local libraries can link rural communities with expertise based at scientific and academic institutions.

Public library Radislav Nikčević, Panguipulli public library and Klintaine public library, have demonstrated that libraries can be trusted partners and effective institutions in supporting implementation of government policies and service delivery. In addition to ICT skills training, the libraries delivered distance or face-to-face training focused on government agricultural programs and services, helping farmers to access knowledge, support and funding. They also provide space for farmers to meet with experts - in the

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[3] Perceptions of public libraries in Africa. URL: http://www.eifl.net/perception-study

library or, through ICT training and web-portals, in virtual space. They have demonstrated libraries' capacity to contribute to and build e-agriculture and e-government services. Their experience, and evidence from the impact surveys, suggests that with minimal additional support, they could do much more.

Examples of the Maendeleo Foundation's Connect Uganda project and Rwenzori Information Network, which both operate through public libraries, show that non-governmental organizations can build successful partnerships with public libraries. Acting together they can more effectively address local social and economic issues: education, health, poverty, etc.

Processes that happen in public libraries are a part of human development, which increases opportunities for all the inhabitants of a country or region in various areas such as the education, health, recreation, culture and others. Through the intermediate goal is giving access to information and transferring skills to the communities, the overall goal of a human development focuses on improving the welfare, and not only material, of an individual.

"We must not, in trying to think about how we can make a big difference, ignore the small daily differences we can make which, over time, add up to big differences that we often cannot foresee."

Marian Wright Edelman