

Information communication between the library and the extension in the Brazilian Agricultural Research Corporation (Embrapa).

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Abstract

The exponential increase of information available and the potential mechanisms for storage and recovery made clear the need to extend the traditional concept of reference services/ mediation of information from libraries. The offer of information is located at the intersection of two fields of information science: the study of demands for profiles, and the organization, processing and availability of information for effective use. This work aims to present the experience related to the development of a project Embrapa Library System (SEB), whose main objective was to build interactive strategies of dissemination of knowledge generated by the Brazilian Agricultural Research Corporation (Embrapa). This project first resulted in a diagnosis of the extension in the state of Rondônia, which supported the creation of online and offline customer service in libraries, creating an information channel with news about the world of scientific and technological information and training for extension in the use of database and digital repositories of Embrapa.

Keywords: Extensive communication, information management, information dissemination, innovation, transfer of information and knowledge.

Introduction

The R & D institutions linked to agriculture have developed programs and projects out over the technological growth of rural areas. The feasibility of these objectives is linked to the generation of knowledge and information demanded by society and the transformation of knowledge generated in products, processes and services that can be used by social actors.

However, to enable the utilization of the results and the success of agribusiness, need to rearrange their agents available knowledge into profitable production systems. The small production needs a dialogue according to their reality and their producers, be necessary to prepare the technical assistance and rural extension to help incorporate the high production agriculture. Alves (2013) indicates that changes should urgently take place in the current culture of producers and research organizations and technical assistance and rural extension, aimed at transforming knowledge into production technologies.

In Embrapa, are identified actions that aim to turn knowledge into production technologies, such as assistance to farmers through the development of innovation networks to support the development of the sector. Also through projects such as the *Project Extensive communication of information: interactive strategies of dissemination of knowledge generated by Embrapa*, which aims to identify and develop channels of communication and interaction with rural extension workers to better provide access to information and knowledge generated by its researchers, under the responsibility of the State of Rondônia Library and Library Embrapa System (SEB).

Embrapa and the Library System

Embrapa, a public company, was established in 1973 and is under the Ministry of Agriculture, Livestock and Supply. Since its inception, took on the challenge of developing a farming and tropical livestock model that seek to overcome the barriers that limited the production of food, fiber and energy in the country. Currently has 17 core units and 46 decentralized dispersed in various regions. Keeps in its staff, 9,815 employees, of which 2,438 are researchers, as well as keeping up virtual laboratories, Labex in the United States, Europe, Asia and international offices.

In the same context it was created Embrapa Library System (SEB), made up of 43 specialized libraries in the research topics of each decentralized unit. Libraries have under its responsibility to organize, process, store and disseminate the knowledge generated, ie, treating, digitizing and making available the scientific production of the Company through its database and its repositories for open and free. SEB develops systemically management activities of scientific and technological information of the Company, currently subordinated to Embrapa Tecnology Information, Unit which coordinates the Organization and Dissemination of Information Science and Technology. Currently has 53 librarians working in the library, 39 assistants / analysts, the general collections of libraries gathers about 700,000 records, with more than 200,000 scientific and technological production of the company's researchers, and 52% of this production are available on internet access open.

Based on the development of technologies that encompass the functionality called Web 2.0, intensifying your relationship versus internet, support this way, the libraries in the initiatives that the approach of its users, wherever they are or wherever, just reconsiders its social role. The boundaries to offer existing knowledge in their physical and virtual structures were

broken and today, through new technologies, it became possible to gather and provide more and more information stored in their databases and according to the users profile.

In order to communicate new information formal and informal means may be used. According to Lima et al. (2010), informal channels can be exemplified by disclosure of new services and products offered by the library, of course offerings, promotions through online newsletters or electronic updates on the library site, while formal are the informative new acquisitions online, list of duplicates, online form to request further acquisitions or to request duplicates, among others.

However, for it to be disseminated in a systematic way, the information should be organized across the universe of actors who will use it for that, it is essential that its availability to happen quickly and that is accessible in the context of those for whom it is essential. As information and communication vehicle, the internet is quite a different tool. It offers low cost of production and delivery and interactivity. This interactivity can be understood by the user's independence in performing their reading non-linearly and thus building their own way. Another form of interaction is to make the products and free services to receive complaints, suggestions, praise, among others. This extends the relationship with the user, encourages participation and provides numerous developments.

Thus, there is the work of the Library Embrapa Rondônia, which has focused extensive communication, presented by Miranda and Simon (2002) as the most relevant information to support the transfer process or technology. Extensive communication, according to the authors, should be understood as the relationship between universes, ie a dynamic dialogue between the sender and receiver of information, an interactive mode of supply and receipt. It is a horizontal process connections, mainly based on interactions between individuals, institutions and content in a multidimensional perspective and ephemeral (MIRANDA; SIMEON, 2002). In the extensive model, the ultimate goal is to democratize and expand information, ie, promote immediate access knowing to whom and how this access will be made, as will be seen in the development of the project.

The Project

The project entitled *Extensive communication of information: interactive strategies of dissemination of knowledge generated by Embrapa*, was approved in July 2012, through the internal edicts of the Company. Aimed to, support the process of Technology Transfer (TT) through the organization, interactive dissemination of knowledge generated by Embrapa in order to consolidate the extensive communication model information.

For this, five specific objectives were structured: 1) retrieve, organize, process and make available the scientific and technological production of Embrapa Rondônia; 2) identify the information needs of multipliers in the region (rural extension and academics); 3) build a formal channel of interaction and collaboration, Embrapa's information station, based on collaborative networks to expand the possibilities of contact between Embrapa, its users and those to other users; 4) to train extension workers and academics in the use and exploitation of information sources developed by Embrapa; 5) systematize the process of delivering new information products through the development of informal channels of information communication.

The specific objective 2) identify the information needs of multipliers focus of this work, we sought to know the individuals that use the knowledge generated by Embrapa, to identify

them from their demands, which can be understood as a mirror of demands the farmers, the tools / channels that these actors more use to access the information they need and use information produced by Embrapa.

This identification was essential for achieving the specific objectives in order to start promoting extensive information communication in the library environment. With this, it is developing an information channel, the Embrapa Information Station with news about the world of scientific information, open to feedback and instant communication with the library. In this channel you can access publications, databases, read news, tutorials, events, among others. Available at: <<http://www.estacaoembrapa.com.br/>>



Also, they are also being held training for extension workers and students to the use and exploitation of information sources developed by Embrapa with the Database of Agricultural Research and Institutional Repositories . Available at: <www.embrapa.br/seb>.



Source: Embrapa.Todos.com (2015).

Another service that is being implemented Talk to the librarian, which aims to assist users on the produced and existing information in the Embrapa, concerning resolution of their informational demands and / or other questions related to technical and scientific information. It's an additional service available on the intranet of the institution.



Below the diagnosis of the report on the extension in the state of Rondônia, in the state of Rondônia, region northwest of Brazil.

Profile of rural extension in the state of Rondônia, northern Brazil

Embrapa Rondônia is an Ecoregional Research Unit engaged in the generation of knowledge and technology to the Amazon, with an emphasis on Rondônia and focuses its efforts on four main themes: coffee production vegetable, forests and livestock. For several technology transfer project works in partnership with the State Company, Emater-Rondônia. However, a direct communication channel between the unit and the extension was not identified. Thus, it was possible to identify a need for constant update on some specific cultures on the part of rural extension. In this sense, the establishment of a channel for promoting harmony between production and use of information technology would be effective to extension.

Initially it conducted a diagnosis for mapping the informational needs of extension Emater throughout the state of Rondônia. The instrument used was a questionnaire using Google Drive platform, divided into 4 parts: identification; information needs; Embrapa publications and sources of information. This division considered the proposal of Dias & Pires (2004) on studies of use and users of information. The questionnaire was sent to 51 municipalities in the state of Rondonia where Emater Rondônia has Customer farmer office. On the identification, the goal was to know the extension in the following aspects: time and place of work, the area of knowledge and education.

The second part, informational need, sought to know the main situations where the extension needs information and raise the demands of family farming, through questions about cultivation and creation. In the section on Embrapa Publications, the goal was to recognize the role of the company's publications from this audience, and identify trends for research in the state and the production of new content by the Embrapa.

The last part, Information Sources, aimed to identify the main sources used by rural extension of Rondonia. Sought to highlight the State intelligence units and to that end presented the appointment of three information units: the library Emater-RO, the library Embrapa Rondônia and the library of the Federal University of Rondônia. Questionnaires were sent to 135 extension was obtained return of 87 responses (64.4%), 51 municipalities surveyed, 28 municipalities returned (54.9%) of the municipalities. Regarding Identification, 62% of extension workers are male. The average time of operation as rural extension revealed 9.8 years. As for education it is observed to possess a good level of education, 40% with college degrees.

According to the extension, the call to the producer is the situation more demand information/ additional knowledge (48%) to resolve any questions or problems. Agricultural activities of greater relevance in the state and that are most demanded by farmers are: dairy farming, fish farming and coffee. Below the list of the most outstanding activities in the State of Rondônia (CONFEDERATION, 2010), and the main demands identified by respondents extension.

Table 1 - Informational demand of family agriculture

Activity	Quantity	%
Cattle	1	1%
Pisciculture	8	10%
Milk production	48	61%
Wood	1	1%
Horticulture	8	3%
Coffeculture	8	10%
Manioc	2	3%
Others	3	4%

According to data collected in free issues, there is need for more information on agro-ecological and organic production, which permeates any agricultural activities in the state. In addition to this, they appeared demands for fruit production of cupuaçu and peach palm and requests about marketing products. They resulted in 76 responses to this last question. When asked about what farmers produce more, the extension mentioned milk production, followed by the production of poultry (chicken), the fish and pigs, the latter two with the same number of quote.

Table 2 - Creation and production more common among farmers

Production	Quantity
Pigs	7
Milk	29
Cattle	6
Poltry	14
Fish	7

Most of the sources used to obtain necessary information, extension 77, of the 78 respondents mentioned that Google is the main search engine, and its daily use was reported by 71.2%, or 56 extension. Second, the most used source was the email, being used by 48.7% of extension, followed by social networks (Facebook), which appear as everyday use to exchange and access information of 29 extension. It appears in fourth place, the informal contact, via conversations with area colleagues, being preferred by 23 of the 78 respondents. The relevance of these sources was measured from a sequence of 1 to 5, wherein the closer to 1, it would be irrelevant to the source consulted.

The use of Embrapa databases appear in ninth place, with daily use of only 2 extension, though this figure rises to 32 as weekly option. Then come the Units of Information, highlighting the Library Emater Rondônia, with weekly use by 28 extension, of the 66 respondents and Embrapa Library Rondônia, has been appointed as weekly use by 23 of the 68 extension. Regarding the use of Information Units 51, 79 of the extension mentioned using some library. The usage frequency can be checked in the table below, where 13 mentioned extension never use a library.

Table 3 - Frequency extension to Information Units

Frequency	Quantity
Every day	0
2 a 3 times for week	19
1 time for week	16
15 to 15 days	9
1 time for month	14
Never used	13
Others	7

It's an interesting thing to note with regard to the services offered by the three units of information. They were presented 5 services commonly available in libraries and, surprisingly, most extension mentioned not knew them.

Table 4 - Units of Information Services used by extension workers

Service	Libraries			
	Know and use	Know and don't use	Know and use sometimes	Don't know
Loan	0	21	5	49
Comut	0	9	15	45
Portal Capes	5	10	18	42
Bibliographic research	6	10	24	30
Bibliographic normalization	11	11	28	22

Conclusion

For most organizations, the issue of availability of your information, both guiding the strategic process at managerial level, as those who support action planning, is a challenge. In the case of Embrapa, the availability of information for the company and for your specific audience, is directly related to their existence and survival as a research firm. Therefore, organize, process and make accessible the knowledge generated by Embrapa units, must be understood as a strategic action for the broad process of technology transfer and therefore of national development.

Library staff Embrapa Rondônia initially relying on the concept of extensive communication, has been working in the perspective of managing the end product of research conducted in the company in order to make it applicable to the reality of who it can benefit. Transfer to interactively information, making use of the techniques, methodologies and tools that provide social engagement, as selective dissemination strategies of information is the purpose of this study, which objects, above all, democratizing access to knowledge produced by Embrapa through actions that will strengthen the transfer area of the company's technology.

Thus, they identified the information needs of rural extension and university students of the city of Porto Velho; the need to build a formal channel of interaction and collaboration, based on collaborative networks to expand the possibilities of contact between the library, its users and those to other users; train extension workers and academics the use and exploitation of information sources developed by Embrapa; systematizing the process of delivering new information products through the development of informal channels of information communication.

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