

DISSEMINATING AGRICULTURAL INFORMATION THROUGH THE INTERNET: INDONESIAN CENTER FOR AGRICULTURAL LIBRARY AND TECHNOLOGY DISSEMINATION EXPERIENCE

Bambang Winarko
Indonesian Center for Agricultural Library and Technology
Dissemination, Indonesia
bwin64@yahoo.com

ABSTRACT

The Indonesian Center for Library and Technology Dissemination (ICALTD) has a duty to disseminate agricultural information to researchers, extension workers, academicians, and other general users. Previously, the dissemination was based on printed publications. However, along with the penetration and development of the internet, the method of dissemination has changed to ITC-based dissemination. CD/VCD and internet technology application plays an important role in ICALTD's dissemination of agricultural information. The involvement of internet technology in the dissemination of agricultural information ranges from purchasing online electronic journals for the main library collection to electronic-based processing and internet-based services. Efforts to educate stakeholders, such as administrators, content providers, and users, are carried out to ensure the successful dissemination of agricultural information.

Keywords: Agriculture, Library Collection, Information Dissemination, Internet, Education, Indonesia

1. INTRODUCTION

Bibliotheek's Land Plantentuin te Buitenzorg was established in 1850. After experiencing several changes, the library's name finally became the Indonesian Center for Agricultural Library and Technology Dissemination

(ICALTD). According to ICALTD¹ and *Pusat Perpustakaan dan Penyebaran Teknologi Pertanian*², one of ICALTD's missions is disseminating information related to innovations in agricultural technology and research results to fulfill information needs of researchers and farmers. The dissemination follows a policy that requires the utilization of all available communication media and tailoring to media that fit to the audience.

Since the emergence of the internet in Indonesia in the early 1990s, ICALTD has responded to developments on the internet. ICALTD's participation as a content provider on IPTEKnet was its first involvement in internet activities. Today, ICALTD has also embraced the digital library era by providing internet content for agricultural information without abandoning the conventional library. Thus, ICALTD's library is a hybrid that synchronizes both a conventional and a digital library.

2. THE COLLECTION AND PROCESSING OF AGRICULTURAL INFORMATION

In the hybrid library, the most common activities are developing the library collection and processing information. Without these two activities, library services cannot be conducted well. The next paragraphs discuss these two activities.

2.1 Collecting Library Materials

ICALTD collects library materials through gifts, exchanges, and purchases. Other collections come from institutions under the Ministry of Agriculture (MoA). Ministry of Agricultural decree No. 873/Kpts/Hm.430/11/1984 obligates institutions under the MoA to provide two copies of their publications to ICALTD³.

ICALTD collects not only printed materials, but also electronic databases/journals. The first electronic databases/journals to which ICALTD subscribed (in the form of CD-ROMs) were AGRIS (International System for Agricultural Science and Technology), AGRICOLA (*AGRICultural OnLine Access*) Database, The National Technical Information Service (NTIS) Bibliographic Database, *TROPAC & RURAL database*, *Journal of Biological Chemistry*, CAB (Centre for Agricultural Bioscience) *Abstract*, and *TEAAL* (The Essential Electronic Agricultural Library)³. Currently, most of the journals are subscribed as online journals that can be accessed via the internet. Table 1 shows the number of publications/journals purchased in 2006-2009.

Table 1. Library materials purchased 2006-2009

No.	Type of journals	Year / Number of Publications			
		2006	2007	2008	2009
1	Printed International Journals	25	2	9	9
2	Electronic International Journals	4 electronic databases/ journals /1202 journals	3 electronic databases/ journals /515 journals	6 electronic databases/ journals /528 journals	5 electronic databases/ journals /525 journals
3	National reference books and other library materials	75	4	90	48

Sources: ^{4,5,6}

2.1.1. Processing of Library Materials

The incoming library materials in ICALTD follow a process that ensures the material can be retrieved and obtained quickly and easily. The process is as follows:

1. The library materials in the form of books are classified using the Universal Decimal Classification (UDC). The classified book is then catalogued and labeled. Before shelving, electronic processing is carried out to input bibliographic information into the database to facilitate further processing and easy retrieval in electronic format.
2. Indonesian serials are electronically processed by inputting bibliographic information into the database.
3. Non-Indonesian serials are processed into Current Content and Selective Dissemination of Information Services. Both services send titles to the users via electronic mail.

4. Electronic journals/publications used directly by ICALTD users either inside ICALTD or in remote Working Unit/Working Implementation Units under the Ministry of Agriculture are provided via the internet.
5. Camera-ready copies of IAARD journals, bulletins, and news, the Indonesian Rice Knowledge Bank, and bibliographic publications are processed directly to the ICALTD website. These are also published as paper-based publications.

The first and second items in the list above, unlike other processes, are saved into a database. Information in the databases is then utilized for setting up other services, namely bibliographic publications and OPAC.

3. USE OF THE INTERNET FOR DISSEMINATING AGRICULTURAL INFORMATION

3.1 Involving the Internet in Dissemination of Agricultural Information

ICALTD began employing the internet for disseminating agricultural information when the internet first emerged in Indonesia in the early 1990s. In April 1993, ICALTD became an information provider for Micro-IPTEKnet³. With the help of IPTEKnet's expertise, ICALTD produced a database of agricultural research that was then deposited at IPTEKnet. The next development of internet technology application by ICALTD included a) installing a leased line at ICALTD and at the headquarters office of IAARD Jakarta to *Wasantaranet*, b) Setting up network models consisting of six IAARD working units, and c) providing computers and modems for the Assessment Institute for Agricultural Technology in 24 provinces in Indonesia.

Today, the use of internet technology has been extended to all library and communication services. ICALTD's website (<http://pustaka.litbang.deptan.go.id/>) contains various features that enable users to obtain both scientific and applied technology in the area of agriculture. The features of ICALD's website are described below:

Publications. This feature disseminates Indonesian agricultural science and technology research and development from primary journals, reviews, and newsletters⁷. The journals are presented in full text in .pdf format. The journals in the feature include:

1. *Indonesian Journal of Agricultural Science*. This is a primary journal that contains scientific reports of agricultural research in Indonesia. IJAS is been published in English twice each year.

2. *Indonesian Journal of Agriculture*. This journal contains agricultural innovation articles resulting from IAARD research and is published two times a year in English.
3. *Jurnal Penelitian Dan Pengembangan Pertanian*. This is a bilingual scientific review journal on agricultural research and development in Indonesia. The journal is published quarterly in English and Bahasa Indonesia.
4. *Majalah Pengembangan Inovasi Pertanian*. This magazine is published quarterly in Bahasa Indonesia. It contains short scientific articles of professor oration and policy on agriculture.
5. *Buletin Teknik Pertanian*. This bulletin, which aims to help research assistants by describing techniques applied to agricultural research, is published two times a year in Bahasa Indonesia.
6. *Jurnal Perpustakaan Pertanian*. This journal is dedicated to librarians within the Ministry of Agriculture. It publishes scientific reports of studies on libraries, information, and documentation and is published two times a year.
7. *Warta Litbang Pertanian*. This scientific newsletter is published in Bahasa Indonesia. Dedicated to general readers, the newsletter publishes articles on scientific agricultural research findings that are written in a popular style of writing. *Warta Litbang Pertanian* is published bimonthly.

Library Services. Library services provided on the ICALTD website aim to reach a broad range of users with agricultural information. Accessing library services via internet enables the users to get bibliographic data on the ICALTD collection without visiting the physical library. Library services on the ICALTD website⁸ include the services described below:

1. Online Catalog. The online catalog includes a book catalog, a serials catalog, CARIS, and *Indonesiana*. The book catalog contains bibliographic data about books, while the serials catalog includes journals, magazines, and other serial publications. *Indonesiana* is cataloging service that provides only Indonesian articles. CARIS (Current of Agricultural Research Information System) provides information related to ongoing research conducted by IAARD.
2. *Abstrak Hasil Penelitian Pertanian Indonesia* contains bibliographic data and abstract in Bahasa Indonesia. The *Indonesian Agriculture Research Abstract* is the English version of *Abstrak Hasil Penelitian Pertanian Indonesia*. The *Indeks Biologi dan Pertanian Indonesia* is a bibliographic publication that includes biology and agricultural subjects, but only bibliographic data is provided in this publication.

The content of *Bibliografi Khusus* is bibliographic data of the current issues of agricultural research. The other specific publication is *Abstrak Komoditas*, which provides bibliographic data and abstracts of certain commodities in English and Bahasa Indonesia.

3. *Bank Pengetahuan Padi Indonesia* consists of knowledge about rice. This knowledge bank provides scientific information but also applied technology that can be implemented by the general users.
4. Current Content. This service provides a table of contents of the international journals to which ICALTD subscribes.
5. Selective Dissemination of Information. Unlike Current Content, Selective Dissemination of Information provides abstracts of the articles in international journals to which ICALTD subscribes.
6. Multimedia Collection. This feature contains agricultural information in multimedia formats. The information can be agricultural science or technology.
7. *Inovasi Pertanian Di Media Cetak*. This feature provides articles on agricultural technology innovation written by the Indonesian Agency for Agricultural Research and Development staffs in printed mass media.
8. *Prima Tani di media Cetak*. This feature contains articles related to the PRIMATANI program implementation that have been published in mass media. PRIMATANI is a pioneer program in agricultural technology innovation and socialization.

AGRITEK. AGRITEK is a collection of brochures and leaflets about agricultural technology for general users. This feature consists of ten subsectors: food crops, animal husbandry, fisheries, horticulture, estate crops, soil and agro climate, agricultural Socio-economics, post-harvest technology, agricultural machinery, and general agriculture⁹.

4. INTERNET EDUCATION

ICALTD provides education through the internet for administrators, content providers, and users. ICALTD synchronizes the training, workshops, and seminars to disseminate agricultural information through the internet and to ensure that the dissemination process can be conducted well.

Since the beginning its involvement with agricultural information dissemination on the internet, ICALTD has sent seventeen network technicians to the Asian Institute of Technology in Bangkok to learn information networking³. According to^{3,10,11,12}, other efforts to educate

human resources and users in managing and utilizing internet technology for agricultural information dissemination include:

1. Developing intranets, LANs, and home pages
2. Developing agricultural information databases
3. Increasing and managing internet access
4. Network utilization for computer technicians and librarians
5. Internet technology application for users

5. CONCLUSION

ICALTD responded internet penetration and development by involving the technology in the process of disseminating agricultural information. The involvement begins with the purchase of electronic and online publications, followed by processing it into electronic format/media. The dissemination of processed information is conducted not only by sending printed publications to users but also through application of internet technologies, such as electronic mail and websites. Education is also provided for internet managers, content providers, and users to ensure that the dissemination works as it should.

6. REFERENCES

- [1] ICALTD, *Mission Statement*. Retrieved on August 16, 2010, from <http://pustaka.litbang.deptan.go.id/eng/tentangPustaka.php?aboutID=3>.
- [2] Pusat Perpustakaan dan Penyebaran Teknologi Pertanian, *Laporan Tahunan 2008*. Bogor: Pusat Perpustakaan dan Penyebaran Teknologi Pertanian, 2009.
- [3] Hajatullah, I., S. Mansjur, and Maksum, *160th Anniversary of Bibliotheca Bogoriensis: Indonesian Center for Agricultural Library and Technology Dissemination*. Bogor, Indonesian Center for Agricultural Library and Technology Dissemination, p45-51, 2002.
- [4] Mulyani, E. S., Mansjur, S., Murdini, Haryanto, and Yewita, M., *Laporan akhir tahun pengadaan buku-buku perpustakaan*. Bogor, Pusat Perpustakaan dan Penyebaran Teknologi Pertanian, p10, 2006.
- [5] Mulyani, E. S., Murdini, Haryanto, and Yewita, M., *Laporan akhir tahun pengadaan buku-buku perpustakaan Tahun anggaran 2009*. Bogor, Pusat Perpustakaan dan Penyebaran Teknologi Pertanian, p10, 2009.
- [6] Mulyani, E. S., Mansjur, S., Murdini, Hartanyo, and Yewita, M., *Laporan akhir tahun pengadaan buku -buku perpustakaan tahun*

- anggran 2008*. Bogor, Pusat Perpustakaan dan Penyebaran Teknologi Pertanian, p10, 2008.
- [7] Pusat Perpustakaan dan Penyebaran Teknologi Pertanian, *Publikasi Badan Litbang Pertanian*. Retrieved on June 27, 2010, from <http://pustaka.litbang.deptan.go.id/publikasi.php>.
- [8] Pusat Perpustakaan dan Penyebaran Teknologi Pertanian, *Layanan Perpustakaan*. Retrieved on June 27, 2010, from <http://pustaka.litbang.deptan.go.id/layanan.php>.
- [9] Pusat Perpustakaan dan Penyebaran Teknologi Pertanian, *AGRITEK Koleksi Brosur/Leaflet Teknologi Pertanian Tepat Guna*. Retrieved on June 27, 2010, from <http://pustaka.litbang.deptan.go.id/agritek.php>.
- [10] Pusat Perpustakaan dan Penyebaran Teknologi Pertanian, *Laporan Pelaksanaan Pelatihan P4MI tahun 2007*. Bogor, Pusat Perpustakaan dan Penyebaran Teknologi Pertanian, p20-56, 2008.
- [11] Pusat Perpustakaan dan Penyebaran Teknologi Pertanian, *Laporan Pelaksanaan Pelatihan P4MI Tahun 2008*. Bogor, Pusat Perpustakaan dan Penyebaran Teknologi Pertanian, p25-52, 2009.
- [12] Pusat Perpustakaan dan Penyebaran Teknologi Pertanian, *Laporan Pelaksanaan Pelatihan P4MI tahun 2009*. Bogor, Pusat Perpustakaan dan Penyebaran Teknologi Pertanian, p11-82, 2010.