
CAAS information sharing and Perspectives for the framework development of high-efficient agricultural inforshare system

Pan Shuchun
All of CAAS

1. Current status of CAAS information sharing

The Chinese Academy of Agricultural Sciences(CAAS) has a strategic task of serving nation-wide agricultural and rural development and empowering farmers with science and technology. CAAS has about 10,000 staff members and 39 research institutes located across 17 provinces, municipalities and the autonomous regions with its own institute's library or reading room.

CAAS institutes produces research outcomes both in published and informally published materials including raw research data and materials and published papers in official publications. Formally published ones like databases, government publications, technical reports, conference papers and so on have been completely collected by libraries at both institutional and national levels. CAAS has been producing a bibliographic/abstracts database of "Chinese Agricultural Sci-tech Documents Database (CASDD)" since 1980s. It has now reached over 600,000 records and about 50,000 records are added annually. The data selected from the literature of more than 1000 titles of Chinese agricultural journals, proceedings and other materials which provides a comprehensive Chinese agricultural document to users. The recent years records are available at the CIARD RING from June 2011.

However, informally published documents or information covering research reports, research development reports, research project reports research datasets etc. are difficult to collect and integrate. Those research findings usually keep in the hands of researchers or research labs. Even within each institute, such research findings are hardly cummulated in its own institute library. And most of the institutes are showing scattered model in storage of their research findings. Also, different levels of facilities and equipments, non-standard knowledge/information organization, and lack of the long term digital preservation development plan for those research findings, as well as different documents processing methods in each research institute make the inforshare rather difficult.

There are surveys and researches undertaken to try to find ways for CAAS research information and data sharing, such as ARIS inforshare plan and other research projects by the CAAS library, however, the implementation of the respected infor share has been realized at some low level. Only consortium acquisition of published materials has been organized. The main reasons for the weekness of sharing among CAAS institutes due to

the lack of special project support and understanding of the importance of information sharing within CAAS.

In order to change such fragmented "information island" and integrate information in various formats, we have done some researches on building an integrated information repository system within CAAS to integrate all information resources in a knowledge base, according to disciplines. The Agricultural science data sharing platform (ASDSP) by the Agricultural Information Institute (AII), CAAS has been a good example. The building of institutional repositories and special database constructions in key fields of agriculture have been undertaken in recent years.

2. Perspectives of the framework development of information sharing

The Overall planning, internal and external project supporting, standardization and coordinated management of agricultural research findings are critical to realize access, sharing, monitoring and reuse of the agricultural research information among institutes. The continued and stable financial assistance and a sustainable developing mechanism for information sharing of the CIARD community are important. An effective and efficient information sharing needs a general planning, scientific management at all levels, cooperation with clear responsibility of each institute and etc. are necessary in realizing an ideal information resource sharing globally. Some key factors in the framework development should be considered are as follows:

(1) Enhancing unified planning and decentralized organization

The international information sharing platform requires a strong organization and leadership. On a voluntary basis, CIARD head quarters should take the lead in planning and organizing to lead information systems of all levels to work together under the guidance of a common goal and practical policies and regulations. There should be also an effective mechanisms to encourage and attract regional, national and local agricultural research information systems to participate CIARD activities and make their contributions. The decentralized coordination and organization is particularly needed to extend the impacts of CIARD activities.

(2) Promoting financial and project support

International information sharing system needs multi-channel financial support for its constant development, including support from international consortia and foundations, national government support, international organizations as well as support from enterprises. Information system itself also may provide information products and services to increase replenishment. Only when excellent and efficient services have been provided through constant research and improvement, and the information system becomes a reliable scientific supporting system to users, it may gain more ambitious prospects in development in the future.

(3) Stimulating Standardization throughout the whole process of information management and services

Standardization is a prerequisite for sharing of information resources. Standardized handling, processing and disseminating of information resources are guarantee for a barrier-free access of information sharing. Implementation of the standards depends on the full understanding and

conscious implementation of information institutions. However, no matter what standard to be used, we should enable the professionals clear and master its principles, requirements and specific methods for service descriptions and classification to facilitate the accuracy, availability and sharing of the standards in implementation. This also requires relevant personnel training and guidance particularly for harmonization and adjustment of descriptive data of information resources in different formats or using different standards.

(4) Building a high-efficient information sharing mechanism

International, regional, national levels inforshare system should be build with high efficiency in information services. A suitable information sharing operational mechanism at each level should be established to ensure the sustainable development of the system. At the regional and national levels, there should be mainly the operational and implementation of the coherent activities according to the overall plan of the international system. The mobilization and organization of registration of agricultural resources at national and local information resource systems will play the role of nodes to promote information sharing, and gradually increase and improve the agricultural and rural Information resources crawling, processing, repository building and utilization of the inforshare system to improve the efficient use of information resources.

(5) Ensuring efficient use of advanced ICTs

Whether the system is friendly in use relates the development of the system. Practically, it should (1) support any type of content storage, including published books, papers, journals, administrative records; articles, preprints, working papers, technical reports, minutes of meetings, all kinds of electronic documents; data sets, computer programs; visual model, simulation models and other Model; multimedia publications; bibliographic data; images, audio files, video files, digital library collections, a variety of learning objects and HTML web pages etc. (2) with more complete functionality. Registration of digital resources, its description, index, preservation, retrieval, interoperability etc. should be able to complete basic metadata exchange function. (3) comply with relevant standards. Mainly information resource metadata standards, identifier standards, and a series of different levels of technology interface standards. (4) supports OAI-PMH, METS agreement and RSS on institutional repositories in harvesting of metadata resources, aggregating knowledge contents, storing searched results and shared services and support OAI-PMH-based metadata interoperability.

Contact:
Pan Shuchun
All of CAAS
Email: pans@mail.caas.net.cn

