

AGRICULTURE AND BIOTECHNOLOGY

THE EFFECT AND EXPERIENCE OF CHINESE LIBRARIES IN THE SERVICE FOR AGRICULTURAL DEVELOPMENT

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Agriculture is the foundation of national economy. Matters concerning agriculture, rural areas and peasants have always been fundamental issues related to the overall political and economical situations in China. Therefore, libraries' service for agricultural development is of great significance and a very glorious task.

Libraries in China have rendered great contribution to the promotion of a sustained and stable development of agriculture and rural economy in China, obtained significant benefits, and accumulated rich experience in the service for agricultural development.

Libraries' service for agricultural development is of multi-level and multi-aspect in nature. To sum up, it includes three major aspects:

A. Serve governmental decision-making departments at various levels

Decision made by governmental decision-making departments has decisive influence on the development of agriculture. The major fluctuations, in history, of agriculture production in China had been caused by decision-making mistakes. Scientific and democratic decisions made by leaders at various levels must be based on ample and reliable information. Service provided by libraries and information centers in China for decision-makers at various levels can be broadly broken into three levels:

1. Service for state macro decision-making.

In other words, such service provides both foreign and domestic strategic and predictive research reports for the formulation of the long-term agricultural development plan, unfolding and utilization of agricultural natural resources, adjustment of rural industrial structure, reform of agricultural administration systems, and export in foreign trade.

2. Service for decision-making in regional agricultural development.

In other words, such service sponsors investigations and studies and provides constructive research reports on the basis of the decision-making needs of the local agricultural departments. All these investigations and studies have been adopted by the city leaders as the important scientific basis in formulating agricultural development plans for the Eighth Five-Year Plan.

3. Service for leaders at basic units and various departments in micro decision-making.

In other words, agricultural libraries and information institutions provide consulting service for local leaders and department administrators in the formulation of agricultural development plans, screening of research, extension and introduction projects, decisions made on the development and utilization of agricultural products, putting-into-operation and change-of-production-line of township enterprises.

B. Serve agricultural research and education, and continuously enhance agricultural development

For many years, libraries have taken the initiative in providing services of different forms for agricultural research and education by utilizing their superiority of information resources, personnel, library location and service equipment. According to statistics of 1990 provided by the State Statistic Bureau, libraries in China had supported 38,000 agricultural researchers of 1,120 agricultural research institutions who were engaged in 15,111 research projects. In 1990, a total number of 2,051 research projects had won prizes. In 1991, libraries in China had supported teaching work for 69,496 university teaching staff of 62 agricultural colleges and universities which had a total number of 113,728 enrolled students, of whom, 34,034 students graduated from the agricultural colleges and universities in the same year. In addition, libraries in China had supported the teaching work of 44,221 teachers of 372 agricultural vocational schools which had a total number of enrolled 190,091 students, of whom 53,239 graduated from the agricultural vocational schools in 1991.

In recent years, there are, on average, a total number of 30,000 scientific papers and about 1,200 agricultural books published every year. The above-mentioned scientific research achievements and man power have greatly enhanced the reserved strength of agricultural economic development. These achievements could not have been obtained without the services provided by libraries.

In addition to document lending and photo-copying, the major forms of services provided by libraries for agricultural research and education include the following:

1. Establishing domestic databases, introduce foreign databases and provide information services of duplication check of new research projects and research achievement verification.

China starts about 4,000 new agricultural research projects every year. Key research projects, in particular, must be established on the basis of ample information. In order to support agricultural research and education, agricultural libraries in China have established about 100 databases. Comprehensive databases include „Chinese Agricultural Literature Database“, „Chinese Comprehensive Database of Animal Husbandry“, etc. Special topic databases include „Database of Sesame“, „Database of Tea“, „Database of Edible Fungi“, etc. China also introduced the three major agricultural databases from abroad: „CABI Abstract“, „AGRIS“, and „AGRICOLA“, in the form of magnetic tapes and CD-ROM disks. On the basis of these foreign and domestically-produced databases, duplication check of new research projects have been unfolded in combination of manual checking, computer searching and remote on-line information searching. Such service has not only avoided the start of duplicated new research projects, but also provided ample scientific basis for the formulation of research plans, determination of research programs and verification of import technology.

China completes about 4,000 agricultural research projects every year. Research results verification has become a necessary step in agricultural scientific research administration. By using both foreign and domestic databases and making full use of the manpower superiority, library and information institutions provide services in duplication check of new projects in a big way, and provide proven materials for research results identification. For example, SDIC/CAAS (Sciencetech Documentation and Information Centre/Chinese Academy of Agricultural Sciences) has completed duplication check for about 1000 new projects since 1981. In addition, information institutes of Sichuan Academy of Agricultural Sciences, Liaoning Academy of Agricultural Sciences, and Jiangsu Academy of Agricultural Sciences and libraries of some agricultural universities have also obtained significant achievements in duplication check for new projects.

2. Trail key research topics and provide SDI services.

Local library and information institutions provide service of selective dissemination of information (SDI) by selecting, in general, local key projects. For example, the Library of Human Academy of Agricultural Sciences has unfolded

SDI service for the research project of „Hybrid Rice“; the Information Institute of Heilongjiang Academy of Agricultural Sciences has provided SDI service for the research project of „Nitrogen-fixation of Soybeans“.

3. Provide services for the update of agricultural teaching materials and improve the quality of text-books.

Under the support of the administrative department, the Library of the Beijing Agricultural University has established the „Centre for Foreign Text-books of Agricultural Science and Technology“ which imports excellent teaching materials of famous universities in foreign countries and disseminates such information of agricultural universities in China through lending, duplication, publishing „New Book Newsletter“ and reviewing new text-books, with an objective of providing services for the construction of agricultural teaching materials throughout the country¹.

4. Provide user training in a big way to enhance the information consciousness and information utilization capability of users.

According to statistics, the number of agricultural information users in China has exceeded 300 million, including both current and potential users. In order to learn about the quality of the users, a sampling survey of Chinese agricultural research scientists had been conducted in 1991 by SDIC/CAAS. The results of the survey showed that 28.8% of the users had not received any assistance from library and information institutions while 42.9% of them acquired information via personal communication. Those who had made use of standards and patent accounted only for 5% and 6% respectively, while 30.4% of the user didn't know how to use or had never used references or retrieval tools; and 71.5% of them had not made use of computerized information retrieval systems, and so on. All these figures reflect that the task of user training for agricultural information users in China is very hard².

In order to enhance the information consciousness of user and improve document retrieval and utilization capability, every library is now undertaking continuous education of users at their posts.

The major forms of user training in agricultural universities is to give the course of „Agricultural Document Retrieval and Utilization“. Since 1983, 48 agricultural and forestry universities have included the course of „Agricultural Document Retrieval and Utilization“. Since 1983, 48 agricultural and forestry universities have included the course of „Agricultural Document Retrieval and Utilization“ in their curriculum. Some of the agricultural vocational schools have also given such courses or run such workshops. The popularization of the above-mentioned

courses, has not only turned libraries into one of the educational departments which undertake information education, but also greatly improved the ability of students in information retrieval and utilization. In so doing, library journals will be made full use of and this will have great impact of the future development of students after their graduation.

C. Promote the integration of economic development with science and technology, strive to transfer scientific and technological research achievements into productivity, and provide services for the overall rejuvenation of rural economy.

The followings are the major forms of library services for an overall rejuvenation of rural economy:

1. Establishing information networks, publish information journals and provide consulting service

During the transition period toward market economy, peasants are eager to acquire various kinds of wealth-acquiring information. Agricultural library and information institutions of many provinces (municipalities and autonomous regions) have, one after another, established agricultural information service networks, published network journals, and provided multi-direction information services.

2. Participate in scientific markets, science fairs and information release conferences organized by the government and disseminate information of agricultural rejuvenation

In order to vitalize economy, government departments have broken the situation of ill-informed, often organize science markets, fairs and information release conferences which have been actively participated by libraries.

3. Coordinate with „Spark Plan“, „Bumper Harvest Plan“ and „Agricultural Regional Development Plan“, participate in aiding the poor areas with scientific and technological knowledge, and provide services for aid peasants in old revolutionary base areas, minority areas, border areas and poor areas to acquire wealth

In China, agricultural technical extension in general has been implemented in the form of „projects“. However, it takes several gradual steps before a project plan with a certain objective is formulated comes into being.

Agricultural economic development is at a state of imbalance in China. East China and coastal areas have very fast economic development and are at the

beginning of reaching the level of being well-off, while China and Western China areas have fairly slow economic development, especially the poor areas such as the old revolutionary base areas, deep mountain areas, minority areas and border areas. In order to aid these areas to get rid of poverty both economically and culturally, the State government has organized research and educational institutions to send research staff and teachers to go to these poor areas to take part in an „assistance campaign“, help the poor areas to get rid of poverty by taking with them their research achievements and advanced technology, assisting them in formulating development plans, transferring advanced techniques and offering personnel training.

Libraries of various regions take an active part in providing services for the poor areas. For example, the Library of Hebei Agricultural University has taken part in the service for the development of Taihang Mountain Area while the Library of Central China Agricultural University has taken part in the services for the development of Dabieshan Mountain Area. They provide documents to the people who go to the poor areas to assist the local peasants to get rid of poverty, provide SDI services, compile documents of practical techniques, set up information liaison stations, sponsor material exhibitions, run technical training workshop and select and provide projects which need less investment, have low risk and high-profit, and are fast in obtaining returns for the township enterprises in these poor areas. In so doing, they contribute their efforts in the campaign of assisting the poor areas with science and technology knowledge.

4. Provide audio-visual services and lead peasants to acquire wealth

Audio-visual information products are especially appropriate for the needs of peasants of low educational background, and play a special role in rural information services. In China, many agricultural library and information institutions have the equipment for producing recording products, video tapes and slides. They have made series of video products of scientific research results, practical cultivation schemes, animal husbandry and processing techniques. broadcast these products on regular programs by Central China TV Station (CCTV) and provincial (municipality and autonomous regions) TV stations, and release these products and duplicated video products in rural areas.

5. Rural Libraries lead peasants to read and provide services for improving the competence of peasants

Low cultural competence of peasants is an important limiting factor for the development of rural economy and social development. Leading peasants to read is a good practice for the improvement of the competence of peasants and for the

promotion of modernized construction in rural areas. In recent years, many provinces and municipalities have set up peasants' comprehensive schools and, also opened libraries and reading-rooms under the leadership of rural grass-root organizations. These libraries and reading-rooms have led peasants to participate in reading activities and have done a great deal of work in popularizing agricultural scientific knowledge and law knowledge, and in strengthening the construction of spiritual civilization.

Libraries in China have achieved significant benefits and accumulated rich experiences in providing services for governments and agricultural decision-making departments at various levels, for agricultural research and education and, for agricultural production and extension. However, in order to improve the services for agricultural development, it is imperative to strengthen the construction of agricultural information systems and networks, so as to enable the broad masses of peasants to frequently acquire accurate information about the changes of the supply and demand of agricultural products during the transition period toward market economy, and avoid the situation of big fluctuation of agricultural production and waste of resources. Meanwhile, cooperation between libraries and agricultural professional technical associations at grass-root levels should be strengthened. The number of peasants' professional technical associations has reached 1.4 million throughout the country⁴, which serve as the major organizations for disseminating wealth-acquiring information in rural areas. Services provided by libraries should be closely integrated with the information exchange and operational activities of these associations. Libraries should create and operate information industry and, promote the formation and development of agricultural information market during their services oriented to economy, rural areas and township enterprises, so as to provide services for the development of high-yield, good quality and high-efficient agricultural in China and for the overall rejuvenation of rural economy. „Position will be gained only through hard work“. Only when libraries speed up their reform paces and provide good services, can they improve their social positions, can they solve the issue of a limited library budget, and can they achieve further development.

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