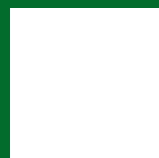




# INFORMATION SERVICES IN RURAL CHINA FIELD SURVEYS AND FINDINGS



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**INFORMATION SERVICES IN RURAL CHINA  
FIELD SURVEYS AND FINDINGS**

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## FOREWORD

China's agricultural sector has been in a period of rapid growth and change since the late 1980s. Economic liberalization and adjustments towards a market economy, in particular its membership in the World Trade Organization, have subsequently created the need for technical change in information development and management. Agricultural technologies and agro-management practices must answer not only to these new market demands and export opportunities but also to poverty alleviation, food security and environmental concerns.

In response, the Ministry of Agriculture developed the Action Plan for the Programme of Rural Market Information Service during the Period of the Tenth Five-Year Plan. This plan emphasizes the development of human networks as well as technology networks to supply information to rural agricultural communities. It focuses on the creation of content appropriate to farmers and rural communities, integrating traditional as well as modern information and communication technology (ICT), improving both horizontal and vertical linkages within the information network, meeting the growing demand for information from rural communities and also supplying better information to the government for making policy decisions.

The importance of developing the human network to support the new technology and information to be made available has been stressed in China, with training and distance education as a key element. In addition to modern ICT, it is recognized that various traditional media and communication technologies also continue to contribute significantly in providing information to farmers. In particular the roles of television, radio, CD-ROMs and newspapers are emphasized in rural areas.

In reviewing the Ministry of Agriculture's achievements, the researchers conducted field surveys (the specific case studies will be published on the FAO Web site) and built conceptual models for information and communication networks. The case studies and models will enable other locations within China to choose and model their own development according to their own situation and implement the same to improve rural livelihoods. This study also complements FAO's other collaborative activities in China to enhance the positive effect of ICT for development, expanding information management capacity, augmenting technology dissemination and strengthening distance education.

Beyond China, these case studies will also serve as models for other developing countries. Indeed, this study serves a broader goal, as a cornerstone of FAO's activities in Asia and the Pacific under the new strategic initiative to "Bridge the Rural Digital Divide" (<http://www.fao.org/gil/rdd>). This initiative arises from the need to recognize that the information revolution has completely bypassed nearly one billion people, in particular the rural poor. The advent of ICT has served only to widen the gap between them and others who do have access to such technology. The rural digital divide in China is clearly evident when comparing the disparities between urban and rural communities, particularly those in the Western China region, men and women and between successful farmers and their less successful neighbours. FAO and its partners, including the Ministry of Agriculture, are working on an integrated set of activities to bridge the rural digital divide by strengthening human and institutional capacities to harness information and knowledge more effectively.

He Changchui  
Assistant Director-General and  
FAO Regional Representative for Asia and the Pacific

## **PREFACE**

With further Chinese reforms, opening-up policies and the enhancement of the level of market orientation, the development of agriculture and the rural economy has resulted in a stronger demand for information services. This demand has aroused the Chinese government's attention. In response, the government has formulated a series of policies and has achieved significant results in establishing rural market information systems and information services. A rural market information service network has been set up. The network covers provinces, cities, counties and most townships in the Chinese mainland and links the leading enterprises of agricultural industrialization, agro-product wholesale markets, intermediary organizations and large farmer households of business operations.

FAO gives close attention to the remarkable results in Chinese rural information services and has collaborated with the information centre of the Ministry of Agriculture to conduct case studies of rural information services in 2003. The researchers conducted field surveys in four counties, one city and one district with various economic development levels, various predominant agricultural products and different ways of disseminating information. This report highlights three information service models. It also puts forward the key points to replicate in each model and offers suggestions to further strengthen information services through both macro and micro policies. The findings have not only played constructive roles in conducting rural information services but are regarded as useful to other developing countries and regions.

However, rural information services still face a number of common difficulties in China, including human resource shortages and capacity and technological constraints, insufficient content, limited funding, low quality and an imbalance of available information services. The Chinese government has launched an e-government project and will take more effective measures to promote rural information services. We also hope to continue strengthening cooperation and exchange with the international organizations and the developing countries concerned to share experiences in information services and jointly promote the development of world agriculture and the rural economy.

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Meng Xianli of Beijing Urban and Rural Economic Information Centre assisted in drafting this report. I prepared the case studies for Jinyun county and Lanxi city, Zhejiang province, and Fuyu county in Jilin province. Zhang Kuilin of the Information Centre of the Ministry of Agriculture of China drafted the case studies for Wuhu and Shucheng counties in Anhui province, while Meng Xianli completed the case study for Litong district of Ningxia Hui Autonomous Region.

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## EXECUTIVE SUMMARY

The government of the People's Republic of China has formulated a series of policies in agricultural information services and tried several approaches in delivering information services to rural areas in order to develop its agriculture and rural economy and to facilitate production, business operations and farmers' income growth. Some of these approaches have produced important achievements and captured the attention of the Food and Agriculture Organization of the United Nations (FAO). To analyse the experiences in order to improve information services and identify the more effective and easy-to-replicate models for use in other regions of China or even other developing countries, FAO commissioned the Information Centre of the Ministry of Agriculture to set up a study group. This group of researchers conducted field surveys during the first half of 2003 in four counties, one city and one district: Jinyun county and Lanxi city of Zhejiang province, Shucheng county and Wuhu county of Anhui province, Fuyu county of Jilin province and Litong district of Ningxia Hui Autonomous Region (the specific case studies will be published on the FAO Web site).

After analysing the survey results, the researchers identified three successful information service models to be presented as good practices for possible replication. These three are characterized as: (1) **Service station model**. This is an information service centre located in counties, townships and villages that together form a three-level rural information service network. Each station relies on county agriculture bureaus, township agricultural technological service stations, agricultural economic management stations, cultural stations, large farmer households in crop farming and animal husbandry, specialized farmer associations and leading agro-enterprises for support in funding and content; (2) **Farmers' home model**. The farmers' home is established as an independent and open agriculture service facility integrating the functions of agricultural technology consultation, agro-technological extension, information services and business operations. It combines agro-technological extension with information services and provides essentially a "one-stop" service; and (3) **Association model**. This type of organization is operated autonomously by farmers with a common interest, such as growing a specific crop or raising certain animals, and the information services provided relate to that common interest, such as the Boer Goat Association. The associations provide their members with information on technology, crop seeds or animal breeds, production materials and marketing and related information services. A comparison of the three models renders the following features:

- ◆ **Users:** The farmers' home model has the broadest reach to users, which includes farmers, enterprises and specialized farmer associations in the area where the farmers' home is located as well as producers and agro-business operators in the vast rural areas outside the area. As the local government supports the operation of the service station model, the users typically include producers and agro-business operators of agricultural products from the local community. The association model differs considerably in that its service is targeted at a very specific group of users in agriculture who produce similar products and who are members of the association.
- ◆ **Content:** The service station model usually provides only advisory information services to farmers, while the content involves various agricultural production technologies, market details, demand and supply of products and policy information. Some service stations also provide marketing services in seeds, pesticides and fertilizers. The association model content focuses on production technology and market information of a particular group of products the members

produce. At the same time, it also organizes centralized procurement of some production materials and marketing of agricultural products. At the farmers' home, farmers can get advisory information on agricultural production and management as well as purchase agro-production materials.

- ◆ **Major actors:** The establishment, operation, development, input and management of the service station system and farmers' home are strongly backed by agricultural administrative departments of local government; associations are autonomously managed and operated by farmers. Consultation groups involving experts from the agriculture, forestry, water conservation and other agriculture-related bureaus with strong technical strength have been established in the service station and farmers' home to respond to enquiries. Compared to the association model, the service station and farmers' home involve more human resources and technological and management advantages that can fully tap agricultural technological talents in the governments at various levels. But as the specialized associations focus only on the study and development of the market of a particular product, and thus have very good knowledge about the market and rather complete information about that particular product, they then have more advantages for market development compared with the other two models.
- ◆ **Funding:** The service station and farmers' home rely more on the support of government funding and hence have advantages in terms of financing. The association depends more on the economic profits made by selling agricultural production materials to farmers to cover its expenditure.
- ◆ **Geographic distribution:** Service stations and associations are located in the rural areas close to farmers and are convenient to farmers seeking assistance. The farmers' home is located in towns at a somewhat long distance from farmers.
- ◆ **Costs:** The establishment and operation of the service station and farmers' home greatly depend upon the financial support of government. Since the association is a civil organization voluntarily established by farmers, the operating costs are relatively low.

The various information services rely on computers, the Internet and other modern information dissemination resources as well as traditional information dissemination avenues such as television, radio, telephone, publications, briefing notes and blackboards.

Summarizing the reasons for the success of the three information service models highlighted in this report, the researchers found first that the quality of information service does not completely depend upon local economic conditions. What is more important is awareness of the local government about the need for a service and what is involved in providing it. In the surveyed areas where the economy is not well developed, the local government understood the importance of an agricultural information service and issued supportive policies and adopted measures to promote the creation of a service system. Local official support is one of the keys for the success of the three models selected for this report; where these models of information service are found, local officials had recognized that an agricultural information service is a public welfare endeavour. Even with financial difficulties, local governments managed to allocate funds to facilitate the rapid setting up of an information service network at the county, township and village levels.

Second, the researchers noted how attention was given to exploration, integration and utilization of existing information service resources. The information service consultation committee in two

of the models consists of specialists from agriculture, forest, water conservation and business administration who can respond to the diverse demands of farmers. The agricultural information service agencies provide services targeted at rural areas and farmers through active collaboration with television stations, newspaper and periodical editors and the agricultural television and broadcast school.

Third, the researchers noted that the quality and enthusiasm of information service workers are continuously improved to more effectively and accurately respond to farmers' information needs and provide knowledge and information that can have impact on the success and growth of farmers' businesses as well as the local economy.

Information dissemination practices in rural China have proven that the development of a rural information service system that government promotes realize more substantial achievements and are endorsed by officials at grassroots organizations, enterprise managers and farmers. However, rural information services in some areas still face a number of difficulties, including human resource shortages and capacity, technological constraints, insufficient content and limited funding. The physical networks and organizational capacity of services need to be established and improved in many areas. The exploration and development of information content and the improvement of information service quality need to be further studied and promoted.

Looking at the demand side of information, the researchers concluded that it is very difficult for information services to produce large scale effects because of the current low levels of organized farmers, market orientation in rural areas, agricultural industrialization and specialization. Where there is little profit from agriculture and/or where farmers have lost their enthusiasm for agriculture, there results an insufficient demand for information and existing information resources are under utilised. Along with strengthening the provision of information services, the need to improve the organization, agricultural production specialization and industrialization levels to stimulate the demand for and guide the consumption of information must be addressed with great effort in rural China.

# 1. INTRODUCTION

## 1.1 Background

With the rapid development of information technology and ever-sharpening competition in the global economy, many governments attach great importance to the dissemination of information, or information services, and the application of communication technology in the field of agriculture. Information and network technologies are used extensively in developed countries and many developing nations now actively promote the spreading of market information services throughout their rural areas.

As the People's Republic of China is experiencing a new development stage, marked by its accession to the World Trade Organization (WTO), people in agriculture and rural areas now seek a wide range of information. To strengthen the development of rural market information systems and information services, the Chinese government produced several policies, including the proposed Outline of the Tenth Five-Year Plan for National Economic and Social Development and the Action Plan of Rural Market Information Service during the Tenth Five-Year Plan period, which were launched in 2001 (through the Ministry of Agriculture). Corresponding policies also were generated in provinces (municipalities and autonomous regions) to implement the central strategies and promote information services systems in rural areas.

A rural market information services network connecting provinces, cities, counties and the majority of townships gradually has been established and links the leading enterprises of agriculture, wholesale markets, intermediary agencies and large households of production and business operations. Many locales stress the roles of the news media, agricultural socialized service organizations,<sup>1</sup> the agricultural television and broadcast school<sup>2</sup> and the Internet. Efforts also have been made in human resource development to further stretch the dissemination network to townships and villages and facilitate a wider flow of market information. The different delivery methods of information are achieving good results and are popular among farmers.

These methods recently captured the attention of the Food and Agriculture Organization of the United Nations (FAO). To analyse the different methods as a way of identifying gaps and enhancing the strengths and thus create models for other regions of China and possibly other developing countries, the FAO established a study group through the Information Centre of the Ministry of Agriculture in January 2003. The study group researchers conducted surveys and drafted case studies of the various information services in rural China.

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<sup>1</sup> The government of China is encouraging multi-organizations, which include NGOs, village collective economic organizations, township agricultural technology, economic management, agricultural machinery, planting protection, forestry, water conservation and animal husbandry stations, as well as agricultural science, research and educational organizations and specialized associations and cooperatives, to offer services to farmers on agricultural technology, education, market information, etc.

<sup>2</sup> Agricultural broadcast and television school is the short name of the Central Agricultural Broadcast and Television School of China, which has many branches at province and county levels throughout the country.

From March to April 2003, the researchers designed the enquiry, collected basic data and conducted field studies in four counties, one city and one district in four provinces. After careful sorting, analysing and expert consultation, this comprehensive report was prepared, detailing and comparing the three main methods, or models, of information dissemination in China's rural areas.

## 1.2 Objectives of the study

By looking at a small variety of locales in rural China, the researchers aimed to achieve the following three objectives:

- 1) Assess the current situation of information services in a portion of rural China

To gain an in-depth understanding of the status of the current information services, the researchers wanted to look at how the services are organized in the sample areas (including human resources, software, hardware and connectivity of the network), funding sources and costs of providing information, content, farmers' information needs and the impacts generated.

- 2) Identify successful information service methods

By looking at how different methods were developed and their current status, the researchers planned to present models of methods that could be suitable for a variety of agricultural areas with varying economic development.

- 3) Provide useful references for replicating the good practices

By analysing the successful methods and the factors contributing to the success and by comparing the advantages and disadvantages of each, the researchers wanted to provide models of information services that could be established elsewhere.

## 1.3 Methodology

Because the study involves both social and natural sciences with a broad spectrum of fields, there were many challenges. To ensure smooth access and quality research, the study group adopted a participatory approach with the involvement of relevant actors from central, provincial, city, county (district), township and village organizations and specialists, government officials, grassroots information service workers, managers of rural enterprises and farmers. The researchers combined theoretical and substantive evidence studies and quantitative and qualitative analysis to achieve in-depth understanding.

Four criteria determined the sample areas: 1) Varying economic development levels must be represented. At present, the economic development level in China decreases from the eastern regions towards the central and even more to the west regions of the country; 2) Various predominant agricultural products must be represented. Agriculture in the southeastern part of the country is dominated by vegetables, fruits, tea and other cash crops, silkworm raising and fisheries; the northeast is the major grain production area of the country; the central eastern region is a significant producer of grain, cotton and oil crops; while fruits, livestock and other unique products dominate agricultural production in the central and western regions; 3) The methods should be relatively successful; and 4) The methods should differ in the way they disseminate information.



*Figure 1: Map of study sites in the People's Republic of China*

Based on those factors, the researchers settled on the six sites for their studies, as shown in Figure 1: Jinyun county and Lanxi city in Zhejiang province in the southeast; Fuyu county in Jilin province in the northeast; Wuhu and Shucheng counties of Anhui province in central eastern area; and Litong district of Ningxia Hui Autonomous Region in the western area.

A combination of static and dynamic methods was adopted to collect the data. Prior to the field studies, the researchers collected relevant data on China and the sample areas through the Internet, newspapers, periodicals and questionnaires sent to research sites in advance. While in the field, the researchers visited county administration departments and service provision agencies, townships and village officials, farmer households, leading enterprises and specialized associations of farmers. As well, they organized a number of discussion sessions with government officials, information service workers and users and nonusers of information services. The researchers also used a questionnaire survey with many farmers in an attempt to assess the degree of satisfaction that they attributed to the information services in their area.

Once the field studies were completed, the researchers relied on telephone and e-mail communication to clarify issues or obtain more details. As well, they followed up with supplementary studies to confirm ideas and acquire more accurate and detailed information and materials from grassroots information service agencies.



*Figure 2: Questionnaire survey conducted by the study group researchers in Yangshan village, Shucheng county*

A method of combining horizontal and vertical comparison analysis was used to identify common features and analyse the reasons contributing to the success of the service models and the difficulties and challenges faced by each. To help practitioners and anyone else interested in establishing an information dissemination service, key issues have been highlighted in this document to aid in replicating the three different models.