The Selection of Service Model and Development Path of Informationization in Rural Areas: Based on the data of Chongqing City in China

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Abstract

The informationization of the rural areas is a complex systemic project because of its long period of cost-recovery, slow effects and high risks in investment. On one hand, it has its advantageous realistic base, increasingly improved environment, better infrastructures and information-based service; on the other hand, there are many bottlenecks of the inequality in public service. Therefore, the informationization of the rural areas in China should be carried out step by step in different regions. Evidently, it is meaningful to explore, test and promote a service mode suitable for Chinese rural areas by concluding the practices of informationization in the rural areas of Chongqing and learning from the advanced concepts and successful experiences of the developed areas. By improving the information-based service system and balancing the demand and supply of the information in Chinese rural areas, the key problems like, the production, marketing and delivery of crops products can be solved and the goal of promoting the equalization of the government's public service can be achieved ultimately.

Key words: Rural informationization; Service mode; The practice of Chongqing; Path selection

INTRODUCTION

The development of rural informatization is not only the basic way but also a powerful driving-force to develop the modern agriculture, promote agricultural industrialization and increase the income of farmers, e. In the meanwhile, it is the urgent need and the important support for implementing the scientific outlook on development, building a harmonious society and a new socialist countryside. In order to put the scientific outlook on development of the modern agriculture into practice in the background of Internet of Things, it is meaningful to explore a good mode and path for Chinese rural information service to make full use of the technology in the agricultural science and technology innovation, the rural social management and service etc.

1. THE OVERALL DEVELOPMENT OF RURAL INFORMATIZATION IN CHINA

1.1 The Development of Chinese Rural Information Infrastructure

Rural informatization in China has experienced more than ten years of development, has made remarkable achievements:

(1) The rural information communication infrastructure construction gradually makes a great progress. The 99.8% administrative villages and 93.4% villages are on the phone; 97% towns are equipped with internet, while 91% of the administrative villages are covered with Internet, too.

(2) The information service organization system is increasingly better regulated. The Ministry of Agriculture has constructed 7 provincial, 78 municipal and 324 county-level «three in one» comprehensive agricultural information service platform, and has built more than 50 database, including the agriculture science and technology database for agriculture.

(3) The advantageous effects of modern information technology on agricultural production, social management and rural management field are remarkable, and there are breakthroughs in crops planting, livestock breeding, and aquaculture animal breeding.

1.2 Chinese Rural Informatization Development Bottleneck

Chinese rural informatization has made remarkable progresses, but there are also some development bottlenecks:

(1) The information collected covers a relatively narrow range in Chinese rural areas, and there are problems in promoting information in the right way or in the right market and etc.

(2) The rural information service system is not perfect, and its service ability is weak. Rural science and technology information service provided by network only accounted for 19%, and it has obtained 0.8% of the market in rural families.

(3) The cost -recovery period of rural informatization is long; its development is slow, and the risk is high.

(4) The farmers' willing of involvement is not strong enough, and there are not enough talents with comprehensive capabilities. The majority of farmers are poorly educated, and among the 5000 million Chinese farmers, literates accounted for about 1100 million, let alone farmers with agricultural and computer knowledge.

2. A SURVEY ON CHINESE RURAL INFORMATION SERVICE STATUS -- BASED ON THE DATA OF CHONGQING

Based on an in-depth investigation into Chongqing rural information service management, service mode and operation mechanism, the current study aims to reflect the reality of Chinese rural information service.

2.1 The Basic Situation of Chongqing Rural Information Service

Chongqing started the urban and rural construction of rural informatization system in 2010 according to the «government guidance, enterprise participation and market operation, service ‹three rural›» propulsion mode, and has established the «12582 rural information service platform». «12582» can provide the government agricultural departments at all levels with all kinds of agricultural information; help agricultural enterprises and farmers produce , manage and sell crops products enables the staffs in the town and rural governmental organizations to work with the electronic office, and help agricultural enterprises and farmers communicate with governments and experts. At the same time, the platform also provides convenience for dealing affairs for the government, agricultural enterprises and farmers.

2.1.1 Information Technology Application of E-Government

It is meaningful to use the Internet to help government branches in the towns to deal with the affairs; extend extends the coverage of information in the villages and enables; the town and village realize e-government and make public affairs more apparent. Also, it is urgent to help the farmers release information more conveniently and strengthen the interaction between the government and farmers. Moreover, it is beneficial to help farmers to put their local specialty products online, and realize "the service models like «township government and the villagers' autonomous organization + peasant household», «government + farmer». In 2011, the number of users of government affairs in Chongqing reached 11555; including 298 in towns, 8122 in administrative villages , 2135 in the District Bureau and other areas. Therefore, the coverage of the township reached 100%, and 93.84% in administrative villages.

2.1.2 Information Technology Application of Agricultural Enterprises and Rural Credit Cooperative Union

It aims to guide and help agricultural enterprises and rural credit cooperatives union apply information technology into internal electronic office affairs; search for the authentic market price in time, make market forecast and get know the supply and demand information. So it is helpful to enable the enterprises to grasp the market trends and improve their market competitiveness. Meanwhile, it can provide the farmers with technology, information of the market and sales and guide farmers to produce according to the market demand for agricultural production so as to increase farmers› income. In 2011, business service provides convenience for more than 716 enterprises and rural credit cooperative unions. Up to now, it has released information for more than 50000 times, nearly 4 million pieces of information.

2.1.3 Information Technology Application for the Welfare of Ordinary People

Through the service hot line of 12582 , SMS, WEB/ WAP and other methods, farmers are accessible to the information of technology, market, weather, disaster warning, as well as the information about Medicare, news, policies, encyclopedia, entertainment and employment, training, recruitment and etc. In 2011, daily affairs dealing service were visited by ten million users, and users of the employment service reached tens of thousands of households.

2.2 The Chongqing Rural Information Service Model

2.2.1 The Leadership of the Service-Oriented Government

Chongqing has established a special leading group for informatization, responsible for the construction of rural

informatization system in both urban and rural areas. The relevant sectors of the government should get involved in to promote the progress. The authority in every district (or county) should be responsible for the construction of the informatization system within their administrative areas by establishing the leadership responsibility system and making effective regulations. What's more, it is necessary to build up an evaluation index system to evaluate the rural informatization in each district of Chongqing scientifically and guide enterprises to participate more actively and explore the market operation mechanism.

2.2.2 The Diversified Involvement of the Principal Participants

The subjects of the informatization system include governments at all levels, communication operators, agricultural enterprises / rural credit cooperative unions, universities and research institutions.

- The governments at all levels are responsible for collecting information. Chongqing Municipal Economic Commission, Council of Agriculture, Human Resources and Social Security Bureau, Bureau of Meteorology, other agriculture-related departments and the district (county) governments all get involvement in the work on rural informatization with their own responsibilities and duties.
- Communications operators are responsible for building up the information platform. Also, it designs and constructs platforms to promote the rural informatization according to the market demand.
- The information platform for agriculture-related enterprises promotes the use of fit. Agriculture-related enterprises and rural credit cooperative unions can get access to market information through the information platform and guide farmers to plant crops or breed animals.
- Scientific research institutions cooperate with companies to promote rural informatization. For example, Southwestern University has cooperated with Chongqing Mobile Corporation and established "farm reminding information database».
- The farmers make good use of the information platform. With these platforms like "township government and the villagers autonomous organization + peasant household" ,»government + farmer», «agricultural enterprises or cooperatives + farmers», «communication enterprises + peasant household» , farmers can get access to the information about the government affairs, production , market or the people›s livelihood for free or at low cost.

2.2.3 Implementing Step by Step

Chongqing is a typical city with «urban and rural dual system structure «, and regions have great differences. Therefore, the construction of the rural informatization system should be implemented step-by-step.

- The pilot stage. In the 10 districts (Wanzhou District, Fuling District, Dazu County, Pengshui county, etc.), we will explore a suitable mode to construct and make use of the information platform according to their own features in a pilot study.
- Preparations phase. A linked mechanism between city and district will be established, and the construction of rural informatization system should be taken into account when the local government annual performance is evaluated.
- Implementation phase. The governments at all levels in Chongqing will hold meetings to call for efforts from all parties; the relevant enterprises will build the platforms, and the local government will organize professional teams in each district and county; while the municipal g regularly or government will inspect and evaluate the progress regularly.
- Improving phase. In the final stage, we will sum up experience and find out the shortcomings to establish the service guarantee mechanism. Moreover, outstanding collectives and members will be honored and an incentive mechanism will be established.

2.2.4 Measures to Safeguard the Implementation

(1) To increase the investment of funds for special purposes. Try to collect funds through Multi-channels from the local government of the district and county (or Autonomous County), the enterprises and other parties in the society. In fact, the municipal government and local governments in all districts invest a large sum of special funds for rural informatization construction every year.

(2) To strengthen the construction of the professional teams. First, to build up a team with experts, staffs in agricultural station, university graduates works as Village leaders and staffs for information service at the lowest level; secondly, outstanding farmers in planting and breeding twill be trained as the pioneers of rural informatization ,so as to ensure that agricultural information will be successfully delivered in time. In addition, the operators, training institutions and IT enterprises will train the staffs at the lowest level in rural areas.

(3) To create a good environment for development. District or county government should introduce encouraged policies, and praise the excellent enterprises and farmers that who have set good examples in the rural informationization work by giving tax relief, financial

subsidies and other preferential policies. What's more, we should make full use of radio, television, newspapers, Internet and other Medias to promote the work of propaganda and reporting about rural informationzation.

3. SELECTING THE PATH OF RURAL INFORMATIZATION IN CHINA IN A FASTENED PACE

Rural informatization is a systematic project which involves a wide range of aspects, so it cannot be accomplished at one stroke. To accelerate agricultural informatization and serve hundreds of millions of farmers, we must innovate upon service pattern and establish a sustainable and strategic model, and it is necessary to distinguish between different places and different stages. By constructing a cooperative channel of all parties involved, a long-term operation mechanism of information service will be established and the related system will be improved. Moreover, it is important to tackle the problems in the key areas in order to speed up the process of rural informatization.

3.1 Encouraging Diversified Participants to Get Involved and Specify Their Duties

Governments at all levels, rural credit cooperative unions, enterprises, scientific research institutions and farmers are parts of rural informationization system, so they are supposed to carry out their duties and jointly promote the development of rural informatization.

- The government. The municipal government should actively guide, plan and integrate various resources in the rural informatization process. Although the local governments at the lowest level have strong demands of informatization, the informationization level is relatively low. They are not good at planning and investing, they should cultivate the habit and capacity of information operations gradually.
- The agricultural enterprise. Modern agricultural industrialization is being formed, but the investment and application is not enough. Because agriculture-related enterprises and rural credit cooperative unions pay more attention to immediate interests, they lack the motivation to establish the service platform. Therefore, the government should build a platform immediately to conduct and control the enterprises' agricultural production and release demand and supply information, and expand sales channels of agricultural products.
- Universities and research institutions. Working with scientific research institutions and universities, the government can establish a database to provide farming- reminding

information for the farmers across the country and expand cooperation the range of cooperation in agricultural technology.
- Ordinary farmers. Release information which farmers are concerned about, for example, information about farmers' livelihood (such as the weather report, information about health care and education), information about new policies (such as the local news, preferential agricultural policies, and fortune stories) and entertainment information (such as lunar calendar information, stories and jokes).

3.2 Perfecting the Operating System of Rural Informatization Management Services Step by Step

Based on the differences between Chinese rural areas and the features of the rural informatization in different regions, three major operating systems may be applied into the practice to carry out the information service management.

- The government supporting mechanism. It is suitable for those underdeveloped rural areas where the farmers have weak awareness of informatization and poor financial background. The funds for informatization come from the government›s financial support, and the local government use administrative power to interfere the process directly to promote rural informatization in those areas step by step.
- Community self-help mechanism. It is suitable for relatively developed rural areas where farmers are well-organized and have capabilities of collecting, analyzing and using information. The funds mainly derive from the members' fees for the membership, and farmers will form self-help organization according to their own needs spontaneously to regulate their own behaviors. Meanwhile, the local governments are responsible for making policies to establish the legal status of farmers' organization, regulate the farmers' organization behaviors, and give fiscal subsidies when it is necessary.
- The market-oriented mechanism. This mechanism is suitable for those rural areas where farmers are well-organized and have strong affordability and a great ability to consume information. The main source of funds is from the profit of marketing operation, and the «two-way investment mechanism, who invests, who benefits" will regulate the internal operation of the enterprises, while the government should actively create a good external environment by making preferential policies about local credit and tax support. Because the market is dominant in the process, and it is beneficial for the government, enterprises, rural credit cooperative

unions and farmers, so it can effectively promote the sustainable development of rural informatization.

3.3 Perfecting the E-Commerce to Promote the Leap in the Development of the Rural Economy

The factors hindering the development of rural informatization range from the information asymmetry of supply and demand of agricultural products, the logistics blockade, and so on. To overcome these barriers, we must vigorously develop e-commerce in rural areas. Through the rural e-commerce platform in the internet, all links of agricultural production will be well combined so as to reduce the unnecessary cost of circulation; also, it can guide farmers to carry out scientific and rational production and grasp the market demand of agricultural products and price information timely; at the same time, it is also conducive to the establish relatively smooth sales channels of the agricultural product market for farmers.

To improve the rural information service function, the rural logistics market must be improved. Logistics in rural areas is undeveloped, and logistic resources are unevenly distributed in some remote mountainous areas, which in turn have greatly hindered the economic development in these areas. Meanwhile, means of payment of e-commerce in rural areas has become the bottleneck of its development, because the vast majority of rural areas have no access to network payment or online banking services. Therefore, it is necessary to improve the supporting function of e-commerce in rural areas so as to transform the traditional circulation of products in rural areas. Consequently, a brand-new channel of product circulation process will be formed, including information flow, capital flow, logistics, and it will definitely promote the great-leap-forward development in rural china.

CONCLUSION

The rural informatization is the organic part of the national economy and social informationization in China, and it is an important driving-force to promote the construction of the information society in China. Also, it is an effective way to solve China›s «three rural issues». Based on the research into the current development of rural informatization in China, we will construct a service pattern of rural information to promote the rural "endogenous" development, and also works as a useful supplement to the «exogenous» development which stresses too much on the city-country integrate system.

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