

# Analysis on the Development Mode of Farmer Informatization in the Process of Urbanization

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**Abstract:** With the rapid development of contemporary China, opportunities and challenges coexist. For the vast number of peasants in China, although the urbanization process is intensifying and the number of rural migrant workers is increasing, the most important source of income is still obtained through the operation of agricultural production. Therefore, the information services for farmers are basically to serve the needs of agricultural production as the main purpose. This paper expounded the characteristics and advantages of foreign agricultural information services, and summarized the specific measures that China should learn from and improve in the development of farmer information in the process of urbanization, aiming at improving the degree of farmer information in China and narrowing the information gap.

## 1. Interpretation of the Relationship between Urbanization and Farmer Informatization

The so-called urbanization, simply speaking, is a process in which the rural population gradually migrates to urban areas, the secondary and tertiary industries gather around the cities and towns, and then promoting the continuous increase of the number of cities and towns, and the scale of cities and towns is gradually expanding. The farmer information service refers to a comprehensive service system that revolves around the farmer development for the goal, and relies on the information methods as the main service way. These two concepts seem to have nothing to do with each other, but their main body is farmer. For contemporary China, urbanization has become one of the most obvious characteristics of China's social development, and it is also necessary for the development of farmer information.

The the most direct benefit of improvement of the level of information technology is the improvement of agricultural skills for farmers. The knowledge of agricultural information can be obtained through books, radio, Internet and other channels, which is helpful for farmers to improve crop yield, effectively prevent diseases and pests, and understand relevant agricultural policies. In addition, the gradual development of information technology makes farmers' cultural life of farmers more colorful to a certain extent. Especially in the slack season of farming, farmers' entertainment projects tend to be monotonous and boring. With the development of information technology, farmers' leisure and entertainment activities can be more interesting.

Faced with the accelerating urbanization process, the Chinese government has repeatedly reiterated that the construction of urbanization is not only to change the external environment of rural areas, but also to improve the quality of rural population. Therefore, in the development of urbanization in China, the most important thing is to pay attention to the development of farmers. For farmers, the level of knowledge, economic conditions, living environment and other factors affect their development, among which, the level of information technology is of vital importance. After entering the 21st century, the world has ushered in the Internet era, and the ability to collect, sort out and process information is also one of the important abilities affecting their own development for farmers. Therefore, providing information services for farmers can enable them to obtain valuable information through the simplest channels and accelerate the development of farmers to some extent. At present, there are still many deficiencies in the development of farmer information in China, and many links that need to be constructed and relevant theories need to be further improved. The reference of foreign successful cases can help the development of China's

farmers information and improve their own development in the process of urbanization.

Since ancient times, China has been an agricultural country with a long history of agricultural civilization and a vast area of arable land, and a large number of people engaged in agriculture, especially compared with developed countries, the proportion of agricultural population is higher. At the beginning of the new millennium, the Chinese government took Jiang Xi province as a pilot and abolished the agricultural tax. Six years later, the Chinese government abolished the four agricultural taxes of all the provinces, namely, the agricultural tax, the pastoral tax, the butchery tax and the agricultural and forestry special tax, ending the agricultural tax that had lasted for thousands of years in the land of China. Moreover, the state has repeatedly focused on the "three rural issues" and the development and reform of rural areas, agriculture and farmers, among which the issue of widening income gap between urban and rural residents has been the most discussed. Since China's reform and opening up, the economic market has become more active and internationalized, but compared with the development of the second and third industries, the development of the first industry seems to be far behind. Although we rescinded the agricultural tax, and implemented many subsidy policy, more and more farmers have given up their land, and choose to work in cities or engage in other industries. While the number of jobs available to migrant workers in cities is limited, a vicious circle has emerged, one side is a lot of unemployment or on the verge of unemployment of rural migrant workers, the other half is that farmers with a decline in production enthusiasm choose to get away from" the countryside. In this way, properly solving the "three rural issues" has become the most important part of our national economy. While increasing financial input, it is worth thinking about how to improve the quality of farmers and enable them to cope with the development of urbanization. However, nowadays, in the era of information explosion, improving farmers' information level is the key to solving the "three rural problems".

## **2. Advantages of Foreign Farmer Information Development Model**

### **2.1 Relying on the government**

In many countries, the development of farmers' information depends on the support of the government, among which the United States is the most representative, which has a lot to learn. The American government attaches great importance to the development of farmer information, especially there is obvious reflection in legislation aspect. As early as 1848, the United States first promulgated the Agricultural Law, which made the corresponding provisions for agricultural information related services. A century later, in 1946, the U.S. government enacted the corresponding management measures in the Agricultural Market Act, which stipulated that farmers and their agricultural production, as long as they enjoyed the corresponding subsidies from the U.S. government, they must submit the corresponding production and marketing information of agricultural products to the U.S. government, this undoubtedly guaranteed agricultural information in the law.

In addition to legal guarantees, the government should also make corresponding investments in funds and services. According to statistics, the U.S. government invests about \$1.5 billion annually in agricultural information equipment, which is naturally inseparable from the government's support. With vigorous investment, the U.S. has the world's largest and most professional agricultural information system, namely AGNET network system, which covers not only 46 states of the United States, also includes 6 provinces in neighboring Canada and 7 countries outside North America. The system connects the U.S. Department of Agriculture, the agricultural departments of 15 states, 36 colleges and universities, and a large number of agricultural enterprises. As long as American farmers become part of the system, they can get the corresponding agricultural information in an extremely convenient way.

For our country, we must rely on all levels of government to improve the information level of farmers. The experience of the United States in this area is worth learning for our country. As far as the current situation is concerned, there is no agricultural information system that can compete with AGNET in our country. Although governments at all levels actively mobilize enterprises,

universities and rural areas to establish extensive contacts, the concrete development has also appeared uneven situation. Therefore, in addition to economic investment, China should also be inclined in policy-making, to help farmers improve the level of information technology. In addition, China lacks legal protection in the supervision of agricultural information. In this regard, it is necessary to draw lessons from developed countries such as the United States. Clear laws and regulations should be formulated to combat false agricultural information, so as to better protect the vital interests of farmers.

## **2.2 Pay Attention to Education**

The importance of government investment in funds and equipment is undoubted, but only material assistance is not enough, we should also pay attention to the relevant education needed by farmers information. In this respect, some European countries have done well, and Germany is more representative.

In the process of promoting agricultural information, Germany has always regarded the education for farmers as the primary task of service. The German government not only relies on computer and Internet technology to promote the development of agricultural information, but also establishes cooperation with universities and scientific research institutions to create relevant service system.

The German government spares no effort to develop agricultural information and promotes farmers' independent participation in the construction of information through various incentive policies. In addition to the assistance from the government, German farmers also spontaneously set up a series of relevant organizations. These organizations will improve the German agricultural database and design the best farming and harvesting and other preferred plans. Therefore, it can be seen that the effect of the German government on the farmers education cannot be underestimated.

Countless societies and economists have proved the correlation between education and living standards through survey data, but it is worth noting that for poor families, even if they can receive free compulsory education, some parents of poor families are short-sighted and can not see the long-term benefits of education, so they ignore their children's education, and even indulge children's truancy or dropping out. Abgitt Banerjee and Esther Difro, economics professors from the Massachusetts Institute of Technology, took 15 years to investigate 18 countries and regions with the greatest concentration of poor people, then found that although governments invested heavily in basic education, it was often difficult to fundamentally solve the problem. For poor families, the education of fees is actually not attractive, but the disregard of education will lead to a vicious circle. How to break this vicious cycle? Some scholars have proposed that the return cycle of education is relatively long. If we can find ways to shorten the return cycle, for example, the children receiving education will immediately bring some immediate benefits to the family, and provide some tangible benefits such as material rewards to the parents. Then, maybe parents of low-income families will be more motivated to pay attention to their children's education and urge them to study. In fact, this conjecture has been validated. Between 1994 and 2000, Mexico's deputy finance minister, Santiago levy, promised to provide living allowances to poor families, but only if parents could ensure that their children could go to secondary school. The policy seemed simple, but effective. When it came into effect, Mexico's secondary school enrolment rose by 4% for boys and 8% for girls.

For our country, the low-income people are often concentrated in the vast rural areas, Besides providing corresponding education resources, we should also formulate corresponding policies to encourage rural people to attach importance to education by means of material rewards, and use material incentives and other means to encourage the rural population to education, so as to further improve the level of information technology and the overall quality of farmers.

## **2.3 Narrowing the Information Gap**

In fact, information gap exists in many countries. For example, the information gap between China's first-tier cities and remote rural areas is quite obvious. However, to narrow the urban-rural gap, it is necessary to narrow the information gap. In this regard, Japan's development experience is worth learning from.

Japan and China are both Asian countries. Although Japan's economic level is relatively developed, it lags behind in the development of agricultural information, especially compared with many developed countries in Europe and America, there is a clear gap. There is a so-called information gap between towns and villages in Japan. However, the Japanese government will carry out a series of macro-control measures to improve the information service level for farmers thereby narrowing the information gap between urban and rural areas.

In addition to providing huge financial support, the Japanese government will also take the initiative to assist some difficult agricultural projects, and set up relatively complete information systems and smooth communication channels. What is worth mentioning that due to limited geographical resources, Japan has a small arable land area and a serious aging trend. In order to solve these problems, the Japanese government advocated and promoted scientific agriculture, namely mechanized farming in a small area.

China's rural areas are facing some similar problems with Japan, such as the problem of aging society has become increasingly obvious. According to the survey by the National Bureau of Statistics, by the end of 2017, 240.9 million people are over 60 years old, accounting for about 17% of the total population. It is estimated that by 2025, China's population over 60 years old will exceed 300 million, and China will become a super-elderly country. In addition to the emergence of empty nesters, elderly living alone and other social problems, we should also pay attention to the fact that the aging society will aggravate the imbalance of development between regions. In the 1970s, the fertility rate in urban areas was lower than that in rural areas because of the influence of family planning. In recent years, a large number of young labor in rural areas have flowed to cities, and the aging problem in rural areas has become more and more serious, thus affecting the development of regional economy.

Japan has launched a series of scientific and technological information initiatives for rural areas, such as the establishment and improvement of care systems for the elderly, management systems for rural administrative information and so on. Especially noteworthy is that Japan has also established a special e-commerce platform for the sale of agricultural supplies and agricultural products, greatly facilitating the purchase of agricultural supplies and the sale of agricultural products. Although China has many large online e-commerce websites such as Taobao, Alibaba, Jingdong and Suning, there are few trading platforms specifically for agricultural materials and agricultural products. Most of the farmers committed to e-commerce rely on Taobao or Wechat to sell. However, Taobao has a large variety and quantity of goods, so it is very difficult for consumers to select high-quality agricultural products from them. Although the return customers can be obtained through the use of Wechat sales, and benefit from the intimacy of interpersonal communication, its influence is too small. If we can establish a national agricultural products e-commerce platform to connect farmers and consumers closely, it will undoubtedly promote the sales of agricultural products.

However, a dilemma we have to face is that it is increasingly difficult to improve farmers' information literacy in the face of increasingly serious aging rural areas. especially the promotion of agricultural technology is facing many difficulties. Therefore, the government should tilt to the rural areas when making policies, and then narrow the information gap between urban and rural areas. At the level of information technology, the government and relevant organizations should provide targeted assistance to rural residents, such as the promotion of agricultural scientific and technological information, the interpretation of relevant policies and regulations, including cultural and entertainment information suitable for rural areas.

### **3. Enlightenment on the Development Mode of China's Farmers Information**

First of all, the development of farmer information in China needs the government's great investment, especially the investment of funds is the most important. With the economic support, the subsequent construction can be carried out. However, the investment of funds should not be blind investment, but should be the investment after systematic demonstration. Therefore, it is necessary to establish a relatively perfect service system and an effective review and management system.

Secondly, education is the foundation of development. In the process of promoting the development of farmers' information, we should pay attention to imparting skills to farmers. The government can work together with enterprises, universities and research institutes to provide relevant training and guidance for farmers. Only by focusing on education can we upgrade the comprehensive quality of rural population and make it more suitable for the current and future when urbanization is intensifying. In addition to providing free education, improving the level of teachers in rural areas is also an effective measure to ensure the quality of education in rural areas. Of course, what should not be overlooked is the parents' concern for their children. If parents also ignore education, even if children in rural areas can enjoy high-quality education, they may choose to skip school or drop out because of parents' indulgence.

In addition, the relevant government departments should try their best to provide detailed and comprehensive information services for farmers, and strive to narrow the information gap between urban and rural areas. For farmers, they should also improve their information acquisition ability and achieve resource sharing. In policy making, the government should pay more attention and support to the convenience of agricultural information, so as to protect the vital interests of farmers.

It is worth mentioning that nowadays we are in a rapidly developing society of Internet, which can effectively improve the information degree of farmers. For example, we can use social networking software such as weibo, WeChat and QQ to push information for farmers and build a bridge between the government, universities and farmers. However, some traditional means of information exchange, such as organizing experts to go to the countryside to train farmers, holding seminars and so on, can also play a role.

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