Study on Agricultural Informatization and Building a New Socialist Countryside in Transitional Period

YU Da Jin1,2
1. Department of Management Science and Engineering, School of science, Nanchang University, China,330031
2. School of Information and Management, Jiangxi University of Finance & Economics, China, 330013
ydjwhh@163.com

Abstract Strengthening the construction of agricultural informatization, and stimulating agricultural modernization, which is the necessity choice to balance economic and social development in urban and rural areas and building the modern agriculture, and which is the critical point of building a harmonious society and promoting the building a new socialist countryside. From the basic content of the agricultural informatization and building a new socialist countryside, this paper discuss it is the objective requirements for building a new socialist countryside that pushing the agricultural informatization in transitional period, and combining research practice, analyze the function of agricultural information in the process of building a new socialist countryside. In the last, this paper put forward the suggestions and countermeasures for promoting agricultural informatization and the building of a new socialist countryside.

Keywords Agricultural informatization, new countryside

1. Introduction

With the fast development of information technology, the trend in informatization is spreading on the world. Agricultural informatization is one important component of the social informatization, and it is the inevitable outcome that modern information technology combines with agricultural interior demand. Strengthening the construction of agricultural informatization, and stimulating agricultural modernization, which is the necessity choice to balance economic and social development in urban and rural areas and building the modern agriculture, and which is the key point of building a harmonious society and promoting the building a new socialist countryside.

From the existing literatures, there are many research works on the agricultural informatization, such as Hu Daping etc.(2005, 3) carried out a study on basic connotation and countermeasures of agricultural Informatization[1], Lu Lina (2007, 1) studied theoretical on agricultural informatization[2]. But it can find few researches about building a new socialist countryside, and nothing can be found about the study on agricultural informatization and building a new socialist countryside in transitional period. From the basic content of the agricultural informatization and building a new socialist countryside, this paper discuss it is the objective requirements for building a new socialist countryside that pushing the agricultural informatization in transitional period, and combining research practice, analyze the function of agricultural information in the process of building a new socialist countryside. In the last, this paper put forward the suggestions and countermeasures for promoting agricultural informatization and the building of a new socialist countryside. This study can provide the necessary theoretical support for the related departments.

2. Agricultural informatization and building a new socialist countryside

With modern information technology infiltrate to the area of agriculture continuously, information technology has risen to an important position in the process of the new agricultural technology revolution. It is the maximum phase of the agricultural development which we can understand currently, and it became the important content and sign of agricultural modernization. On account of theory and practice in China’s agricultural informatization are still at their beginning and exploring phases, people’s understandings on the concept of agricultural informatization are also at a developing stage. Therefore,
academia has yet not to make an authoritative interpretation for the concept of agricultural informatization.

According to our study, we think agricultural informatization is an integrative system engineering which involved multisector and multidisciplinary. It refers to make full use of information technology in the agricultural field, develop and utilize information resources, train and develop the new productivity which regards the intelligent tools as representatives, greatly increase agricultural production efficiency, accelerate to achieve the historical process of agricultural industrialization and modernization. Its main contents can be summarized in four aspects, namely, informatization of the process of agricultural production, informatization of the process of farm produce currency, informatization of the process of agricultural management and informatization of rural social service [3]. See figure 1.

Building a new socialist countryside is a major historic task set at the Fifth Plenary Session of the Sixteenth Central Committee of the Party, which will have an overall impact on building a moderately prosperous society in all respects and modernizing the country. The goal of “developing production, improving living standards, fostering more civil behavior, improving the overall cleanliness of villages, and exercising democratic management” sufficient shows that we want to build a new countryside, which is the new rural that socialist economic construction, political construction, cultural construction, social construction and party building harmonize advance, which is the new rural that “the three civilizations” common develop, and which is the affluent, democratic, civilized, harmonious rural. It reflected in five aspects. Firstly, agricultural industrial development should form a “new pattern”. Secondly, rural living standards should achieve “new higher level”. Thirdly, civil behavior of countryside must sparkplug “new style”. Fourthly, the face of countryside should present “new change”. Fifthly, the management of countryside should develop “new mechanisms”.

3. Agricultural informatization is an objective requirement for building a new socialist countryside in transitional period.

Social transformation is referring to the conversion process that the social structure and social mechanisms will change from one form to another. China is a developing country which agricultural population accounts for the majority, and China is locate at a transitional period. In this stage, traditional agriculture will change to modern agriculture, and traditional society will change to modern society. The main characteristics of the transition period are shown as the follows: the mode of economic growth will change from extensive to intensive, the planned economic system will change to market economic system, and the economic structure will change from the traditional agriculture-based rural economy to a modern industrial and service-oriented urban and rural economy.

Characteristics of transitional period are coincident with the building a new socialist countryside. The demand to informatization of building a new socialist countryside mainly reflects in three aspects: change of the agricultural industrial structure, construction of the market economic system, and the urbanization of rural areas. In the process of economic and social transformation, the agricultural industrial structure change from a single type of grain production structure to a multi-structure step by step. Agricultural production has achieved a market-oriented, therefore the demand for information services is also stronger. Under the socialist market economic system, the information is playing a significant role in agricultural areas. Market information which promulgate timely and effectively can
make the production and the market join together effectively, and avoid blind investment to the farmers for the losses caused. In rural urbanization process, a large number of surplus rural labor transfer to non-agricultural industries, there are a large number of people which differ from the traditional farmers, and they show more active participation in information resources.

Promoting agricultural informatization is the inevitable choice of building a new socialist countryside. At present, modern information technology infiltrate speedy to all sectors and domains of agriculture. Using modern information technology comprehensive rebuild and equip agriculture, using adequate information resources service for agriculture, and design the various elements of agricultural production digital, control them intelligent and operate them precise, and manage them scientific, all these will helpful for raising the scientific level of governmental decision, reducing agricultural consumption and cost, increasing industrial efficiency, promoting the level of agricultural science and technology, promoting optimization and upgrade of agricultural industrialization, promoting agricultural growth mode change and the increase of the competitivenes, promoting agricultural comprehensive, harmonious and sustainable development, achieving the construction of a new socialist countryside.


Through research, we found that agricultural informatization can advance sustainable development of agriculture, and it play an important role in building a new socialist countryside.

4.1 It can avoid the blindness of agricultural production, increasing farmers’ incomes.

China is a large agricultural country, the emphases and difficulty for building a new harmonious countryside focus on the problems of agriculture, rural areas and farmers(for short Sannong). Do not solve Sannong, it is impossible to building a new countryside and a well-off society. The core of Sannong is increase farmers’ income. The experience have shown: agricultural increase production may not increase farmers’ income. The irrational industrial structure in rural areas directly affects it. Agricultural informatization can promote the adjustment to rural industrial structure with his unique way, and excavate the potential of agricultural income in a greater degree. In recent years, the difficulty of farmers’ incomes become greater, in addition to the objective reasons, such as sluggish market, depressed prices of agricultural products, there exist the main reason, such as lacking the guide of market information, the production and management with a certain blindness, difficult to open up new channels, and difficult to produce high value-added agricultural products. Therefore, in order to guarantee the science and veracity of agricultural production decision-making and the orderly and efficiency of management, we must have the sufficient, accurate, timely and reliable capability of transmission and processing of information.

4.2 It can enhance the level of agricultural production and management.

As the major carriers and a source of motivation of agricultural scientific and technological progress agricultural information relying the high-tech and high intelligence to promote the development of agricultural modernization. Through the management of information technology, the best management methods can be used, which can improve the efficiency of agricultural production and management level greatly. Through agricultural information network system, the decision-maker of agricultural management can gotten the powerful technical means and abundant, efficient, expedite channels, which can advance agricultural production and management to a new level, promote management scientific, rationalization and optimization, then accelerate agricultural comprehensive development. Anyi County in Jiangxi Province as an example, 26,000 mu pollution-free vegetables in the county are used the biological, physical, ecological and biological pesticide prevention technology, which ensures high-tech green vegetables 100% up to the required standards, fully improve utilization of agricultural resources and protect the vegetable and the surrounding ecological environment. In Hong Kong, every day you can eat the fresh vegetables from Anyi.

4.3 It can enhance the capability of resisting agricultural risks.
Agriculture is a weak industry. There is a long production cycle and it subject to many restrictions. In the production process it face with double risks of natural and market. Depending on the advantage of agricultural informatization we can resist or transfer risks, which increase the farmers’ income directly. Firstly, agricultural informatization can enhance the capability of resisting agricultural market risks. Using the modern communication network technology, farmers can timely obtain policy, technology, marketing and other information. Based on market demand farmers can decide the crop’s size, variety and quantity, which can effectively increase the farmers’ market concept, harmonize and ease the contradictions between “small producers” and “big market”, enhance the share and core competitiveness of farm production market. Secondly, agricultural informatization can enhance the capability of resisting natural risks. In agricultural production, using the remote sensing technology, geographic information systems, global positioning satellite systems, forecasting and other modern information technology, combining with comprehensive evaluation for agricultural production regions by the various expert system. we can adjust the planting structure and optimize the allocation of agricultural capital, carry out precision agriculture, thus increasing the ability of resisting natural risks, and comprehensively improve the level of agricultural productivity.

4.4 It can improve the quality of rural life and promote the construction of spiritual civilization.

Agricultural informatization is promoting developed education and high-tech science and technology to widely use in agricultural production and all sectors of rural life, and promoting farmers full control the production process by using various intelligence apparatus. Meanwhile, modern information technologies come into the area of rural life, which changes the rural daily life. In recent years, rural resident per capita transportation and communications spending have a faster growth. Farmers use radio and television networks, the internet and other media to understand the domestic and international social, economic, scientific and technological developments, learning to master new knowledge, new technology and new ideas, improve their cultural and technical qualities, which is conducive to building a harmonious society and promote the construction of spiritual civilization. According to the research, we can find that agricultural informatization can vigorously promote the “developing production, improving living standards, fostering more civil behavior, improving the overall cleanliness of villages, and exercising democratic management” of rural areas, farmers and agriculture, speed up the pace of building a new socialist countryside.

5. Suggestions and countermeasures for promoting agricultural informatization and the building of a new socialist countryside in the transitional period.

To meet the development requirements of the situation, further improve agricultural information services, we must hold high the great banner of Deng Xiaoping Theory and the important thought of Three Represents fully implement the scientific development concept, closely around the central tasks of agriculture and the rural economy, plan scientific and vigorously promote agricultural information work.

5.1 Establishing new concept of agricultural information and accelerating rural information personnel training.

Agricultural information not only include all kinds of agricultural statistics, but also include agricultural policy, science and technology, agrometeorology and others data. We should understand, organize, manage and promote agricultural informatization according to the new agricultural information and new forms of content. And the information working mode should transfer from the traditional communications, fax, telephone and other forms to internet, and information services should change from simply provide production information to provide full-orientation information service. Construction of information engineering should change from paying more attention to construction of infrastructure to modernizing information technological, developing information resource full-orientation and strengthening the construction of information system.

Accelerating the construction of qualified personnel is the key to promote agricultural informatization. We should strengthen the farmers and agricultural technical personnel training and improve their
scientific and cultural quality, then make them become lettered and skilled new type farmers. Rural schools are the local cultural center, information center and training center, we should combine with the implementation of the project on “rural primary and secondary modern distance education programs”, and according to the local actual situation try hard to let the rural primary and secondary schools link internet by the appropriate manner, then service for the dissemination of agricultural technology, agricultural supply and demand information and vocational skills training of farmers.

5.2 Strengthening the governmental functions in agricultural informatization and building of a new socialist countryside.

China's agricultural informatization start later, and using the information technology service the agriculture, rural areas and farmers just begin. Construction of agricultural informatization exist many problems. One hand, in various rural areas, economic conditions are quite different and infrastructure constructions are imbalance by geographical location, human factors and natural environmental conditions. On the other hand, there are some departments of agriculture-related ignore agricultural informatization. Although service website of rural information has increased with a rush, websites are variety, but many of them lack industry characteristics and local characteristics, sources of information are not clear, the veracity and credibility can not be confirmed, and the construction of information network lack standardized management and a good operation mechanism.

Therefore, in the process of building a new socialist countryside, the most urgent task is to strengthen the government’s leading role in agricultural informatization, enhance the organization and lead of agriculture and agricultural informatization, strengthen the management and monitoring of agricultural informatization, promote the comprehensive and efficient use of information resources, so that people can indeed realize that information is resource and wealth. Only achieving agricultural informatization, can we achieve agricultural modernization and build a new socialist countryside.

5.3 Accelerating development of infrastructure, achieving share of effective information resources.

In the process of building a new socialist countryside, we should integrate other infrastructure in the rural areas, strengthen rural infrastructure of information, and fully use the popularization of telephone and television, spread the syncretism mode of television, telephone and computer in information services, extend the coverage of information services. In addition, we should pay more attention to the development of rural network infrastructure, and fully utilize existing resources, vigorously popularize computer network information technology, avoid most websites focus on the large and medium-sized cities, make agricultural informatization truly in-depth to the front line of agriculture. Moreover, we should strengthen collection and processing of agriculture information, build information sources of agriculture well, improve the integrity, accuracy and applicability of information, protect farmers can get the effective information resources from the agricultural information network.

5.4 Striving to build agricultural information decision support systems.

Agricultural information systems major include integrated database, agricultural resources information systems, agricultural disaster information systems, agricultural production information systems, agricultural management information systems and farm produce marketing network information systems. Technical support of the systems mainly includes remote sensing (RS), geographic information (GI), global positioning systems (GPS), artificial intelligence (AI) and network technology. China is a big country, and agriculture has strong region. The participation, join and sharing of local database system can reduce repeat of investment. It is very important significance for improving agricultural productivity and sustainable development capacity and balancing economic development in region. Like with information technology as a link, we can integrate the computer network, three-S technology (GPS, GIS and RS) and other information technology and placed it on the website of agriculture so that those who have higher computer network technology can use it in environmental monitoring of agricultural resources and production management. Through these, we can improve agricultural production output, quality and agricultural environment. We also can according to the local situation, put up related database system, build resource-conserving and environment-protecting society.
6. Conclusion

Building a new socialist countryside is a major historic task in China's modernization process. In the process of building a new socialist countryside during transitional period, agricultural informatization is not only the important method and necessary means to improve the productivity, but also the important sign of building a new socialist countryside. Strengthening the construction of agricultural informatization, and using information technology promote new rural construction, which is important method to building a new socialist countryside.

References