

# Research on the Impact of Agricultural Technology Innovation on Regional Economic Development in South Sichuan

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## Abstract

South Sichuan is located in the southeast of Sichuan Basin. South Sichuan Economic Zone has gradually become a key area of regional economic cooperation. Economic and social exchanges between different regions are becoming more and more frequent. Industrial development and Rural Revitalization have achieved initial results. Agricultural development is the foundation of Rural Revitalization. To realize the development of agricultural industrialization and rural harmonious progress is conducive to increase the stamina of rural development from the root, and truly pave the way for increasing farmers' income and improving rural appearance. In the new normal of economic development, only by relying on innovation can we gain an advantage in the increasingly fierce social competition. Increasing investment in agricultural technology innovation and improving the ability of agricultural technology innovation have become an important way to improve agricultural production efficiency and achieve regional coordinated development in southern Sichuan. Agricultural technology innovation is conducive to increasing farmers' income, giving play to regional comparative advantages, and promoting the construction of ecological civilization. Southern Sichuan should adjust measures to local conditions, promote the implementation of the national policy of benefiting agriculture and supporting agriculture, and seize the historical opportunity of the new scientific and technological revolution according to the reality of regional economic and social development, promote the popularization and application of agricultural technology, and realize the optimization and upgrading of agricultural industry.

## Keywords

South Sichuan Area, Agricultural Technology Innovation, Regional Economy, Rural Vitalization, Industrial Development.

## 1. Introduction

Southern Sichuan is the abbreviation of southern Sichuan. In a narrow sense, southern Sichuan generally refers to Yibin, Luzhou, Neijiang, Zigong and Leshan. At the beginning of the founding

of new China, the southern Sichuan administrative office was set up in Luzhou City, under the jurisdiction of Zigong City and four special districts of Luzhou, Yibin, Leshan and Neijiang. This is the origin of the concept of southern Sichuan region. Although the southern Sichuan administrative office was later abolished, the economic and social exchanges among the five cities in southern Sichuan are relatively frequent, and the collaborative optimization of resources is still the mainstream of regional development. With the continuous improvement and development of the socialist market economy, scientific and technological innovation is changing with each passing day, the means of information and communication and the level of transportation and logistics have made rapid progress, and the relationship between regions has become closer. In 2006, Sichuan provincial government put forward the idea of constructing South Sichuan Economic Zone in the outline of the 11th Five-Year Plan; In 2011, the seminar on business cooperation and development of South Sichuan Economic Zone was held in Zigong; In 2015, the general office of Sichuan provincial government issued the key work plan of South Sichuan Economic Zone, which built a grand blueprint and policy guidance for the regional cooperation and comprehensive development of South Sichuan. South Sichuan has entered a new stage of development.

## 2. Current Situation of Agricultural Development in South Sichuan

Agriculture is the foundation of the national economy, providing basic means of living for other sectors of the national economy, which is related to national economic security and strategic security. Southern Sichuan is an important grain producing area, which plays an important role in China's agricultural development. Through the collection and collation of agricultural development data in *China Statistical Yearbook* and *Sichuan statistical yearbook*, We can see that from Table 1, the total agricultural output value of the five cities in southern Sichuan from 2015 to 2019 has shown a steady growth. Among them, the total agricultural output value of Zigong in 2019 increased by 56.02% compared with 2015, Luzhou increased by 27.21%, Neijiang increased by 13.56%, Yibin increased by 20.55%, and Leshan increased by 54.96%; From the overall perspective of the southern Sichuan region, the total agricultural output value in 2015 was 144.391 billion yuan, which increased to 189.553 billion yuan in 2019, an increase of 31.28%. The agricultural development of the five cities in southern Sichuan is unbalanced. In 2019, Yibin, which has the highest agricultural output value, is 12.661 billion yuan higher than Zigong, which has the lowest agricultural output value. On the one hand, it shows that there are regional differences in economic development and the coordinated advancement of basic industries is facing challenges; On the other hand, only the unbalanced regional development can realize the rational flow of factors. Through the flow of factors, more economic growth opportunities can be created. There is broad space for agricultural development in various regions, and there will be more opportunities for regional cooperation.

Table 1: Trends in the total output value of the primary industry in various cities in southern Sichuan from 2015 to 2019 (unit: 100 million yuan)

area	2015	2016	2017	2018	2019
Zigong	207.81	222.19	231.94	245.26	324.23
Luzhou	280.77	298.62	305.22	317.8	357.18
Nejiang	332.27	357.42	361.53	376.86	377.32
Yibin	373.99	399.01	402.82	417.45	450.84
Leshan	249.07	267.79	276.25	290.07	385.96
Southern Sichuan	1443.91	1545.03	1577.76	1647.44	1895.53

### **3. Characteristics of Regional Economic Development under the New Normal**

#### **3.1. The Trend of Regional Economic Cooperation is Obvious**

Through complementary advantages and sharing resources within the region, the efficiency can be maximized through scientific allocation. It has been several years since economic development has entered the new normal. People have gradually realized that the new normal of economic and social development will not change in a short period of time. Only by adapting to the new normal can they gain an advantage in the ever-changing social development. The economic foundation of southern Sichuan is relatively weak. Through regional economic cooperation, differentiated operations can be effectively realized, and the advantageous industries in various regions can be integrated, so as to enhance the economic development potential from the root. For a long time, due to the influence of geographical environment, administrative divisions, governance concepts and other factors, the regions of southern Sichuan have not formed an effective regional economic cooperation mechanism. In recent years, party committees and governments at all levels have gradually realized that optimizing regional economic cooperation is conducive to enhancing the endogenous driving force of economic development and reducing the development gap between different regions within the same administrative region. In 2011, the five cities in southern Sichuan held a seminar on business cooperation and development in the southern Sichuan Economic Zone, which proposed to strengthen business cooperation, promote dislocation development, build economic centers, and integrate commercial resources. The trend of regional economic cooperation is becoming more and more obvious.

#### **3.2. The Industrial Structure has been Further Optimized**

Our country's agricultural foundation is relatively weak. Although the Sichuan Basin is known as the "land of abundance" and is a well-known agricultural area in our country, the added value of agricultural products and the production efficiency of agricultural products are still in a weak position in the world. our country has a large population but limited arable land resources. With the current international and domestic situation becoming increasingly complex, only by improving the level of agricultural technology and making new progress in technological innovation and industrial development can we truly meet the needs of our people for agricultural products and safeguard our economy and society Safety. Economic and social development has entered a new normal state, and the industrial structure has been further optimized. Various localities have begun to attach importance to agricultural development, putting agricultural industrialization and agricultural refined management in an important position, and the agricultural industry chain has been enriched and improved. The terrain of southern Sichuan is complex, and the natural environment between adjacent areas is quite different. Optimizing the industrial structure and increasing the added value of agricultural products have become a breakthrough in the development of the regional economy. The characteristic industries between adjacent areas are used to develop circulation, sales, and processing while consolidating the agricultural foundation. Such as the tertiary industry, the development of characteristic cash crops can effectively improve regional competitiveness and achieve new development.

#### **3.3. New Driving Forces for Economic Growth are gradually Taking Shape**

Before the economic and social development entered the new normal, our country mainly relied on exports, investment and consumption to achieve economic growth, and most of the regional economic improvement revolved around exports, investment and consumption. When the international environment is becoming increasingly complex and the export situation is severe, economic growth will naturally face greater pressure, and it is impossible to truly

achieve circular economic development by relying solely on the increase in total volume. After the economic and social development has entered a new normal, the traditional economic growth model has been unable to meet the current economic and social development requirements. The regional economy in southern Sichuan has shown new characteristics and has gradually formed a new driving force for economic growth based on innovation. There are both cooperation and competition within the region. Facing the new normal of economic development, we should give full play to the advantages of resource sharing between regions, create more opportunities for cooperation, and grasp the differentiated operation of the two markets inside and outside the region. Southwest China is located inland, but economic cooperation with foreign countries has never stopped. There is a large room for economic growth. Under the pressure of domestic and foreign competition, more and more companies are beginning to look for breakthroughs and gradually attach importance to human resources in traditional industries such as agriculture. Increase investment in basic industries in order to form a more scientific and sustainable competitive advantage.

## **4. The Impact of Agricultural Technological Innovation on the Economic Development of Southern Sichuan**

### **4.1. Conducive to Increasing Farmers' Income**

As a traditional agricultural country, our country has been striving to achieve agricultural technological innovation for a long time in order to build a solid foundation for the national economy. Agricultural technology innovation will effectively increase the income of farmers in southern Sichuan, which is mainly manifested in three aspects: reduction in agricultural production costs, increase in agricultural product sales income, and diversification of agricultural product sales. With the development of modern science and technology, new methods of application and promotion of agricultural technology, especially the diversification and convenience of information dissemination channels, have made it easier for more and more farmers to obtain training and guidance on advanced agricultural technologies. At the same time, the development of our country's basic industries has promoted and popularized more and more modern technological tools, and farmers can apply modern production tools at a lower cost. Convenient transportation and a well-developed logistics system can expand the sales radius of agricultural products and reduce the loss due to transportation. The Sichuan Basin area was originally inconvenient for transportation, and most agricultural products needed bulk transportation. However, in recent years, the railway, highway, and air transportation networks have become more complete. Crops can be stored and transported scientifically, and fresh agricultural products can be quickly shipped to all parts of the country. The rise of the Internet and mobile Internet has made the sales of agricultural products more diversified. Some agricultural products with high technological content, high added value, and local characteristics can be sold to the eastern developed cities relying on the Internet and modern logistics, which broadens the sales channels of agricultural products, and at the same time satisfies the demand of high-income urban people for high-quality agricultural products.

### **4.2. Conducive to Playing a Comparative Advantage**

Achieving common prosperity is the goal of our socialist society. Promoting the integrated development of urban and rural areas and reducing the income gap between urban and rural areas is an important way to achieve common prosperity. Since the reform and opening up, under the guidance of the principle of getting rich first and getting rich later, some regions and some groups have taken the lead in achieving prosperity. However, our country is also facing the trend of widening urban-rural gap, and the contradiction between the people's growing need for a better life and the unbalanced and inadequate development has become the main

contradiction facing our country. Strengthening the innovation and application of agricultural technology is conducive to improving the efficiency of agricultural production, thereby making the flow of factors between urban and rural areas more scientific, and accelerating the process of urban-rural integration. The excellent scientific and technological resources of cities can be tilted to the countryside, and qualified urban residents can enjoy more high-quality agricultural products; after applying modern technology, forward-looking farmers can increase the added value of agricultural products and enable high-quality agricultural products to play a greater role. , Highlighting rural characteristics, and avoiding severe social problems caused by a large number of farmers entering the city. Through the promotion of modern science and technology, agricultural development can better exert its comparative advantages and promote the rational flow of factors to the countryside, thereby improving the living standards of farmers, improving the appearance of the countryside, and achieving differentiated development.

### **4.3. Conducive to Improving the Rural Environment**

The Party Central Committee has repeatedly mentioned that it is necessary to effectively solve the immediate interests of the people that are most concerned by the people, enhance the people's sense of gain and happiness, and satisfy the people's yearning for a better life. The extensive application of agricultural technology frees farmers from heavy physical labor. At the same time, the application of modern technologies such as environmentally friendly fertilizers is conducive to improving the rural environment and strengthening the construction of socialist ecological civilization. In the traditional agricultural development stage, the production efficiency of agricultural products is not high, and the industrialization of agriculture has not been realized. The majority of farmers only have to work at sunrise and rest at sunset. Agricultural products can only provide food and clothing, and the surplus agricultural products that can be used for exchange are limited. With the development of the socialist market economy, rural living standards have improved. The majority of farmers have achieved adequate food and clothing, and some have even reached a well-off standard of living. However, the low level of agricultural science and technology has led to extensive production methods and the rural outlook cannot be truly improved. After the gradual popularization and application of agricultural science and technology, farmers can devote more energy to the construction of new rural areas. The increase in farmers' income can improve farmers' living standards, enable farmers to spontaneously seek to improve the surrounding environment, and it has stimulated the vigor and vitality of the countryside.

## **5. Agricultural Innovation and Development Strategy in Southern Sichuan**

### **5.1. Increasing the Tilt of Funds and Policies to Rural Areas**

Agriculture is vital to the development of the national economy. The advancement of agricultural industrialization depends not only on farmers' own accumulation, but also on government funding and policy support. The introduction of modern science and technology to organize agricultural production often requires a relatively large initial capital investment. The government should actively guide financial institutions to provide loans for farmers to apply the funding gap in the process of modern science and technology investment; at the same time, increase efforts to benefit agriculture and support agriculture, and promote agriculture to farmers Insurance, improving the risk-bearing capacity of agricultural production. Fiscal funds should be actively tilted towards rural areas and increase investment in rural areas, especially agricultural science and technology. Through the guidance of the government, the leverage effect of funds and policies can be realized, which will drive more social funds to the countryside and realize a virtuous cycle of agricultural production based on the agricultural product market. The ability of agricultural production to approach the market and integrate into the market is conducive to further integrating rural development into the international and domestic dual-

cycle system, laying a foundation for the improvement of our country's comprehensive national strength.

## 5.2. Establish a Scientific Evaluation System for Talent Training

Since the founding of New China, our country has gradually established a talent evaluation system based on professional titles and skill levels, which has played an important role in promoting and guiding talent education and industry development. However, in the field of agricultural production, a clear talent evaluation system has not been formed. In some areas, the evaluation of professional farmers has been explored and positive progress has been made. A scientific talent evaluation system should be established. The farmer population has a large base. The evaluation of farmers' skills or professional titles can further stimulate farmers' production enthusiasm and creativity, and promote farmers to consciously improve their own quality; at the same time, it will be conducive to the rational flow of professional farmers, so that high-quality farmers who master agricultural technology and crop planting skills can better reflect their value. Governments at all levels need to explore the establishment of an agricultural talent training system. They should not only focus on agricultural scientific research talents, but should cover the continuing education and comprehensive quality training to the majority of farmers. This will not only effectively improve the overall national quality of our country, but also speed up the construction of rural civilization.

## 5.3. Get Rid of Traditional Concepts and Realize the Healthy Circulation of Land Management Rights

To achieve agricultural innovation and development, we need to get rid of traditional management concepts and organize agricultural production based on our geographical location and natural economic exchange. The transfer of land management rights is one of the prerequisites for the realization of intensive agricultural production. Only by realizing large-scale agglomeration can the efficiency of agricultural production be effectively improved. The scope of scientific and technological application decays slowly, and the marginal effect is relatively strong. Under the conditions of large-scale production, modern agricultural science and technology have a broader application space. The topography and topography of southern Sichuan is relatively complex, and there are large differences in the natural environment between regions. This is the favorable condition for the development of characteristic agriculture. The majority of farmers should emancipate their minds, and under the premise of ensuring that their production and life are not affected, they should correctly view the role of land management rights. When the conditions for agricultural production are met, they can produce and operate on their own contracted land; when the conditions for production are not available, they can transfer contracted land to qualified professionals who are good at management is conducive to optimizing the allocation of resources, accelerating the accumulation of factors, and improving the level of agricultural industrialization.

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