



# An Exploration on the Effective Way to Solve the Bottleneck in Improving the Overall Grain Production Capacity

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**Abstract:** There are four constraints and bottlenecks in improving the overall grain production capacity in China. Among them, poor infrastructure and weak disaster resistance is the basic factor. And high cost and risk in grain production is another factor affecting the overall grain production capacity in China. And the third one is relatively low degree in large scale production and slow speed in land transfer. Last but not the least, we are facing the problem of increasing population aging of rural labor force and low level in applying agricultural science and technology in agricultural production. Therefore, we must find out effective ways to break the four bottlenecks as soon as possible. Firstly, it shall increase the investment in agricultural infrastructure to improve the comprehensive agricultural production capacity; Secondly, it shall increase direct subsidies to farmers so as to mobilize their enthusiasm in agricultural production; Thirdly, it shall increase the financial transfer payment to agricultural areas to rise the enthusiasm of local governments in developing agriculture; Finally, it shall increase the investment in agricultural science and technology to improve the technological level of agricultural production.

**Keywords:** Overall Grain Production Capacity; Constraints and Bottlenecks; Effective ways

## 1. Introduction

In recent years, due to the diligent and hard work of Chinese people, certain achievements in food production have been made in most areas and villages in China, which has made positive contributions to our national food security. However, there are still some problems waiting to be solved in the field of grain production due to various reasons such as the transformation and development of society, lack of agricultural talents and low utilization of science and technology in agricultural production. This paper aims to analyze how to improve the overall grain production capacity in the future by discussing the problems and challenges faced by agricultural development at present stage.

## 2. Constraints and bottlenecks in improving the overall grain production capacity

### 2.1 Poor infrastructure and weak disaster resistance

Since China's agriculture production is still in the stage of heavy industry, it can be said that the frontier agricultural production system in China has not been completely established, and the poor infrastructure cannot well meet the technical needs of the new era. Moreover, we are facing an increasing frequency of abnormal climate change and extreme weather at present, but the emergency response & recovery capability of agricultural production by means of science and technology is still weak, which lead to low resistance to natural disasters.

In addition, although China's central and provincial government has attached great importance to the construction of agricultural infrastructure, for example, flattening the land, constructing water conservancy works and comprehensive development project, the results are not that promising owing to lack of funds. Specifically, only a small scale of farmlands are reorganized while the large rest of farmlands and some wasteland are still using the old-fashioned agricultural facilities, causing such problems as incoordination of the road network, devoid of machine tillage road, poor road surface condition and weak ability in flood drainage and so on. Some fields with supporting facilities can only be used in a limited time periods due to lack of later management and maintenance, failing to better play their roles. Such fields still cannot deal with heavy natural disasters. As a result, China's grain production capacity is still constrained by natural ecological system<sup>[1]</sup>.

## **2.2 High cost and risk in grain production**

On the one hand, because agricultural production needs a large number of manpower, material, resource and financial support, its input cost relatively is high, accounting for more than 50% of the total income, which is not conducive to the development of agricultural production. Manpower and material resources are employed for spraying, cultivating land, sowing, harvesting and other matters. Due to the low utilization of scientific technologies, the agricultural production in China is still relatively primitive, failing to obtain corresponding labor costs.

On the other hand, there are many risks in grain cultivation. Agricultural production is often affected by many factors such as natural disasters, extreme weather, biological risks and market risks. Due to these risks in agricultural production, farmers suffer great losses and can hardly get returns in planting.

## **2.3 Low degree in large scale production and slow speed in land transfer**

At present, many grain growers are self-employed households, without forming a large-scale planting industry. The land transfer area of new operating entities is also small, and farmers have a strong sense of land preservation, leading to slow and irregular land transfer as well as chaotic lease relations. As a result of small scale in land management, the agricultural production cannot develop quickly as well.

2.4 Increasing population aging of rural labor force and low level in applying agricultural science and technology in agricultural production

Currently, a large number of rural people are migrating to the city, especially the young labor force. They prefer working in the city to returning to go in for farming, which leads to further reduction of rural labor force. The older generation is stuck in the fields while the younger generation is not willing to farm. In addition, due to the lack of new talent, the existing majority of farmers have little awareness in scientific farming and insufficient experience and capability in using modern tools. As a result of poor promotion of new technology, the application level of agricultural science and technology cannot be well developed<sup>[2]</sup>.

## **3. Effective ways to break the bottlenecks affecting agricultural development**

According to the current situation of China's rural agricultural production, we can put forward the following countermeasures:

### **3.1 Increasing the investment in agricultural infrastructure to improve overall agricultural production capacity**

For existing fields, it shall improve the farming equipment and agricultural infrastructure construction through the government's funding and the investment of the municipality, so as to speed up the construction of various projects beneficial to the agricultural production, such as irrigation facilities, drought-resistant and anti-waterlogging water conservancy projects, etc. It shall make full use of these projects to build high standard farmland to improve the

disaster resistance, so as to guarantee the quantity and quality of food production. At the same time, it can increase the supporting motor-pumped well and electric power facilities, etc., to effectively resist the drought and protect the harvest of the farmers. It is necessary to increase the intensity of such infrastructure if we want to further intensify the agricultural production, push the production speed and improve production technology. Therefore, the government should pay great attention to the construction of farmland infrastructure to facilitate the production of farmland from door to door.

### **3.2 Increasing direct subsidies to farmers to mobilize their enthusiasm in agricultural production**

Since there are many natural disasters, the income of agricultural products is also unstable. When the production is reduced due to natural disasters or other circumstances, the state should increase the subsidies to farmers to increase their income. Although the government has been subsidizing agricultural production this year and the scope of subsidies has been expanding, farmers have not received much preferential treatment due to the increasing production costs of agriculture. Therefore, the government should actively mobilize farmers' enthusiasm in agricultural production through subsidy policy to ensure the continuous development and steady advancement of agricultural production.

### **3.3 Increasing financial transfer payments to agricultural areas so as to mobilize the enthusiasm of local governments to develop agriculture**

Since many agricultural areas are located in underdeveloped areas, they often suffer from lack of construction funds. It is difficult for these areas to maintain the infrastructure projects even if the state has built them. Therefore, it will easily lead to insufficiency in agricultural infrastructure construction and government subsidies. The farmers' enthusiasm cannot be fully aroused, and the local governments are powerless or ignorant in developing agricultural production. For these areas, it shall increase the support for various social undertakings in agricultural production areas through financial allocations to improve the enthusiasm of local governments and help agricultural areas continue to develop<sup>[3]</sup>.

### **3.4. Increase investment in agricultural science and technology to raise the level of agricultural science and technology**

In order to develop modern agriculture, it is necessary to increase the investment in science and technology. Since many agricultural construction personnel have not formed the ideological quality matching with the level of science and technology, the local government should continue to publicize and improve people's ideological awareness. By promoting the two aspects together, farmers can enjoy the convenience of new scientific and technological equipment. Next, it shall continue to attract talented person to add new vigor for agricultural construction. Due to the lack of new scientific and technological talents in agricultural development and the serious population aging of rural labor force, the farmers' concept of agricultural production is relatively backward. Therefore, it is necessary to increase the investment in training talents and inputting science and technology so as to promote the implementation of various key technologies and the comprehensive development of agricultural production.

## **4. Conclusion**

China used to be a big agricultural country, and has experienced a long history in agricultural development. However, since it failed to catch up the modern scientific and technological progress in agricultural production field, it gradually fell behind. Currently, our country are facing various problems of industrial transformation, the demand for talents is also increasing. In order to develop grain production, it is necessary to continuously strengthen the research both in the laboratory and field, so as to add new technology and new life into agricultural production system. Such measurements will make the agricultural structure better fit modern production structure and promote the rapid

development of agricultural development.

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