

RESEARCH ON THE REALISTIC DILEMMA AND BREAKTHROUGH PATH OF HIGH-QUALITY AGRICULTURAL DEVELOPMENT IN HENAN PROVINCE IN THE NEW ERA

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Abstract: Henan Province is an important agricultural province in China, shouldering the responsibility of national food security and increasing farmers' income. In recent years, Henan Province has deeply implemented the rural revitalization strategy, accelerated the agricultural supply-side structural reform, and achieved a series of remarkable results. However, the high-quality development of agriculture in Henan Province is also faced with resource and environmental constraints, unreasonable industrial structure, weak innovation ability of agricultural science and technology, and imperfect agricultural production service system, which need to be further studied and solved. This paper analyzes the current situation, predicament and breakthrough path of high-quality agricultural development in Henan Province, aiming to provide reference and suggestions for high-quality agricultural development in Henan Province.

Keywords: Henan Province; High-quality development of agriculture; Breakthrough Path

1. Introduction

Henan Province is a large agricultural province and a province with a large population in China, with rich agricultural resources and population advantages. As the leading industry in Henan Province, agriculture has broad development space. However, Henan Province still faces a series of difficulties and challenges in the process of high-quality development of agricultural.

2. The significance of high-quality agricultural development

High-quality agricultural development means that on the basis of ensuring national food security and increasing farmers' income, we should take scientific and technological innovation as the guide, green production as the guide, improve quality and efficiency as the core, and meet the people's ever-growing needs for a better life. We will modernize agricultural production methods, operating systems, management models and development concepts^[1]. High-quality agricultural development is of great practical significance for accelerating rural revitalization and comprehensively building a modern socialist country.

First, high-quality agricultural development is conducive to ensuring national food security and increasing farmers' incomes. Food security is an important cornerstone of national security and a rigid demand of the people.

China is the world's largest agricultural country and populous country, to achieve food self-sufficiency, we must improve the efficiency and quality of agricultural production. Through scientific and technological innovation, variety improvement, and smart agriculture, we will increase the overall agricultural production capacity, ensure the stability of total grain supply and optimize its structure, and meet the people's demand for high-quality and safe grain. At the same time, we will improve the added value and market competitiveness of agricultural products and increase farmers' income through measures such as optimizing the industrial structure, expanding income channels and strengthening brand building.

Second, high-quality agricultural development is conducive to rural revitalization and ecological progress. The rural revitalization strategy is the general starting point for the work of "agriculture, rural areas and farmers" in the new era, and is also an important support for realizing the great rejuvenation of the Chinese nation. In order to promote the full implementation of the rural revitalization strategy, we must adhere to the basis of agriculture, take green development as the concept, and take beautiful villages as the goal^[2]. Henan Province should build a harmonious relationship between man and nature by developing green agriculture models and organic farming models. In addition, Henan Province should build rural characteristic brands and enhance rural influence by developing characteristic agriculture and leisure agriculture.

Third, high-quality agricultural development is conducive to adapting to changes in the international situation and market demand. At present, the world is undergoing profound changes unseen in a century. In the new round of scientific and technological revolution and industrial transformation, competition in the international market is becoming increasingly fierce, and consumers' requirements for product quality, safety and diversity are constantly increasing. In order to adapt to these changes, Henan Province must accelerate agricultural science and technology innovation and transformation and upgrading, and enhance its voice and influence in digital agriculture, biotechnology and other fields. At the same time, it is necessary to strengthen market monitoring and analysis, timely adjust the supply structure and layout, and meet consumers' demand for high-quality diversified products.

3. Current situation of high-quality agricultural development in Henan Province

Henan Province is an important agricultural province in China with abundant agricultural resources and advantages. In recent years, Henan Province has actively promoted the high-quality development of agriculture, implemented a series of policies and measures, and achieved remarkable results.

3.1 Agricultural production

Agriculture, forestry, animal husbandry and fishery are the basis for human survival and development. They provide human beings with food, fiber, medicine, energy and other resources, while maintaining ecological balance and environmental security^[3]. In recent years, the output of agriculture, forestry, animal husbandry and fishery in Henan Province has shown a steady growth trend, making important contributions to economic and social development and food security. In 2021, Henan's total grain output will reach 120 million tons, ranking first in China. Grain yield per unit area reached 616.8 kg/mu, exceeding the national average. At the same time, Henan Province has strengthened the cultivation and promotion of high-quality characteristic agricultural products, and formed a number of agricultural products with local characteristics and market competitiveness^[4]. Henan Province, for example, is one of the largest peanut production bases in China, with total peanut production reaching 3.6 million tons in 2021, accounting for 21.4 percent of the country's total.

3.2 *Agricultural science and technology*

Henan Province has strengthened scientific and technological innovation and popularization, and improved the support capacity and level of agricultural science and technology. Henan Province has established a state-led, provincial-level, city-county based agricultural science and technology innovation system, with 3 state-level key laboratories, 4 state-level engineering technology research centers, and 25 state-level modern agricultural industrial technology systems. Henan Province has also strengthened cooperation and exchanges with well-known scientific research institutions and enterprises at home and abroad, and introduced and cultivated a number of high-level scientific research talents and teams. In 2021, Henan Province won 11 national science and technology awards, including 1 National Top Science and Technology Award; The number of invention patents applied for in Henan Province reached 12,000, ranking eighth in the country.

3.3 *Agricultural industry*

Henan Province has thoroughly implemented the rural revitalization strategy, promoted the structural reform of the agricultural supply side, and promoted the industrialization, scale, standardization, branding and marketization of agriculture. Henan Province has established a modern agricultural management system led by leading enterprises, linked by cooperatives and supported by family farms, forming a group of leading agricultural enterprises with strong influence and competitiveness^[5]. For example, Zhengbang Group is one of the largest livestock and poultry breeding enterprises in China, with revenue of more than 50 billion yuan in 2021; New Hope Group is one of the largest feed production enterprises in China, with an operating revenue of more than 80 billion yuan in 2021. Henan Province has also strengthened the quality and safety supervision and standardization of agricultural products, improving the quality and credibility of agricultural products. In 2021, Henan Province has 113 national Geographic indication products, 149 national pollution-free agricultural product certification bases, 75 national green food certification bases, and 34 national organic agricultural product certification bases.

3.4 *Agricultural ecology*

In recent years, the agricultural department of Henan Province has actively promoted green ecological agriculture, continuously promoted the prevention and control of agricultural non-point source pollution, promoted green production methods, protected the agricultural ecological environment, improved the resistance and quality of crops to diseases and insects, and reduced the dependence on pesticides and fertilizers. At the same time, the Henan provincial government has introduced a series of policies and measures to encourage farmers to use organic fertilizers and biopesticides, limit excessive application of fertilizers and pesticides, and strengthen agricultural environmental monitoring and management. These measures have effectively reduced the use of pesticides and fertilizers in Henan Province, protected soil and water resources, and promoted the sustainable development of agriculture. Henan Province has also strengthened soil erosion control and water resource protection, built a number of water conservancy projects and water-saving irrigation facilities, and improved agricultural drought resistance and water resource utilization efficiency.

3.5 *Rural construction*

Henan Province has comprehensively promoted the construction of rural infrastructure and the upgrading of public services, improving the living environment and people's well-being in rural areas. Henan Province has accelerated the construction and renovation of rural roads, electricity, communications, water supply, gas supply and other infrastructure, improving the convenience of rural transportation and quality of life. In 2019, all administrative villages in Henan Province had access to hard-wired roads, electricity and broadband. In Henan

Province, all natural villages have access to tap water and liquefied natural gas. Henan has also accelerated the development and equalization of public services such as education, health and culture in rural areas, improving the quality and happiness of the rural population. In 2019, central schools were established in all townships and clinics were established in all administrative villages^[6]. Henan Province has established cultural stations in all townships and cultural squares in all administrative villages.

4. The realistic dilemma of high-quality agricultural development in Henan Province

Henan Province is a big agricultural province in China, and also an important guarantee of national food security. However, the high-quality development of agriculture in Henan Province also faces some problems and challenges, which need to be solved and overcome quickly.

4.1 Shortage of cultivated land resources and water resources

Henan Province has a large population, and its per capita arable land is only 0.038 hectares, less than 4/5 of the national average. With the acceleration of the urbanization process, the loss and occupation of cultivated land is relatively serious, resulting in the continuous reduction of the total amount of cultivated land, and the pressure of cultivated land and food security is constantly increasing. In addition, Henan province is a typical province of water shortage, and the per capita water resources are only one-fifth of the national average. Agricultural water accounts for nearly 70% of the total water consumption, but the effective utilization coefficient of farmland irrigation water is low, and there are waste and pollution phenomena. At the same time, due to the influence of climate change and human factors, Henan Province often suffers from drought and flood disasters, which brings adverse effects on agricultural production.

4.2 The level of agricultural green development is not high

Although Henan Province has made some achievements in promoting the green development of agriculture, there is still a big gap compared with the national rural revitalization strategy and highquality development requirements. In some places, there is still the thinking of "city before countryside, industry after agriculture", and insufficient understanding of the concept of green development, and insufficient investment in green technology, standards, industries, and services. At the same time, due to the large regional differences, the level of green development in different regions is not balanced, so it is necessary to formulate differentiated green development strategies according to local conditions.

4.3 Unreasonable agricultural structure and layout

The agricultural development of Henan Province has the problems of "big but not strong, complete but not excellent". The agricultural industry structure is single, the proportion of advantageous characteristic agricultural products is not high, and the quality and efficiency of agricultural products are not high. Agricultural layout is not scientific, did not fully consider regional climate characteristics, industrial base, equipment and facilities and other factors, resulting in some areas of homogenized competition, low-end production, excess capacity and other phenomena^[7]. At present, the proportion of planting industry in Henan Province is still large, the proportion of animal husbandry is small, and the proportion of forest and fruit industry is even smaller. This structure leads to the shortage or oversupply of some advantageous characteristic agricultural products in Henan province, and reduces the competitiveness of Henan province in the regional division of labor.

4.4 The innovation ability of agricultural science and technology is not strong

The innovation system of agricultural science and technology in Henan Province is not perfect, the investment of science and technology is insufficient, and the transformation and application of scientific research achievements

are not fast. The construction of agricultural talent team lags behind, and the lack of high-level scientific and technological talents and innovative entrepreneurs. Farmers have low scientific and technological literacy, and their ability to accept and apply new technologies, new varieties and new models is limited.

4.5 Low processing and circulation efficiency of agricultural products

Henan Province agricultural products processing technology and equipment level is relatively backward, deep processing capacity is insufficient, can not fully improve the added value of agricultural products. At present, the deep processing rate of grain in Henan Province is only about 30%, far lower than the more than 70% in developed countries. In addition, in the processing of other characteristic advantages of agricultural products, there are also problems such as backward technology, outdated equipment, small scale, and lack of brands^[8]. The construction of agricultural product circulation infrastructure lags behind, and there are shortcomings in preservation, storage and transportation, and testing, resulting in large postpartum losses. The market system of agricultural products is not perfect, the information service is not perfect, there are problems such as information asymmetry and price fluctuation.

5. Breakthrough path of high-quality agricultural development in Henan Province

5.1 We will deepen rural reform and stimulate rural innovation and entrepreneurship

Rural reform is an important way to promote high-quality agricultural development. We need to improve the land system, protect farmers' land rights and interests, promote land transfer and large-scale management, and improve land use efficiency. First of all, the government should strengthen the construction of collective economic organizations, give play to the role of collective assets, and support the construction of rural infrastructure; Second, farmers should be encouraged to participate in new business entities such as rural cooperatives and family farms, and expand business channels and sources of income; Finally, rural industrial clusters and characteristic towns should be cultivated to create rural revitalization demonstration areas^[9].

5.2 Promote the green development of agriculture and protect the agricultural ecological environment

The green development of agriculture is an inevitable requirement for achieving sustainable development. Henan Province should adhere to the economical and intensive use of agricultural resources such as land and water, promote green production technologies and standards, control the use and pollution discharge of inputs such as fertilizers and pesticides, and improve the safety and quality of agricultural products. At the same time, circular agriculture should be developed, and waste and byproducts should be used for recycling or comprehensive utilization to achieve the maximum utilization and value of resources.

5.3 Optimize the agricultural industrial structure and develop characteristic and advantageous industries

Henan Province should reasonably plan the development direction and key areas of agricultural industry according to its own resource endowment and market demand, and form an industrial system with distinctive characteristics, outstanding advantages and remarkable benefits. At the same time, we should make full use of regional differences and comparative advantages, establish inter-regional cooperation mechanisms and division of labor cooperation models, and achieve inter-regional complementarity and win-win.

5.4 Strengthen innovation in agricultural science and technology and improve the efficiency and quality of agricultural production

The innovation of agricultural science and technology is an important driving force for the highquality development of agriculture. Henan Province should increase the investment and support for agricultural scientific research institutions and talents, encourage the transformation and application of agricultural scientific and

technological achievements, cultivate a number of new varieties, new technologies and new products with independent intellectual property rights and market competitiveness, and enhance the added value and competitiveness of agriculture^[10]. At the same time, we should strengthen agricultural technology training and services, improve farmers' scientific and technological literacy and innovation ability, and promote the transformation and upgrading of agricultural production methods.

5.5 Accelerate agricultural modernization and digital transformation, and enhance the added value and core competitiveness of agriculture

Henan Province should strengthen the construction and improvement of agricultural infrastructure and public service facilities, and improve the conditions and level of agricultural production. At the same time, modern scientific and technological means such as information technology, Internet of Things technology and artificial intelligence technology should be actively introduced to build a smart agricultural platform and system, and realize digitalization, intelligence and networking in agricultural production management, supply chain management and marketing.

6. Conclusions

Through the analysis of the current situation and problems faced by the high-quality agricultural development of Henan Province, we can see the achievements and shortcomings of the high-quality agricultural development of Henan Province in recent years. To promote the high-quality agricultural development of Henan Province to a higher level, the government should increase support for the agricultural development of Henan Province. I believe that with our joint efforts, Henan Province will achieve better results in the high-quality development of agriculture.

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