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# Analysis of Rural Development Factors: A Case Study of Hebei Province

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**Abstract** On the basis of survey, drawing on economic growth theory, we analyze the main form of exogenous growth and regional applicability in Hebei Province, and point out that some exogenous driving forces are effective ways to accelerate rural construction, such as "the promotion of agriculture by industry" and "developing the rural areas with the aid of the urban areas". However, human capital, technology, incentive institutional arrangement, agricultural industry clusters and other endogenous growth factors are fundamental to sustainable development of rural construction, so it is necessary to make them play a fundamental role in increasing farmers' income and promoting agricultural development.

**Key words** "Developing the rural areas with the aid of the urban areas", Human capital, Endogenous factors, Exogenous force, Rural construction

## 1 Introduction

Hebei is a province of the People's Republic of China in the North China region. Its one-character abbreviation is named after Ji Province, a Han Dynasty province (zhou) that included what is now southern Hebei. The name Hebei means "north of the river", referring to its location completely above the Yellow River. The province borders Liaoning to the northeast, Inner Mongolia to the north, Shanxi to the west, Henan to the south, and Shandong to the southeast. Bohai Bay of the Yellow Sea is to the east. A small part of Hebei, an exclave disjointed from the rest of the province, is wedged between the municipalities of Beijing and Tianjin. It is located in the seashore of Bohai Sea, with rich mineral resources and tourism resources. Hebei is made up of 11 prefecture-level divisions, which are all prefecture-level cities. These are subdivided into 172 county-level divisions (22 county-level cities, 108 counties, 6 autonomous counties and 36 districts). Those are, in turn, divided into 2 207 township-level divisions (1 district public office, 937 towns, 979 townships, 55 ethnic townships, and 235 subdistricts). In 2009, GDP achieved 2.019 71 trillion yuan; the Engel coefficient of urban households was 32.3%, and the Engel coefficient of rural households was 35.2%. In 2011, Hebei's GDP was 2.40 trillion yuan, an increase of 11% over the previous year and ranked 6th in the China. GDP per capita reached 24 428 yuan. Disposable income per capita in urban areas was 13 441 yuan, while rural pure income per capita was 4 795 yuan. The primary, secondary, and tertiary sectors of industry contributed 203.46 billion, 877.74 billion, and 537.66 billion yuan respectively. The registered urban unemployment rate was 3.96%. Hebei's main agricultural products are cereal crops including wheat, maize, millet, and sorghum. Cash crops like cotton, pea-

nut, soya bean and sesame are also produced. Hebei's industries include textiles, coal, steel, iron, engineering, chemical production, petroleum, power, ceramics and food. The population is mostly Han Chinese with minorities of Mongol, Manchu, and Hui Chinese. Hebei Province has the largest Catholic Christian population in China, with nearly 1 million Church members. In 2009, the permanent population was 69.43 million, including 41.48 million of rural population (ranking fourth in China). The economic development is rapid in Hebei Province, but the comprehensive agricultural production capacity is weak, the foundation for increasing food production and rural incomes is not yet solid, and the economic distribution in the province is relatively uneven.

## 2 Theory

Growth theory research mainly includes two categories: (i) Exogenous growth theory. The exogenous forces are mainly resources, capital, labor and other factor inputs, as well as government intervention in the market. The representative of exogenous growth theory is Solow model, in which the modern economic growth depends only on the accumulation of capital accumulation or population, so it is convergent, converged and short-term. (ii) Endogenous growth theory. The endogenous driving forces mainly include the human capital springing from education and training, and the technical progress arising from invention and innovation. The endogenous economic growth theory is represented by the new growth theory, and emphasizing the knowledge, technology and human capital is a determinant for long-term economic growth. Romer is an iconic figure of the new growth theory, and North introduces the institutional evolution into economic growth, to put institution also as the endogenous variable for economic growth.

## 3 The main form of exogenous driving forces and regional applicability in Hebei Province

The exogenous force deriving from the government behavior and

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the external competitive environment is an "exogenous" factor for agricultural and rural development. At present, the domestic researches on rural development mainly emphasize the exogenous development, including urbanization, industrialization, capitalization, transfer of labor and so on. The specific implementation forms of exogenous driving force mainly include two aspects: developing the rural areas with the aid of the urban areas, and the promotion of agriculture by industry.

### 3.1 The main form of exogenous driving forces in Hebei Province

(i) The urban capital flows into rural areas, promoting the new rural construction. Some of the capital is for the development of ecological agriculture, while some of the capital is for new residential construction in rural areas or rural transformation. For example, Qinhuangdao City financed 30 billion yuan for China Metallurgical Corporation, to promote the new residential reconstruction in 400 villages. (ii) Hebei Province encourages farmers to work or start up their own business in cities to transfer rural surplus labor and increase farmers' income. This form is also common in other regions. To promote the employment of migrant workers, Hebei Province has implemented the "trinity" working mechanism-training, employment, safeguarding rights. In 2011, more than 1 million of people received the training for the transfer of rural labor force, and especially in Wei County of Handan City as a major county organizing the transfer of labor, a total of 0.26 million people were employed in other areas in 2009, and it has created a reputable labor service brand. (iii) The urban medical service, radio and television, public transportation, telecommunication and other public services are extended to rural areas, achieving full coverage of urban and rural areas. For example, to accelerate the development of rural medical and health services, Tangshan City in Hebei Province carried out "10 000 physicians supporting the rural health" project, and actively promoted the coverage of rural health care, pension and social security, to promote the integration of urban and rural social security system. (iv) The government attaches importance to agricultural research and improvement of agricultural technical content. In recent years, the agriculture in Hebei Province has changed from the pursuit of high yields in the past to improving the quality and increasing the income. To improve conditions for agricultural research, a large number of agricultural research centers, technology parks, key provincial agricultural laboratories, and agribusiness experimental bases were established in the "Tenth Five-Year Plan" period, through the provincial special financing. (v) The construction of rural libraries to enhance the quality of agricultural laborers is also common in Hebei Province. For example, in Dachang No. 3 Village, Dachang County, Langfang City, the village collective builds the library, to provide an important platform for the villagers to learn the knowledge, obtain information and get rich. Meanwhile, the library also reduces "playing cards", "playing mah-jong" and other forms of rural popular pastime, thereby vigorously promoting the construction of rural social harmony. (vi) In some villages with developed non-agricultural industries in Hebei Prov-

ince, the village collective sets aside a certain percentage of funds from township enterprises according to the turnover, to support rural development. For example, Liugusi Town in Hejian City collects funds from the enterprises as the subsidies for the villagers' use of electricity and water. (vii) The agricultural price policies are implemented to ensure stable development of agriculture and the direct subsidies are given to agriculture to increase farmers' income. As a big agricultural province, Hebei Province has been giving support to agriculture, including the distribution of food subsidies, seed subsidies, agricultural machinery purchase subsidies, comprehensive agricultural material subsidies and other subsidies. In 2009, the subsidy for cotton seed promotion in Hebei Province reached 57 million yuan, and 15 yuan of seed subsidy per mu was given to the cotton farmers through a unified supply of fine cotton varieties to cotton farmers. (viii) In addition to the form of capital and technology, the concept and operation mode of industrialization are used for rural construction, which is a more lasting and effective way.

The first is to learn from the experience of modern industrial park to build modern agricultural park; the second is to learn from the management model of industrialization, to promote appropriate scale operation of agriculture, turn farmers' land use rights into equity, and implement corporatization to turn the farmers into agricultural workers; the third is to introduce industrialized operation model, and develop agricultural cooperative economic organizations.

### 3.2 Regional applicability analysis of developing the rural areas with the aid of the urban areas and the promotion of agriculture by industry

In 2010, the proportion of the secondary and tertiary industries in China was 46.87%, 42.96%, respectively, with urbanization rate of 46.6%, having entered the middle stage of industrialization and had the ability of industry nurturing agriculture.

However, due to different economic levels in various regions of China, the promotion of agriculture by industry is not the same in various regions. In the eastern coastal cities such as Beijing, Tianjin, Shanghai, Zhejiang and so on, the process of industrialization is rapid, and they have entered a period of industry nurturing agriculture on a large scale. In the western regions such as Gansu, Shanxi, Tibet, Yunnan and Xinjiang, the industrial foundation is weak, and the conditions for the promotion of agriculture by industry are not yet ripe. Geographically, Hebei Province is in the east, but its overall level of economic development is close to that of central regions, and there is still a long way to enter the period of industry nurturing agriculture on a large scale. The economic pattern of the province is also very uneven. Tangshan, Qinhuangdao and Langfang represent the level of the developed regions in the eastern part of China, and these regions should accelerate the pace of promoting agriculture by industry. Shijiazhuang, Handan, Baoding, Xingtai City and some regions of Chengde represent the level of the central part of China, and we should pay attention to agriculture, farmers and countryside while vigorously

developing the industry. Cangzhou, Hengshui, Zhangjiakou and most regions of Chengde are close to the level of the western part of China, and it is necessary to build a new socialist countryside through the development of regional characteristic agriculture while enjoying some preferential agricultural policies.

#### 4 "Endogenous" factors are the fundamental approach for rural development

In terms of the factor endowments of rural economy, the new rural construction can not be divorced from the basic category of agriculture. To achieve the overall objective of the new rural construction, in addition to relying on the inflow and support of exogenous factors, the "endogenous" factors are essential for self-development of agriculture. At the same time, "endogenous" factors create favorable conditions for the inflow of exogenous factors, so it is necessary to lay great emphasis on the following aspects so as to promote the sustainable development of new rural construction:

##### 4.1 Developing the agricultural industry clusters and enhancing the self-organizing force for agricultural development

There is either competition effect or synergy effect between various economic subjects of agricultural industry clusters. The aggregation effect of factors is strong, and participating in the external competition by the way of clusters and carrying out transaction between the economies with strong correlation, can reduce information costs and transaction costs, increase the dominance of agricultural business entities, and enhance the self-organizing capacity of agricultural regional development.

##### 4.2 Strengthening the training for farmers and accelerating the building of human capital in rural areas

Investment in human capital in rural areas can improve farmers' employability, and promote the effective implementation of various agricultural support policies, thus conducive to the realization of agricultural modernization and continued growth of rural economy. For Hebei Province, to increase investment in human capital in rural areas, it is necessary to increase the funding for rural education. In addition to the basic education, it is necessary to strengthen agricultural technology training and other types of vocational and technical education, in accordance with the regional specialty products, and industrial development.

##### 4.3 Promoting agricultural specialization and speeding up the large-scale agricultural operation

Developing the modern agriculture, with appropriate scale management of agriculture as the core, is an important task of the new rural construction. The transfer of labor between different industries within the agriculture can help to achieve specialization of agriculture, and promote agricultural restructuring. In many rural areas of Hebei Province, some of the surplus labor forces are engaged in agricultural technology services; some of the surplus labor forces are engaged in selling agricultural products; some of the surplus labor forces are engaged in rural construction; some of the surplus labor forces are engaged in agricultural implement maintenance, odd jobs, brokerage, communications and other services. Through specialized divi-

sion of labor within agriculture, the agricultural labor productivity is improved, and the surplus labor force is absorbed within the agriculture, reducing the pressure of the transfer of agricultural population to urban areas; the employment of labor within the agricultural sector is less affected by external economic fluctuations, and the risk of unemployment is lower.

#### 5 Playing the main role of farmers and improving the villagers' autonomy

Farmers are the most positive factor for promoting the development of productive forces, and the powerful "endogenous" driving force for rural development, so giving full play the main role of farmers is the key to building a new countryside. In order to fully play the main role of farmers, on the one hand, it is necessary to believe farmers and respect farmers' interests and demands; on the other hand, it is necessary to improve the rural democratic election, democratic decision making, democratic management, and democratic supervision, and achieve villagers' autonomy.

#### 6 Institutional support

In the process of the new rural construction, it is necessary to ensure the farmers to actively participate in the incentive institutional arrangement for the new rural construction. (i) It is necessary to formulate the relevant support policies, such as giving capital subsidy for the farmers' house building, biogas construction and purchase of large machinery. (ii) It is necessary to establish the village cadre assessment and incentive mechanism. The allowance is offered to the diligent and pragmatic excellent village cadres or college student village leaders who play a leading role, in order to stimulate their enthusiasm for work. (iii) It is necessary to implement democratic decision-making, and mobilize the farmers' enthusiasm.

#### 7 "Exogenous" development and "endogenous" development should complement each other, to jointly promote the new rural construction

Relying on "the promotion of agriculture by industry", "developing the rural areas with the aid of the urban areas" and other exogenous driving forces, is an effective way to accelerate the construction of new countryside. However, from the actual situation of rural areas in Hebei Province, simply relying on "the promotion of agriculture by industry" and "developing the rural areas with the aid of the urban areas" to increase farmers' income and promote new rural construction, will achieve a certain effect, but in terms of exogenous growth theory or practice, the actual effect has tended to be marginally diminishing.

The main reasons are as follows: (i) It arises from the weak nature of agriculture. (ii) The comparative benefit of agriculture is far lower than that of industry. The majority of regions in the province are still in the beginning of industrialization, and the fact of the middle stage shows that under the constraints of economic maximization, various kinds of element resources can not con-

sciously implement "developing the rural areas with the aid of the urban areas". (iii) The agriculture in the province mainly practices small scale operation, and the land ownership is difficult to transfer, making the exogenous factors difficult to play a clustering effect in the agricultural sector. So, on the whole, the new rural construction in the province can not rely entirely on the driving of exogenous factors.

The basis for the development of an economic system springs from the internal changes. The "exogenous" factors are the conditions for internal changes, while internal factors are the root cause of development and change of things, and the external factors play a role through the internal factors. Therefore, in the new rural construction, "exogenous" development and "endogenous" development are equally important, and there are only different focuses on the development patterns. Among them, the "endogenous" development must take the support of endogenous factors as the external thrust. At the same time, good intrinsic basic conditions can help to attract the inflow of external factors. And the "endoge-

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reduce planting risks of farmers, ensure planting benefits, drive joint development of farmer households, expand operating fields, and gradually strengthen aromatherapy plant industry.

**4.2 Bringing into play resource advantages and introducing capital and technology** Relying on comparative advantages of climate, land and labor forces, Yunnan Province can attract advanced countries and regions of aromatherapy plant to invest in Yunnan Province, set up enterprises, and form larger production base. Through these, it is able to bring advanced scientific technology and human resources, increase resource utilization efficiency, establish perfect industrial chain, and accordingly solve the problem of low level of aromatherapy plant variety and technology in Yunnan Province.

#### 4.3 Cultivating market and bringing along development

Market is the ultimate factor determining development of aromatherapy plant industry. Thus, it is required to take market expansion and cultivation as an essential part of industrial development. In addition, it should establish and improve sales network, further cultivate and develop logistics service organization for aromatherapy plant industry, and encourage marketing con-

nexion between farmers, large growers and leading enterprises, to realize price alliance and market share. When the industry reaches certain scale, it is recommended to set up sales sites in large and medium cities, and build delivery center in sales region, to form network based sales window, gradually improve sales network and form production-supply-marketing integrated development pattern.

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