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Research on Urban Agricultural Scientific Development Path of the Construction of Central Economic Region

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Abstract The significance of developing characteristic agriculture in Central Economic Zone was elaborated from four aspects of three modernizations coordinated development, guaranteeing city supply of agricultural products, creating more jobs for farmers, making agriculture more significant. The existing problems in urban agriculture development were analyzed, such as understanding deviation, extensive development, market confusion, short industrial chain, low degree of specialization, harsh environment. Several corresponding countermeasures were put forward, including giving full play to the role of government's macro-control; perfecting compensation mechanism of urban agriculture, developing characteristic agriculture, promoting deep processing of agricultural products; advancing scientific innovation, improving production efficiency; operating sustainable ecological agricultural development road; relying on traffic advantage, promoting industrialization operation and urban agricultural logistics development.

Key words Urban agriculture, Scientific development, Central Economic Zone

1 Significance of developing urban agriculture in Central Economic Zone

Chinese economy has been developing rapidly lately. With the quickening pace of urbanization, people have higher demands of living conditions. Guided by the integration of the urban and rural areas, the new model of urban agriculture comes into being based on large cities and for serving economic and social development. As the national demonstration region for "four modernizations" and national important economic growth, Central Economic Zone plays a significant role in developing urban agriculture.

1.1 Being conducive to stimulate the synchronized development of "four kinds of modernization" The 18th National Congress of the Communist Party of China mentioned the synchronized development of "four kinds of modernization" for the first time, namely new industrialization, informationization, urbanization and agricultural modernization. Urban agricultural would integrate traditional production method with modern science and technology, unite agricultural production, processing and marketing together, which will enhance the general benefit of urban agricultural so as to accelerate the transition of urban agricultural to modernization. The healthy development of urban agriculture can effectively promote the coordinated development among agriculture and urban society, economy, culture and ecology, which not only promote the sustainable and healthy development of Central Economic Zone, but also strengthen the integration of city and countryside. Urban agriculture can promote the interactive development of urbanization and suburbanization, and change the pattern of population movement, which paves the way for solving the over-

development of industrialization and urbanization. The *National Modernization Agricultural Development Planning* (2011–2015) gave priority to the Multifunctional Agricultural Zone in the City. The development of modernized agriculture is conducive to accelerate the formation of the integration of urban and rural economic and social development.

1.2 Being beneficial to ensure the supply of produces to the large and medium-sized cities and introduce attracting merchants and luring investments Urban agriculture itself needs abundant science and technologies, human resources, capital, input of high science and technology, intensive production and industrialized management, which determines the economic significance and investment of urban agriculture. Along with the development of urban agriculture, the demands for farm produce in the Central China Zone are increasing. Practice suggest that the farm produce can increase the purchase costs and enhance the safety risk of food quality. Therefore, accelerating the urban agriculture modernization and ensuring the self-supply of alive and fresh food, such as fish, chicken and sheep, are essential basis to ensure the supply of farm produce and stabilize the market.

1.3 Being good for creating more jobs in the countryside and providing more recreational entertainments Urban agriculture not only bring convenience to the production but also create more jobs to the local. Meanwhile, the recreational and entertainment mode in urban agriculture can create more additional benefit to the urban agriculture produce in solving the problems such as jamming and lack of recreational places. In the urbanization of Central China Zone, lots of farmers move to cities, which would surely make it difficult for city workers to find a job. The expansion of construction places, people have less recreational spaces. Urban agriculture can realize the unification of economic, ecological and social benefit.

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1.4 Being conducive to change the vulnerable position of traditional agriculture Urban agriculture can set agriculture in a favorable position. Because the urban agriculture is in the suburban area, the market place of urban agriculture enhanced by putting economic benefit and environment protection as the key, integrating production, life and ecology, realizing the input of high science and technology, intensive production, and industrialization management. The urban agricultural development changes the traditional cultivation method of agriculture, improves business, and cultivates new farmers. Supported by regional advantages, economic power, educational scientific and technological basis and human resources, Zhengzhou would definitely pave the way for a modern agriculture development mode, and it plays an essential role in exploring agricultural modernization and healthy and fast development.

2 Existing problems in developing urban agriculture in Central Economic Zone

In recent years, the economic society in the Central Economic Zone has obtained sustainable development, which provides favorable conditions for the development of urban agriculture. However, for a long time, not enough attention has been paid on the importance of urban agriculture in the sustainable development in the city, and the knowledge of new agricultural development patterns vary from person to person, which leads to slow development of urban agriculture. Therefore, there are many problems to be solved in the advancement of urban agriculture in Zhengzhou.

2.1 Different understandings of urban agriculture Because the concept of traditional agricultural production is deeply ingrained, as a new agricultural development mode, urban agriculture is obscure to farmers. Besides, for a long time, laborers engaging in agricultural production earn little, which makes people reluctant to engage agricultural production and go into city for work. Furthermore, some government departments paid little attention to urban agriculture in policy-making and financial technology, which thwart the development of urban agriculture.

2.2 Extensive development of urban agriculture production and unhealthy insurance mechanism Although great achievements have been made in urban agriculture such as Zhengzhou, many urban workers still can not get rid of the shackles of traditional agricultural production. Advanced scientific technology in agriculture development can not get effective promotion in urban agriculture. Meanwhile, some urban governments do not pay much attention on agricultural development, which results in stagnant development plan for urban agriculture. The producer of urban agriculture is short of market awareness in the production, which leads to low economic efficiency.

2.3 Less outstanding performance of urban agriculture and a messy market Through many years of operation, certain achievements have been made in urban agriculture in Central Economic Zone. However, the lack of political guidance and support results in disorder of urban agricultural market and blind competi-

tion, and low enthusiasm in urban agricultural production.

2.4 Short urban agricultural industrial chain, less outstanding of scale effect and economic benefits, intensive management Urban agriculture starts late in Central Economic Zone. Though we can learn from the experiences in developed countries, the misunderstandings in the producers' part give rise to high intensity in urban agriculture and shortage of inefficient sustainable development mechanism. Meanwhile, the interaction among each producer in urban agriculture is not enough and production arrangement is irrational, which fails to accomplish the industrial chain. Since urban agriculture in Zhengzhou is in preliminary stage, the production concepts in the producers have not been changed, the commercial rate of farm produces are not high and economic outcome is not outstanding.

2.5 Slow development of urban agriculture and low professional level Various problems exist in the input of high technology, intensive production and professional management for urban agriculture in Central Economic Zone. The urban agriculture scale in Zhengzhou is small and still can not form scale effect, which results in less investment in urban agriculture production, irrational internal production structure, and low management level. Because of various existing problems in urban agriculture development, the urban agriculture can not meet markets' demand, and can not achieve sustainable development.

2.6 Deteriorating urban agriculture production environment and worrying prospect for sustainable development

Central Economic Zone is still in the rapid development stage in urbanization, which means unsound development plan for urban agriculture, chaotic social orders and stagnant infrastructure construction. Meanwhile, with the acceleration of urbanization in cities such as Zhengzhou, the urban environment is severely polluted, the air quality is low, and the water resource is severely polluted, which brings about the unpromising future for sustainable development of urban agriculture.

3 Countermeasures and suggestions about urban agriculture development in Central Economic Zone

3.1 Full exertion of the role of macro-control The Central Economic Zone should change its misunderstanding of urban agriculture in the past as soon as possible, and should pinpoint the development mode and orientation of urban agriculture precisely, get ride of the shackle of traditional agricultural concepts, and fully realize the importance of urban agriculture in the construction of Central Economic Zone. Urban agriculture should be put into the development plan of urbanization in Central Economic Zone, and should promote the sustainable development of urban agriculture. While developing urban agriculture, it is necessary to ensure policies about sustainable development of urban agriculture, promote the systematic innovation of management, and solve various social problems of in the advancement of urban agriculture.

3.2 Completing the compensation mechanism to urban agriculture To Central Economic Zone, urban agriculture is a new

kind of agriculture production mode. However, because of unsound management experiences, operation mechanism and compensation policies, urban agriculture still develops slowly. From now on, in the development of urban agriculture, it is necessary to break through traditional agricultural production concept to establish new concepts about comprehensive development and checking. Urban agriculture is an essential part in the urban construction in Central Economic Zone. It is about the sustainable development of Central Economic Zone. Therefore, it is imperative to make effective mechanism about the sustainable development of agriculture. Relevant laws and policies should be made to ensure the urban agriculture follow the right path since urban agriculture in Central Economic Zone still is in the preliminary stage, and the production, investment in finance, intensive production and professional management are immature.

3.3 Developing characteristic agriculture and promoting deep-processing of farm produce It is necessary to develop urban agriculture in Zhengzhou based on local natural conditions and resources. The agricultural resources are outstanding in the surroundings of Zhengzhou, with grains, rice, cotton, and maize, cows and chickens, pomegranates and dates, honeysuckle and garlic. By dint of those agricultural resources, Zhengzhou establishes its own brand and forms brand advantage, which promotes the sustainable and healthy development of urban agriculture in Zhengzhou. Meanwhile, it is essential to quicken the construction of industrial chain of urban agriculture, broaden industrial chain, promote the investment in urban agriculture, improve deep processing of farm produce, enhance market ownership rate, and expand influences so as to highlight the economic and ecological benefits of urban agriculture.

3.4 Promoting scientific and technology innovation, improving production efficiency, and promoting standardized production Urban agriculture is a new type of agricultural production mode with high technology input, intensive production and professional management. Agricultural scientific research institutes such as Zhengzhou University, Henan Agricultural Science Academy, and Henan Agriculture University, provides strong technological support to urban agriculture in Zhengzhou. With regard to production management, Zhengzhou is enthusiastic in introducing

advanced technology and management experiences in China and abroad, in making plans for urban agricultural production, and establishing perfect facilities to serve urban agriculture. What's more, it is important to standardize the technologies to develop urban agriculture, to establish quality monitoring of farm produce, to encourage national standard, to enhance agricultural production efficiency, market competitions and brand effects.

3.5 Paving the way to develop sustainable ecological agriculture In the construction of urbanization, it is unsustainable to only develop economy and ignore environment construction, to sacrifice environment for rapid growth of economy. Therefore, Central Economic Zone creates rooms and provides favorable environment for urban agriculture. Meanwhile, various supplementary facilities should be made to create favorable environment for the healthy and sustainable development of urban agriculture.

3.6 Promoting industrialization operation and developing logistics of urban agriculture New Zhengzhou international airport, which is one of the eight largest airports in China, the railway and highway in Zhengzhou all promote the logistics of farm produce, construction of the whole sale market of farm produce, agricultural network and establishment of farm produce sales system. Meanwhile, the urban agricultural development in Zhengzhou is based on advanced technological experience and local economic and cultural characteristics.

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