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SWOT Analysis on the Development of Modern Ecological Landscape Agriculture: A Case Study of Baiquan Ecological Park

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Abstract With Baiquan Ecological Park in Yi County as the case, the basic conditions are analyzed from the aspects of area, population, natural resources, socio-economic and industrial development. SWOT analysis of the development of modern ecological landscape agriculture is carried out. It is pointed out that for developing modern ecological landscape agriculture in Western Qing Tombs region, it is necessary to give priority to protecting the ecological environment, highlight the characteristics and style of modern agriculture, consider the existing landscape elements, and comprehensively develop the integrated pattern of ecology, landscape and modern agriculture.

Key words Eco-agriculture, Landscape agriculture, SWOT analysis

1 Introduction

Based on the construction of agricultural ecological landscape, modern ecological landscape agriculture explores the modern agriculture form of agricultural production, ecology, life, aesthetics and cultural functions, and covers agricultural ecology, rural landscape, and agricultural industrial development. The rural ecological protection must be regarded as the primary principle^[1]. Yi County, known as Yi Zhou in antiquities and named because of Yi River, is in the Beijing-Tianjin-Baoding golden triangle area, with beautiful scenery, rich products and long cultural history. To promote the construction of poverty alleviation demonstration area around Beijing, Yi County takes the lead to highlight the development of five characteristic industrial areas^[2], one of which is modern eco-agriculture area in the Western Qing Tombs region. Baiquan Ecological Park, located in Nanbaiquan Village, Lianggezhuang Town, Yi County, Hebei Province, is 10 km away from the downtown of Yi County, and adjacent to the Western Qing Tombs region. It is known as "East Gate" of the Western Qing Tombs region, and has good conditions for the development of ecological landscape agriculture^[3].

2 Basic conditions

2.1 Area and population Nanbaiquan Village covers an area of 4 square kilometers, and has 402 households and a total population of 1673. It is inhabited by different nationalities, including Hui nationality (70%), Han nationality (25%) and Manchu nationality (5%). The area of arable land is 530 mu. The west, north and east are surrounded by G112 National Highway, and the north Yi River runs through the center. Baiquan Ecological

Park has a total area of 4260 mu, including Wolonggang mountain area, north Yi River wetland area, farming area and village area.

Table 1 Area proportion of Baiquan Ecological Park

Regions	Area // mu	Proportion // %
Wolonggang mountain area	2540.0	59.63%
North Yi River wetland area	345.8	8.12%
Farming area	931.1	21.86%
Village area	442.6	10.39%
Total	4259.5	100.00%

2.2 Natural resources Park landscape consists of four parts: alluvial floodplain before mountain (arable land); western hill-ock; river (north Yi River); hill (Wolonggang mountain area). The Wolonggang mountain area is 1400 m long and 400 m wide, with a total area of 2540 mu, consisting of three mountain peaks. The peak elevation is 92 to 136 m. Nanbaiquan Village in Lianggezhuang Town is located in the north Yi River valley, and it has a warm temperate continental monsoon climate, with four distinct seasons. According to the measured data in Yi County, the average annual temperature is 11.9℃, the extreme maximum temperature is 41.6℃, and the extreme minimum temperature is -21.4℃. The annual average frost-free period is 185 d, and the annual sunshine time is 2621 h. The annual average rainfall is 544.8 mm, and the distribution of rainfall is very uneven during the year. The water surface evaporation is 1666.6 mm (20 cm evaporation pan), and the maximum frozen soil depth is 68 cm. The annual average wind speed is 1.6 m/s and the maximum wind speed is 18 m/s^[4]. The north Yi River running through the park originated from the southern foot of Yunmengshan Mountain. It is a seasonal river, changing with the precipitation, and from July to September, it accounts for 70% of annual runoff. Affected by interannual change in precipitation, there is a great interannual difference in runoff.

Received: June 16, 2016 Accepted: August 5, 2016
Supported by Baiquan Wolong Modern Ecological Agricultural Park Planning Project in Yi County of Hebei Province.
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3 Socio-economic and industrial development

The industrial development of Nanbaiquan Village is mainly based on traditional agriculture, mainly including farming, horticulture, livestock and poultry breeding. Nanbaiquan Village has 530 mu of arable land, the per capita arable land area is 0.3 mu, and the rural residential building layout is scattered, but it has relatively good mass base and technical support, which makes it easy to consolidate residential land^[5]. Agricultural production model is traditional farming and decentralized small farmer management. The animal husbandry in the park is not developed, and there are only 2 to 3 large-scale cattle and sheep farms. The village is inhabited by the Hui people, and there is an industrial base for slaughter and processing of beef and mutton. About 10 heads of cattle and sheep are slaughtered and processed every day on the average. In accordance with the Hui customs, the slaughtering procedures of cattle and sheep are strict, the food safety is high, and it becomes a famous beef and mutton distribution center. Fruit industry is developed slowly, and grape and plum are planted in the mountain farm.

4 SWOT analysis

4.1 Strengths

4.1.1 Policy environmental advantages. From 2004 to 2014, the Central Government issued 11 No. 1 central documents concerning agriculture, countryside and farmers, and introduced a series of agricultural support policy measures. The report of the 18th CPC National Congress made important deployment for promoting the integration of urban and rural development, and clearly pointed out that there was a need to accelerate the development of modern agriculture, increase farmers' income, enhance the vitality of rural development, strengthen the comprehensive agricultural production capacity, develop various forms of large-scale operation, and build a new intensive, specialized, organized and socialized agricultural management system^[6]. On August 21, 2014, *Several Opinions of the State Council on Promoting the Reform and Development of Tourism* made it clear that it was necessary to develop rural tourism and leisure agriculture, expand tourism space, and enhance the driving force of tourism development. Relying on the local geographical conditions, resources and market demand, it requires highlighting the features of the countryside, and developing a number of rural tourism products with various forms and distinctive characteristics; rationally using ethnic villages, old villages and towns, to develop the tourist towns with historical memory, geographical characteristics and national characteristics, and build a number of famous characteristic landscape tourism towns and villages; strengthening the training of rural tourism practitioners, innovating upon cultural tourism product, and actively carrying out research and study trip^[7]. The national policies have created a favorable policy environment for developing modern agriculture and achieving intensive management in the park.

4.1.2 Location advantages. The park is located in Beijing-Tianjin-Shijiazhuang golden triangle area, known as "East Gate" of

the Western Qing Tombs region. Although it is in the mountain area, the transportation is very convenient. Beijing-Yuanping Railway runs through the north, and Gaobeidian-Yi Railway is connected with Beijing-Guangzhou Railway. There are interconnected highways, and it is adjacent to 112 National Highway, Beijing-Kunming Expressway, Zhangjiakou-Shijiazhuang Expressway and other main roads. Yibao Road, Yiding Road and other trunk lines converge in the county. Rural roads crisscross, and Yi County extended national and provincial roads in 2011, to extend roads to every village. The future traffic accessibility is high in the park.

4.1.3 Resource advantages. In 2005, Yi County was named "ancient county of thousand years" by the United Nations. After a long history of Yi culture, Yan and Zhao culture, Qing Tombs culture and red culture, profound, unique and rich cultural heritage has taken shape in Yi County. More than 200 ancient cultural relics are throughout the county, and there is a world heritage and 40 national, provincial and county cultural relic protection units. As the old revolutionary base area, it has 10 revolutionary sites. Yi County has beautiful natural environment, and rich tourism resources. There are Zijinguan, Langya Mountain, Western Qing Tombs, Yi River, Yunmengshan Mountain, Thousand Buddha Mountain, Hongya Mountain, Yanxiadu ancient city, Jingke Tower, Tao Te Ching Chuang and other historic sites and scenic spots. The county's forest coverage rate reaches 48.3%, and is assessed by the State Forestry Administration as "Yizhou National Forest Park". The park is in the center of Yi County historic sites and tourist resource circle, integrating a wealth of tourism, cultural and ecological resources. Combined with location advantages, it has Beijing-Tianjin-Hebei direct travel and leisure consumption market, and enjoys good conditions for industrial development of cultural tourism. It has good conditions for resource development, and low investment costs of cultural industries.

4.2 Weaknesses

4.2.1 Small scale and low quality of farmers. The per capita arable land area is only 0.3 mu in Nanbaiquan Village, and the scale of farmers is small. At the same time, there are poor villages long engaged in traditional agricultural production within the park planning area, farmers know little about modern agriculture, and there are few knowledge-based and skilled farmers. The modern agriculture, landscape agriculture and eco-tourism agriculture vigorously developed in the park, requires a lot of professional management and service personnel, and farmers' existing knowledge accumulation and production scale do not match the park development and construction.

4.2.2 Low level of infrastructure building. The park is in its infancy, and the capital investment and project construction are required for infrastructure input, fine project formation, supporting service facilities about "transportation, housing, food, travel, shopping, entertainment", cultural connotation mining of park, relevant institutional construction, and publicity integration. The current infrastructure building is still at the initial stage, with a low level.

4.2.3 Strong seasonal feature of tourism and poor consumption attraction. The boom tourist season in Yi County is from mid-April to mid-October, which is related to the local climate, traditional festivals and a series of promotional activities in Yi County. Most visitors choose one day trip, and there are few longtime customers from outside the province. Due to inadequate landscape development and backward tourism products, visitors' per capita consumption level is far below the national average.

4.3 Opportunities

4.3.1 Beijing-Tianjin-Hebei joint development strategy. The Beijing-Tianjin-Hebei joint development strategy is bound to promote the rapid rise of the region's economy. Based on the regional functional orientation, the unique characteristics of park location, ecology, culture, environment and tourism are fully utilized to complement the resource characteristics of Beijing, Tianjin and Hebei, thereby forming economic growth point, and providing rare opportunities for the park development.

4.3.2 Domestic tourism development law. *Several Opinions of the State Council on Promoting the Reform and Development of Tourism* made specific arrangements about the upgrading and development of the tourism industry. In 2020, the total domestic tourism consumption will reach 5.5 trillion yuan, the urban and rural residents will travel 4.5 times each in a year, and the added value of tourism industry will account for more than 5% of GDP. It is pointed out that we should actively develop leisure travel, rural tourism, research and study tours, elderly tourism, innovate upon cultural tourism products, and expand shopping tourism consumption. The overall vision of building agricultural area along the river, Yi River wetland area, and Wolonggang mountain area in the park, is in line with domestic tourism development law. Many good opportunities have been brought, such as the project of eco-agriculture tourism, characteristic farm produce innovation, and Taihang Mountains knowledge and technology demonstration.

4.4 Challenges First, the regions are now racing to develop, and there are fierce competitions around resources, market, technology and talent among regions. Second, the resource constraints are obvious and there is a shortage of land and other resources. Third, it is in "ancient county of thousand years" and oxygen bar, and equal stress is put on the economic development and environmental protection. There is a great difficulty in ecological control project of north Yi River, and it is particularly important to adhere to the principle of preferential ecological development^[8].

5 Conclusions

The Western Qing Tombs region has a good tourism environment, and comfort, health and safety features can be reflected in the natural environment, human environment and psychological environ-

ment. For the development of modern ecological landscape agriculture in this area, it is necessary to fully consider the current terrain, forest vegetation and other conditions, highlight the characteristics and style of modern agriculture, use the existing landscape elements to blend the landscape style with modern life and production, apply the high-tech elements for the park construction, and establish a three-dimensional modern agricultural landscape system with a clear structure. The production and life in the park should give priority to environmental protection and emphasize environmental control. The ecological principle of landscape planning is to create a quiet, suitable and natural production and living environment, and establish a virtuous circle among human, living organisms and environment in the park. It is also necessary to strictly implement the national policies on water and arable land, effectively protect water system, water quality, soil and other ecological resources, properly handle the relationship between development and environmental protection, and highlight the ecological characteristics of the park^[9].

References

- [1] WANG ZY, LI X, YANG L, *et al.* Landscape agriculture in Beijing: Present situation and suggestions[J]. *Beijing Agriculture*, 2012(10) : 1-2. (in Chinese).
- [2] LIAO XD, WANG WP, XU YL. On the construction of five specialty industries in Yixian County[EB/OL]. (2012-04-19) [2016-02-03]. http://hebei.hebnews.cn/2012-04/19/content_2645793.htm. (in Chinese).
- [3] SUN XP, ZHANG YJ. A primary investigation on the practice of agricultural tourism of Beijing ecological landscape[C]//The Academic Symposium on the 16th Regional Tourism Development. Jingmen: Professional Committee of the Regional Tourism Development in China, 2012. (in Chinese).
- [4] YANG XH, ZHAO QE. Research on economical and intensive utilization evaluation of county mountainous land—A case of Yixian County[J]. *Journal of Hebei Agricultural Sciences*, 2013, 17(6) : 79-83. (in Chinese).
- [5] LI X, XU YM. Evaluation and classification of rural residential land consolidation potential based on entropy weight method—Case study on LaiYuanxian, Hebei Province[J]. *Jiangsu Agricultural Sciences*, 2014, 42(8) : 465-467. (in Chinese).
- [6] Move along the Chinese characteristic socialist road without move or retrea [R/OL]. (2012-11-19) [2016-02-03]. http://www.xj.xinhuanet.com/2012-11/19/c_113722546.htm. (in Chinese).
- [7] Some opinions on promoting the reform and development of tourist industry by the State Council (No. [2014]31) [A/OL]. (2014-08-21) [2016-02-03]. http://www.gov.cn/zhengce/content/2014-08/21/content_8999.htm. (in Chinese).
- [8] TIAN QH. Ecological civilization leads the construction of new socialism countryside[J]. *The Journal of Shandong Agricultural Engineering College*, 2014, 31(6) : 20-21. (in Chinese).
- [9] LUO DH, CHEN F. Analysis on the land reclamation efficiency based on the needs of ecological agriculture[J]. *CO-Operative Economy & Science*, 2014(22) : 29. (in Chinese).