Developing Characteristics and Optimal Strategic Decision of Traditional Horse Industry--Xilingol League of Inner Mongolia Taked as an Example

Ai Yunhui, Wang Huaidong, Wang Ruixing, Xue Chen

Vocational Technical College, Inner Mongolia Agricultural University, Baotou, Inner Mongolia, China

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Abstract: the Index System of Development Evaluation of National Horse Industry of Xilingol League Was Constructed in the Article to Reveal the Intensive Development and Characteristics of Various Regions of Xilingol League, and the Topsis Model Was Used in the Paper. on This Basis, the Structure Model of Strategic Decision-Making Analysis Was Constructed to Carry out Specific Strategic Measures. the Study Showed That There Were Significant Differences in the Development of the National Industry in Xilingol League, and Cities of Xilinhaote, Xiwuzhumuqin and Abaga Were At the First Development Level. Cities of Dongwuzhumuqin, Taipusi and Sunitezuo Wre in the Second Level, and Other Areas in the Third Level. the Development of Horse Industry Should Be Considered from Following Areas: to Protect the Horses in the Region, to Speed Up the Demonstration of Key Projects, to Optimize the Allocation of Resources and Play the Traditional Characteristics of the Region, to Develop National Horse Culture Development Model, to Establish National Horse Racing Mechanism, to Innovate Horse Product Development, and to Establish and Improve the Policy System. the Transformation of National Horse Industry Would Speed Up and Upgrade for of National Horse Industry by the Above Measures.

1. Introduction

With the Development of History, the National Horse Industry is a Horse Industry System Gradually Formed in National Areas with Certain Regional Scope and National Characteristics, and Closely Combined with National Life, Production, Military, Transportation, Entertainment, Etc., Which is National, Historical, Regional, Leisure and Entertainment, Including the Breeding and Training of Horses, Trade and Exchange, Riding Competition, National Horse Gear and Other Industrial Links [1-2] . Xilin Gol League is the Most Representative Area of Grassland Animal Husbandry in Inner Mongolia, and Also the Main Area with a Long History of National Horse Industry Development and Profound Horse Culture [3-4]. after Xilingol League Was Awarded the Honorary Title of "China Horse Capital" by China Horse Industry Association in 2010, under the Influence of the Rapid Development of International and Domestic Horse Industry, the National Horse Industry Has Developed to a Certain Extent. However, Due to the Lack of Mechanized Application and Overall Planning, the Number of Herdsmen Raising Horses Has Declined Sharply, Some Mongolian Horse Breeds Have Degenerated Seriously, and the Equestrian Activities with National Characteristics Are Declining Day by Day Industrial Development is Generally Weak. in Developed Countries, the Development Concept of Modern Horse Industry Has Been Deeply Rooted in the People's Mind, and Has Become an Important Industry to Promote Economic Development and Adjust Industrial Structure. China is in the Period of Transformation from Traditional Horse Industry to Modern Horse Industry, the Use Function of Horses is Changing, and Horse Industry Will Gradually Become an Important Industry for Social Development .

Based on the Analysis of the Spatial Characteristics of the National Horse Industry in the County, City and District of Xilingol League, This Paper Constructs the Strategic Level of the Development of the National Horse Industry in the Region, and Puts Forward the Strategic Goal and the Way to Realize the Development of the National Horse Industry in Xilingol League, in Order to Provide Some Reference and Basis for the Sustainable Development of the Horse Industry in Inner Mongolia and Other Minority Areas.

2. Evaluation of the Development of National Horse Industry in Xilingol League

2.1 Data Sources and the Construction of National Horse Industry Index System

The data in this paper are partly from the statistical yearbook of Xilinguole League in 2016, partly from 9 banners (Abaga, Sunit left, Sunit right, donguzhumuqin, xiuzhumuqin, Taipusi, Xianghuang, Zhengxiangbai and Zhenglan), 2 cities (Xilinhot City and Erlianhot city), 1 county (Duolun County), 1 district (Ulagai Development Zone) [6] 2016 statistical yearbook, part of the data obtained from the actual survey.

The construction of the indicator system of the national horse industry in Xilingol League not only involves the production links such as the number of horse varieties, breeding and improvement, forage feeding, but also involves the sports culture, the transformation and upgrading of the horse industry, the contribution of the horse industry to the social economy, the government's policy support and system specifications. Therefore, the construction of the indicator system should comprehensively consider the social benefits, economic benefits, ecological benefits and cultural values. In this study, the evaluation indicator system of the development of national horse industry is constructed from the four aspects of horse industry production system, cultural system, policy system and economic system. See Table 1 for details.

Table 1 Evaluation Index System of National Horse Industry Development

target	Project level	index	Calculation or statistical description	Efficacy
Development degree of national horse industry in Xilingol League	Horse industry production system	Total horses(X_{11})	Total number of horses in each flag, county, city and district	+
		Horse growth(X_{12})	Total growth of horses in each flag, county, city and district	+
		Growth of improved horses(X_{13})	Increment number of improved horses in each flag, county, city and district	+
		Increase of good quality livestock and horses(X_{14})	Growth of good quality livestock and horses in each banner, county, city and district	+
		Grassland coverage(X_{15})	Grassland coverage area of each banner, county, city and district / research area	+
	Horse industry culture system	Horse culture construction venues and parks(X_{21})	Number of horse culture venues and parks in each flag, county, city and district	+
		Total number of employees in the tertiary industry(X_{22})	Total number of the third-party employees in each banner, county, city and district	+
		Total number of events related to horse industry(X_{23})	Total number of events related to national horse industry in each flag, county, city and district	+
		Total number of national tourist attractions(X_{24})	The total number of national tourist areas related to Malaysia in each banner, county, city and district	+
	Horse industry policy system	The total number of titles related to the city level horses of the League(X_{31})	Number of titles related to horses at or above the level of League City in each flag, county, city and district	+
		Introduction rate of relevant policies of the government(X_{32})	Number of relevant policies of each banner, county, city and district / total number of policies of research area	+
		Government support fund rate(X_{33})	Amount of supporting funds for horse industry in each banner, county, city and district / total amount of fund for horse industry in research area	+
	Horse industry economic system	Horse related industry yield(X_{41})	Income of horse related industries in each banner, county, city and district / total income of horse related industries inininrereresearchresearch area	+
		Regional GDP per capita index(X_{42})	Per capita GDP value of each banner, county, city and district / total GDP value of the research area	+

2.2 Evaluation of the Development of National Horse Industry Based on Topsis Model

TOPSIS is a common and effective method in multi-objective decision-making analysis. It is a sort method approaching to the ideal solution. Its basic principle is to sort by detecting the distance between the evaluation object and the optimal solution and the worst solution [3]. The calculation steps of the model are as follows:

There are evaluation indexes of horse industry development in Qi county and Qi County, which can be written as matrix. The high-quality (positive index) and low-quality (negative index) indexes are standardized, namely:

$$Z_{ij} = \frac{X_{ij}}{\sqrt{\sum_{i=1}^{n} X_{ij}^2}} \text{ 或 } Z_{ij} = \frac{1/X_{ij}}{\sqrt{\sum_{i=1}^{n} (1/X_{ij})^2}}$$

After standardization, the new matrix is obtained, and the optimal and worst vectors composed of the maximum and minimum values of each column are recorded as follows:

$$Z^+ = (Z_{max\,1} Z_{max\,2} Z_{max\,3} \cdots\cdots Z_{max\,m}) \quad Z^- = (Z_{min\,1} Z_{min\,2} Z_{min\,3} \cdots\cdots Z_{min\,m})$$

The distance between the first evaluation object and the best and worst scheme is as follows:

$$D_i^+ = \sqrt{\sum_{j=1}^{m} (Z_{max\,j} - Z_{ij})^2} \text{ 和 } D_i^- = \sqrt{\sum_{j=1}^{m} (Z_{min\,j} - Z_{ij})^2}$$

The approach degree between the first evaluation object and the optimal scheme (the greater the value, the better the comprehensive benefit) is

Finally, according to the order of values, we get the comprehensive evaluation results of the development of national horse industry in Xilingol League.

3. Analysis on the Development Level of National Horse Industry in Erxilinguole League

It can be seen from table 2 that the CI value of Xilinhot City is 0.59 for the largest and 0.08 for the smallest, indicating that the development of each region is quite different and uneven. Generally speaking, Xilinhot City, xiwuzhumuqin banner and Abaga banner are in the first level with CI value between 0.52 and 0.59, among which Xilinhot City is in the forefront of most indicators in the horse industry culture system, horse industry policy system and horse industry economic system, while xiwuzhumuqin banner and Abaga banner are in the horse industry production system and horse industry economic system In the first place, dongwuzhumuqin banner, Taipusi Banner and Sunitezuoqi are in the second place, CI value is between 0.37 and 0.46, among which, most indexes in the production system and culture system of horse industry in dongwuzhumuqin banner are in the first place, most indexes in the policy system and economic system of horse industry in Taipusi banner are in the first place, and those in Sunitezuoqi are in the first place Most of the indicators in the production system and horse industry economic system are in the forefront; the other seven counties (urban areas) are in the third level, CI value is between 0.08 and 0.23, and most of the indicators in each system are in the back.

The development degree and horizontal spatial characteristics of the national horse industry in Xilingol League are consistent with the radiation drive of the central city, the number of improved horses, and the related benefits of the horse industry. Xilinhot City is the core area of the central city and the "capital of Chinese horses", which has many integrated advantages. The development of its national horse industry has obvious advantages and representativeness Abaga banner is the closest to Xilinguole City, and has the advantages of characteristic horse breed resources and quantity. The resource elements are relatively concentrated, and the development degree of its national horse industry is relatively high. Donguzhumuqin banner, Taipusi Banner and sunitezuo banner are far away from Xilinguole City, but due to their respective advantages in location, horse

breed quantity and other aspects, further develop the nation The space and Prospect of horse industry have great potential; other areas are far away from the central city, without unique advantages, the development factors of various aspects of national horse industry are not strong, and the potential for further development of national horse industry is not great, so it is necessary to increase efforts to support the development of national horse industry in various areas, and tap the characteristic advantages, so as to further develop and expand the national horse industry.

4. Construction and Analysis of the Development Strategy of the National Horse Industry in Xilingol League

4.1 The Construction of National Horse Industry Development Strategy in Xilingol League
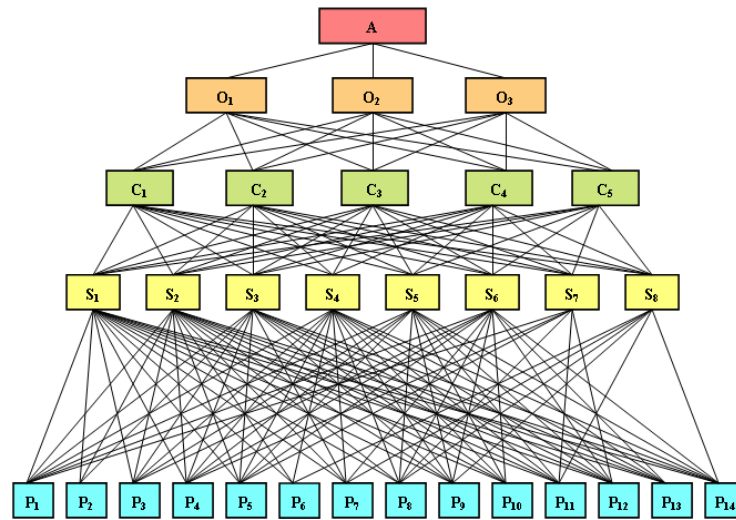

Fig.1 Hierarchy Model of Strategic Decision-Making Analysis on the Development of National Horse Industry in Xilingol League

The development of the national horse industry in Xilingol League is a multi-level decision-making problem from the development strategic objectives, constraints and specific development measures (Figure 1). General strategic objective (a): optimization strategy for the development of national horse industry in Xilingol League. The objectives are divided into: O1 - to increase the number of regional breed horses and the number of entries; O2 - to improve the social and economic benefits of the development of the national horse industry; O3 - to enhance the policy guarantee mechanism of the development of the national horse industry. The development of national horse industry (c) includes: C1 - the number of horses and the strategy of optimizing the allocation of competition; C2 - the strategy of strengthening the development orientation of horse industry and multi compliance; C3 - the strategy of classifying the allocation of national horse industry; C4 - the strategy of policy innovation of National horse industry; C5 - the strategy of linking grassland, culture and tourism industry. Constraints (s) include: S1 - deterioration of ecological environment; S2 - idle horse resources; S3 - unreasonable setting and utilization of events; S4 - low economic output benefit of national horse industry; S5 - shortage of security mechanism for herdsmen to raise horses; S6 - high cost of horse breeding; S7 - institutional constraints of socialized participation in events. S8 - insufficient support for tourism and cultural industries. Policies and measures: P1 - innovation of characteristic development mechanism of horse industry; P2 - enhancement of variety protection and development; P3 - Optimization of competition development layout; P4 - establishment of industrial cluster platform; P5 - Planning and guidance of industrial element form; P6 - enhancement of integration of horse industry planning, tourism and cultural development; P7 - Guidance of "integration of production and education" mechanism of talent research and horse industry; P8 - overall policy guarantee system Department; P9 - build a coordinated development platform for horse industry resources; P10 - innovate the upstream and downstream industry development planning mechanism; P11 - build a coordinated

development mechanism for horse industry, tourism and culture; p12 - build a multi-level national horse industry development system; P13 - improve the development mechanism for horse industry related industries; P14 - improve the market allocation and economic benefit distribution mechanism.

4.2 Analysis on the Development Strategy of National Horse Industry in Xilingol League

The economic development of ethnic minority areas must promote the overall upgrading of the characteristic industrial chain, follow the development path of the middle and high-end industries with characteristics, high quality and brand, make up for the shortcomings in response to the problems, and realize the "whole link upgrading and whole chain value-added" of the characteristic industries, so as to promote the industry of ethnic minority areas to the middle and high-end [7], At the same time, many of the national horse racing, horse culture and other items in the development of national horse industry belong to the intangible cultural heritage list at all levels. Their development, utilization and inheritance are faced with new development opportunities, which not only need the guarantee of funds, policies and laws, but also need systematic and deep research, so that they can be effectively protected and modernized development [8].

According to the analysis results of the comprehensive development level strategy model and the actual development situation, for the development of the national horse industry in Xilingol League, the first is to protect the local horse varieties. Establish a stable population of various horse breeds, establish a variety nature reserve, Mongolian horse original breed farm, Mongolian horse breed public Horse Station, and a breeding base for improved Mongolian horses, formulate strict breeding technical routes, ensure horse purification, and restore the traditional fine traits and population of the breeds; Second, we need to speed up the construction of key demonstration projects. Guided by the construction of "China horse capital" core area project, optimize the spatial layout, build an industrial cluster platform, guide the development of national horse industry, build a demonstration area of national horse industry cluster, explore the multi industry coordination mechanism of national horse industry development, and promote the collective development of national horse industry; Third, optimize resource allocation. According to the existing resources and characteristics, we can further build the "town of black horse" in Abaga banner, the "town of white horse" in xiwuzhumuqin banner, the "town of Yuma culture" in Taipusi Banner, the "Mongolian horse culture museum" in Xianghuang Banner, the "Nylin Gaole horse tribe" and the "new village of horse culture" in dongwuzhumuqin banner The "thousand horse tribe" and other national horse industries in Xiangbai banner, and finally formed Local characteristics and national horse industry brand; Fourth, innovate the development mode of national horse culture. Through establishing the national cultural self-confidence, cultivating the value system of national horse industry, strengthening the connotation construction of national horse industry, endowing the new mission of national horse industry, enhancing the internal driving force of intensive development of national horse industry, and using the image of "Pearl of Grassland" in Xilingol to promote the coordinated development mode of the coupling relationship between horse industry and culture; The fifth is to establish the operation mechanism of national horse racing. Further explore the mechanism of interest connection among herdsmen, horse owners, clubs, event organizations and governments, promote the innovation of national equestrian forms and event modes, improve the viewing, entertainment and economy of events, and enhance their attraction and sustainable development momentum; Sixth, the development of innovative horse products. Extend the industrial chain, realize the scale, marketization and commercialization of horse industry, establish the mode of "company + herdsman + horse raising cooperative + horse raising big family + base", establish the perfect industrial system of research and development, production, packaging and marketing of horse milk, sour horse milk, horse serum and other modern products, and gradually develop horse products into the pillar industry of agriculture and animal husbandry in Xilingol League; The seventh is to establish and improve the policy system. According to the internal requirements of the whole industrial chain operation, we should introduce and improve different levels of support policies and laws and regulations on the protection of horse varieties, breeding, training, competition, auction,

product development, forage planting and processing, production of national horse gear and clothing, national cultural tourism, etc.

5. Conclusion

The development of the national horse industry in Xilingol League is uneven and there are big differences. The development level of horse industry in Xilinhot City, Xiwuzhumuqi Banner and Abaqi Banner is at the first level. The development level of horse industry in East Wuzhumuqi Banner, Taipusi Banner and Sunite Zuoqi is at the second level. The regions are at the third level. In various regions, especially those with backward development of the horse industry, it is necessary to dig deeper into the featured advantages and actively support them, so that it is possible to further develop and expand the overall development of the national horse industry in Xilingol League.

In order to accelerate the transformation and upgrading of the national horse industry, the development of the national horse industry in Xilingol League should mainly focus on protecting the local horse varieties, accelerating the construction of key demonstration projects, optimizing the allocation of resources and giving full play to the traditional characteristics of the region, innovating the development mode of national horse culture, establishing the operation mechanism of national horse racing, innovating the development of horse products, establishing and improving the policy system.

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Table 2 Evaluation Results Of National Horse Industry Development in Xilingol League

Each flag County (urban)	Horse industry production system					Horse industry culture system				Horse industry policy system			Horse industry economic system		Ci value	sort
	X_{11}	X_{12}	X_{13}	X_{14}	X_{15}	X_{21}	X_{22}	X_{23}	X_{24}	X_{31}	X_{32}	X_{33}	X_{41}	X_{42}		
Xilinhot	8633	1538	317	131	0.94	8	73595	7	1	1	0.5	0.7	0.69	106.3	0.59	1
West Ujimqi Banner	32552	5897	1224	509	0.91	1	16961	1	0	1	0.09	0.4	0.08	111.1	0.53	2
Abaga Flag	21008	3846	808	336	0.96	5	7973	3	0	2	0.29	0.54	0.07	114.4	0.52	3
East Ujimqin Banner Banner BannerBanner	26978	4871	1012	419	0.90	6	13872	1	0	0	0.1	0.03	0.07	115.7	0.46	4
Taipusi Banner	2969	512	102	42	0.46	3	20951	3	1	1	0.5	0.8	0.70	108	0.42	5
Sunit left flag	22360	4102	868	359	0.92	0	9493	1	0	0	0.01	0.01	0.06	115.5	0.37	6
Positive blue flag	8163	1538	332	138	0.72	2	15736	2	0	0	0.10	0.4	0.05	108.3	0.23	7
Sunite Right Banner	10233	1794	364	150	0.97	3	13383	0	0	0	0.13	0.27	0.04	109.2	0.23	8
Duolun County	1924	256	40	17	0.56	2	18198	1	0	0	0.15	0.36	0.04	104.2	0.15	9
White flag	3300	512	93	38	0.83	0	8557	0	0	1	0.09	0.06	0.03	108.8	0.15	10
Erenhot	1345	256	56	24	0.91	2	30102	0	0	0	0.005	0.001	0.02	110.5	0.13	11
Uragay	1358	256	56	23	0.89	2	6169	0	0	0	0.06	0.03	0.02	107.8	0.09	12
Yellow flag	2916	512	105	43	0.96	0	8168	0	0	0	0.08	0.05	0.01	109.1	0.08	13