

Study on the Construction of Anxi Tea Industry Ecosphere from the Perspective of Ecological Industry

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Abstract: The tea industry is a characteristic agricultural industry in Fujian and one of the eight billion-dollar industries that Fujian Province has developed. It is an important starting point for rural revitalization. The tea industry ecosphere is an important way to implement the five development concepts of innovation, coordination, green, openness and sharing. Based on the analysis of the present situation of Anxi tea industry, and the theory of industrial ecosphere, this paper constructs the model of Anxi tea industrial ecosphere, and puts forward some suggestions on the construction of tea industrial ecosphere, such as establishing ecological concept, constructing organic tea garden, optimizing product structure by using modern technology, building brand effect series industry chain and innovating benefit connection mechanism to realize the benefit sharing.

1. Introduction

The report of the 19th National Congress of the Communist Party of China made clear that the issue of Agriculture, Countryside and Peasants is a fundamental issue concerning the national economy and the people's livelihood. It is necessary to always solve the problem of "three agricultural problems" as the top priority of the work of the whole party and implement the rural revitalization strategy. Taking the green production mode of integration of primary, secondary and tertiary industries and the ecologization of "integration of six industries" as the main connotation of "industrial prosperity", the green development and ecologization of agricultural industry can be realized, the "three class market" of ecological industrialization can be constructed, and the industrial structure of saving resources and protecting ecological environment can be formed.

The tea industry is an industry with a high degree of socialization, a long industrial chain and strong economic penetration. At present, China's tea industry has developed into a socialized production integrating planting, processing, warehousing, transportation, trade and scientific research. The tea industry is a characteristic agricultural industry in Fujian Province. It has the characteristics of a long chain and a high correlation. The industries involved running through the first, second and third industries. Fujian Provincial Government proposes a tea industry cluster development model, which will be the tea industry cluster of Oolong in Southern Fujian and Oolong in Northern Fujian. The cluster will be developed as a key industrial cluster and strengthen the construction of industrial clusters. The ecological development of China's tea industry is mainly based on ecological planting and processing. The research on the ecological development of the tea industry chain is still insufficient.

Based on the current situation of tea industry in Anxi County and the perspective of industry ecosystem theory, this paper studies and analyzes the development path of Anxi tea industry ecosystem, and puts forward relevant policy recommendations, which provides guidance and reference for the realization of tea industry ecosystem value and the integration development planning of primary, secondary and tertiary industries.

2. Research Status of Tea Ecological Industry

The connotation of ecological industry refers to the study of the whole metabolic process of natural resources from source to flow, including the organization management system and the dynamic mechanism of production-consumption behavior. This is a very early discussion of ecological industry. Ecological industry has a positive effect on the sustainable development of the industry. It is not only the protection of the resources and the environment, but the ultimate goal lies in the sustainable and green development of the industry [1]. Liu Sihua has interpreted the ecologicalization of the agricultural industry and realized the ecological development of the agricultural industry through ecological science and technology, ecological technology promotion and market ecologicalization [2].

In terms of the ecological development of the tea industry, Yang Ruxing, Ye Naixing [3], Liu Hengxu, Wu Changwang, Shi Jusheng [4] and so on believe that a good ecological tea garden environment is the core of the green development of the tea industry. Reducing the pesticide residues in tea not only has ecological benefits, but also an inevitable trend of the tea industry to meet the needs of mass consumption and an important guarantee for improving the competitiveness of tea exports [5-6]; the industry ecosphere forms a stable system structure around the core industry and related industries and auxiliary institutions.[7-8]. The development model that combines the regional industrial layout concept with the industrial development model is considered to be a new model for the development of the industry ecosphere beyond the traditional upstream and downstream industrial chain expansion model [13]. Technological innovation, resource integration and collaborative development environment are also considered to be important elements in the development of industry ecosphere [14]. The research on the ecologicalization of tea industry is mainly based on the ecological cultivation and processing of tea, and lacks the research on the ecological transformation and upgrading of the industrial chain. From the perspective of ecological industry, it is of great practical significance to explore the construction of Anxi tea industry ecosystem.

3. Overview of Case Study

3.1 Overview of Research Cases

In 2017, the total tea garden of 18 tea-producing provinces (regions) nationwide was 45.887 million mu, an increase of nearly 1.35 million mu over the previous year, of which the tea picking area was about 37.07 million mu, an increase of about 3.61%. The total output value reached 190.76 billion yuan, an increase of 22.56 billion yuan over the previous year, an increase of 13.4%. The output value of the tea industry in the four provinces of Guizhou, Fujian, Sichuan and Zhejiang exceeded 10 billion.

Anxi County, 117°36' -118°17' east longitude and 24°50' -25°26' north latitude, is located in the middle joint of the Hokkien Golden Triangle of Fujian Province. It is the hometown of Chinese oolong tea and the world-famous tea Tieguanyin. The birthplace, the county's tea garden covers an area of 600,000 mu, the tea output is 68,000 tons, and the total tea production value is 14.8 billion yuan. It is the first county producing tea in China. Anxi tea industry has developed into a tea industry chain system integrating tea planting, processing, packaging, tea machinery manufacturing, transportation logistics, tea food and tea culture tourism.

3.2 Status of Ecological Development of Anxi Tea Industry

The Anxi tea industry has focused on cultivating and expanding the main business of the new tea industry and promoting the integration of the first, second and third industries. It has formed an integration of tea production, processing, logistics, research and development, demonstration and service, and the development of the entire industry chain. The effects of greening, branding and industrial clusters are gradually emerging.

1) Industry scale: The county's tea garden covers an area of 600,000 mu, the tea production value is 14.8 billion yuan, the tea population is more than 800,000, and 56% of the farmers' per capita net income is from the tea industry. The brand value of “Anxi Tieganyin” is 1424.38. 100 million yuan.

2) Green development: Through the construction of “5+1” ecological tea industry system with “global ecologicalization + tea mountain greening + tea garden microclimate + land improvement + near natural management and organic production + county tea quality guarantee system”, the construction of high-standard ecological tea plantations and coverage of improved varieties have been steadily improved, the coverage of standardized technology has reached 100%, and comprehensive quality assurance system for tea from tea plantations to tea cups has been basically established.

3) Brand development: Bama Tea Industry, Anxi Tieganyin Group and other leading enterprises in tea industry have gradually highlighted their effects. They have 4 well-known trademarks in China, 10 well-known trademarks in Fujian Province and 12 well-known trademarks in Quanzhou City. They have formed a number of classic tea activities brands such as “Anxi Tieganyin Shenzhou Travel” and “Anxi Tieganyin Beautiful China Travel”.

4) Industrial clusters: The construction of 18 tea demonstration bases led by tea manors, 27 innovation and entrepreneurship bases above the municipal level, 2 electronic science and technology parks, 2 national tea inspection and monitoring centers, 3 national science and technology platforms and 3 processing, trade and logistics parks has effectively promoted the development of tea industry's modern factor agglomeration.

3.3 Main Problems Facing the Ecological Development of Anxi Tea Industry

The construction of ecological economy with the construction of ecological civilization as the basic content makes the priority development of ecological tea industry become the general trend of the ecological era. The ecological transformation of the tea industry is the direction of the modernization of the tea industry and the fundamental idea for realizing the virtuous cycle development strategy of the tea industry ecosystem. The Anxi tea industry has undergone long-term development, and the industrial development has begun to take shape. However, with the extensive management of tea gardens during the planting process, it also brought about the degradation of tea manors ecological environment and other issues. There are still the following shortcomings in the integration of the first, second and third industries of tea industry chain and the construction of the industry ecosphere:

(1) From the analysis of production, Some tea mountains are overexploited, the ecology needs to be repaired urgently, the single tea planting, the lack of species diversity, easy to cause soil erosion and ecological environment degradation, the ecological restoration of Anxi tea mountain, the soil improvement of tea manor and the development of digital tea industry are still deficient.

(2) From the analysis of secondary production, the leading enterprises are not enough, especially the leading enterprises in the tea industry. Insufficient deep processing, the products are mainly sold in raw tea, and the tea industry chain and value chain are short. The overall level of clean and standardized large-scale production is still low, and tea machinery research and development innovation support are insufficient. The construction of science and technology innovation system lags behind, and business model innovation needs to be improved.

(3) From the analysis of the three industries, the degree of integration of tea industry is not enough, the tea industry ecosphere is insufficiently constructed, and the combination of tea and tourism is at the initial stage of development; the construction of leading talents in the tea industry needs to be strengthened, the passage of financial capital and social capital into tea mountain is urgently needed, and the financial support for agriculture is obviously insufficient.

(4) From the analysis of the joint agricultural mechanism, the degree of organization of tea farmers is low, and the new business operators are not driven. The production situation of millions of households planting tea to produce and sell tea does not meet the increasingly stringent standards and requirements of tea hygiene quality, which makes it difficult to control tea hygiene quality in an

all-round way. The mode of joint income increase is simple. The majority of tea farmers' income comes from the sales income of tea, sharing the second-third production value-added income.

4. Construction of Anxi Tea Industry Ecosphere

4.1 Connotation of Tea Industry Ecosphere

Combined with the connotation of tea industry and industrial ecosphere, according to the principles of regional concentration, industrial agglomeration and intensive development, by guiding tea enterprises, tea talents, tea resources, financial capital, knowledge and technology and other resources to gather together, to promote the upstream and downstream of the tea industry chain and cooperative affiliated enterprises through matching, integration, sharing and other ways to form a number of micro ecological chains and ecological communities that can achieve a spontaneous virtuous cycle, so as to obtain the market competitiveness of tea products and services and the advantages of sustainable development of the tea industry, the regional tea industry multi-dimensional network system emerges as the times require.

4.2 Construction of Tea Industry Ecosphere

Tea industry is a comprehensive industry with high correlation and high extension of the industrial chain. The core of the development of its industrial ecosphere is to meet the changes of market demand for tea consumers and to improve the quality of tea products. However, it is also inseparable from the development of supporting service enterprises, the improvement of scientific and technological level and the cultivation of human resources and other related industries. Tea industry ecosphere is a multi-cycle and strongly related ecosystem composed of tea production, sales and service.

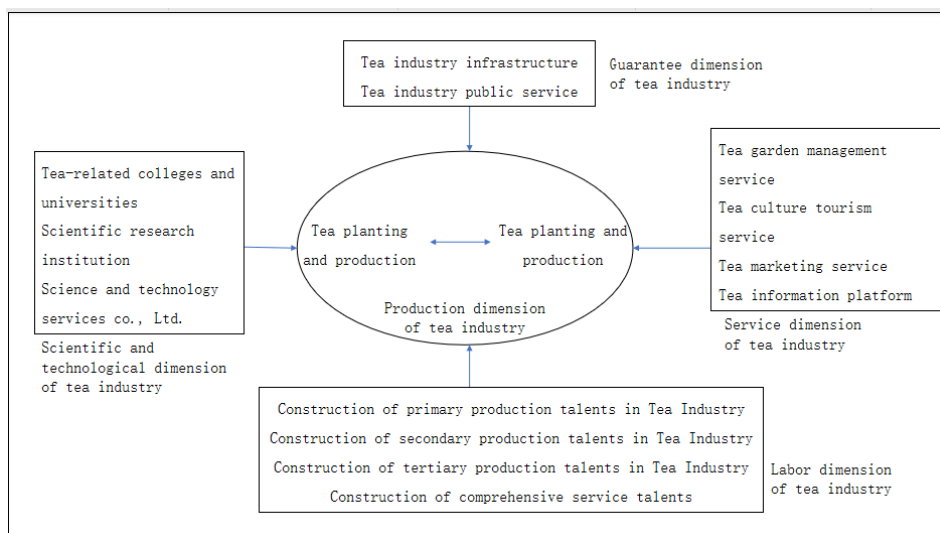


Fig. 1 Construction Model of Tea Industry Ecosphere system

Tea industry ecosphere includes five dimensions: production dimension of tea industry, scientific and technological dimension of tea industry, service dimension of the tea industry, labor dimension of the tea industry and guarantee dimension of the tea industry, which interact and interact with each other.

Production dimension of tea industry: Production dimension is the core of the construction of industrial ecosphere, and all activities of industrial ecosphere are centered on serving production dimension. The tea industry production dimension takes Anxi National Modern Agricultural Industrial Park as the core, gathering relevant enterprises such as tea planting, tea processing, tea

packaging design and tea comprehensive services to form regional enterprise clusters. Its core driver comes from the change of market demand for tea consumers.

Scientific and technological dimension of tea industry: The science and technological dimension plays a role of technical support and basic guarantee for the construction and sustainable development of the industrial ecosystem. Relying on the strength of universities and scientific research institutions, it provides a third-party comprehensive service around tea planting, tea processing and production, tea machinery manufacturing and tea industry personnel training.

Service dimension of tea industry: The service dimension is formed under the influence of the production dimension of the tea industry, plays a regulatory role in the production dimension of the tea industry. It provides a series of services for tea production, processing, sales and tea brigades, and plays a role in coordinating and coordinating the development of the industry in order to ensure the smooth development and conduct of exhibition activities, which mainly reflected in the tea garden management, tea product sales, tea culture tourism and tea industry supporting services, forming a set of information and technical advice in one of the market-oriented service platform.

Labor dimension of tea industry: Tea industry is a typical labor-intensive industry; the promotion of labor force plays an important role in promoting the structure of industrial ecosphere. The labor dimension of the tea industry is embodied in the first, second and third production of the tea industry and the construction of comprehensive talent team. According to the demand for talents at different stages of the tea industry chain, such as planting, processing, marketing and service, the talent training mechanism and supporting services should be formed to strengthen the quality level of the talent team.

Guarantee dimension of tea industry: The guarantee of maintenance is the basis of the construction of the industrial ecosphere and the external environment support for the development of the whole industrial ecosphere, mainly based on the infrastructure construction of the tea industry and the public service construction of the tea industry. Tea infrastructure includes tea garden planting facilities, tea logistics facilities and digital tea industry facilities as the core to improve the degree of industrialization; tea public service includes government policy, financial policy, regional public brand publicity, government departments, financial service institutions and tea consumers and other stakeholders trust mechanism and information communication mechanism.

5. Suggestions on the Construction of Anxi Tea Industry Ecosphere

5.1 Establishing Ecological Concept and Constructing Organic Tea Garden

It is necessary to abandon the traditional concept of simply developing the economy and simply pursuing economic benefits, and firmly establish the concept of unifying economic, social and ecological benefits. Based on quality, to enhance the competitiveness of the tea industry comprehensively. To remote global ecologicalization, implement tea mountain ecological restoration and tea garden soil improvement, and gradually build high-standard ecological tea gardens; to promote the integration of green technology development, and implement the reduction control of tea garden pesticides and fertilizers through the implementation of new pest control measures such as physical control; to promote quality supervision informatization comprehensively, implement tea garden informationization and digitization, and build a quality and safety traceability system from "tea garden to tea cup"; to promote the industrial organization, by using the "leading enterprises + cooperatives + bases + family farms + farmers" interest linkage mechanism, building "Five Communities" of Production and Marketing, Plant Protection, Entrepreneurship, Poverty Alleviation and Tea Manor, and to promote quality through community building.

5.2 Using Modern Technology to Optimize Product Structure

To stimulate the vitality of the main body of scientific and technological innovation, and through the association of scientific research institutes, institutes and enterprises, to carry out industrial development, and enhance the technological innovation ability of enterprises. We should speed up the breeding of high-quality tea varieties, vigorously popularize the cultivation techniques of clonal

improved varieties, and improve the overall quality of the tea garden. To realize mechanized tillage and mechanical mining in tea gardens gradually, improve labor productivity and reduce the cost of tea production. Adjusting the structure of tea products according to the changes of consumer demand and actively open new consumer markets. To speed up the pace of comprehensive utilization and development of tea and improve the efficiency of comprehensive tea production.

5.3 Building Brand Effect and Linking Industrial Chain

Through the construction of regional public brand and famous tea mountain and tea, to explore the evaluation and classification of tea mountain tea garden, and stress the value of high-end producing areas (tea mountain). Exploring the logo system of "geographical indication certification trademark + association mark + enterprise mark", and gradually establishing the consumer trust mechanism of Anxi tea industry through the construction of the famous mountains, famous brands, famous manors and famous masters. With the role of brand demonstration, we can bring the development of tea industry and related industries, and effectively connect each organic link of tea industry ecosphere in series.

5.4 Innovating the Mechanism of Benefit Connection and Realizing the Sharing of Industrial Interests

On the basis of leading enterprises, farmers' cooperatives and large tea households, we should explore the quantitative form of farmers' capital and equity, encourage all kinds of social capital investment, and support leading enterprises, industrialization consortia, cooperatives, tea production villages and other business entities to participate in tea manor construction and tea industry management, and discount shares to cooperative farmers, tea farmers or village collectives, so that tea farmers can share the value-added benefits of secondary and tertiary production.

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