

A New Path to Sustainable Growth: Evidence from the Tea Industry in Yanshan

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Abstract: This paper examines historical development, status, business practices, and the changing characteristics in the process of development using tea industry in Yanshan, Jiangxi province as an example. On this basis, further exploration is done regarding future paths for sustainable, high-quality development, including the countermeasures. These include increasing governmental policy support, enhancing brand influence and effect, improving the building of industrial clusters, and developing strong talent teams. This research provides practical insights, as well as evidence-based recommendations, for the sustained growth and competitiveness of the Yanshan tea industry.

1. Introduction

Yanshan County is located in Shangrao City, Jiangxi Province, at the northern foot of the Wuyi Mountain Range. It is one of the top ten ecological counties for producing tea and is newly listed by the Ministry of Agriculture of China as a key area in the nation for developing the tea industry. Leveraging the ecological advantages of Wuyi Mountain National Park, Yanshan has vigorously promoted the development of the tea industry in recent years and transforms ecological advantages into economic development advantages.

In this relatively small county with an area of only 2,178 square kilometers, there are two nationally protected geographical indication agricultural products: "Yanshan Hehong Tea" and "Huanggangshan Yulu." The tea-making technique of Hehong Tea has been successfully approved as a provincial-level intangible cultural heritage protection project. The tea industry has become a leading industry in Yanshan County. As of April 2023, the total tea garden area in Yanshan County has reached 111,000 mu, with an annual output of 4,400 tons and a comprehensive annual output value of 1.52 billion yuan. [1]

This research adopts the method of field investigation, including on-site observation and structured interviews. Five tea gardens of different scales in Yanshan County were selected for on-site investigation to understand the daily operations of their planting, processing, and living areas. Semi-structured interviews were conducted with tea garden owners, hired workers, tea merchants, and tea distributors on topics such as the history of tea planting, tea-making techniques, business methods, and changes in concepts. Visits were also made to village committees and town governments to understand the employment situation of local residents, policy support for tea farmers, and poverty alleviation outcomes. A total of 23 respondents were interviewed, with the interviews lasting nearly 50 hours in total.

2. Context of Tea Industry Development in Yanshan County

2.1. The History of Tea Cultivation in Yanshan

Yanshan has a long history of tea production, and *Yanshan tea* had already become a tribute tea during the Song Dynasty (960-1279). The "Yanshan County Chronicle" records: "As early as the Song Dynasty, Yanshan produced *Zhoushan Tea*, *Baishui Tuan Tea*, and *Xiaolongfeng Tuan Tea*. During the Xuande and Zhengde periods of the Ming Dynasty (1426-1521), Yanshan also produced famous teas such as *Xiaozhong Hehong*, *Yulu*, *Special Tribute*, *Gonghao*, *Gongyu*, and *Huaxiang*."

Since the Jiajing period of the Ming Dynasty (1522-1566), Hekou gradually became a major trade market for inland water transportation and tea paper processing and transshipment in the south, and *Hehong Tea* has since entered national and even world trade. The "Yanshan County Chronicle" documents: "By the Wanli period (1573-1620), the reputation of *Hehong tea* spread far and wide, and foreign merchants flocked to Hekou, Shitang, Chenfang, and other places to purchase it." According to the Wanli edition of the "Xinzhou Prefecture Chronicle" of the Ming Dynasty: "*Hehong Tea* is the most famous black tea in China and is the first Chinese tea to be introduced to the world." During the Guangxu period of the Qing Dynasty (1875-1908), the annual production of *Hehong* reached 40,000 to 50,000 boxes (25 kg per box), and Yulu reached 20,000 to 30,000 boxes. [2]

2.2. Ecological Environment

Yanshan County has a mid-subtropical humid climate, with mild weather and abundant rainfall, with an annual precipitation of 1,732.9 mm. The area is surrounded by mountains, with a forest coverage rate of 74%. The terrain is mainly mountainous and hilly, with natural soils dominated by red soil, yellow-red soil, and yellow-brown soil, rich in organic matter, with a pH value of 4.8-5.5. The summer sunlight duration is relatively short, and the area is very cool due to the regulation by the Wuyi Mountains; in winter, the mountains act as a barrier, blocking cold currents, so temperatures are not too low. The annual average temperature is between 10 and 16°C.

This climate seems tailor-made for the large-scale cultivation of tea trees in Yanshan:

- 1) The high rainfall, humidity, and long foggy days, with an average of 188.1 foggy days per year, satisfy the tea tree's preference for diffuse light and humid conditions, promoting the formation of amino acids and aromatic substances in the tea leaves;
- 2) The average annual temperature is relatively low, only 10.4°C-15.2°C. The first frost usually appears around November 14, and the frost period extends to around March 10. The slow temperature rise in early spring ensures good tenderness and high quality of the tea leaves;
- 3) The large temperature difference between day and night results in accumulation exceeding consumption, enriching the internal substances in the tea leaves. [3]

2.3. Tea Varieties

The famous *Hehong Tea* gardens in Yanshan are generally located at an altitude of 900 to 1300 meters. Unlike other types of tea trees that are densely planted, the tea trees in *Hehong Tea* gardens grow naturally among rocks, in mountain valleys, and beside streams. The soil beneath the tea trees is completely weathered gravel rock. The tea trees can not only absorb minerals such as iron and potassium rich in the gravel but also maintain good water permeability and air permeability. This unique growing environment makes *Hehong Tea* distinctive, resulting in characteristics such as a fresh and brisk taste and a long-lasting fragrance.

2.4. Exquisite Traditional Tea-Making Techniques

In many tea gardens in Yanshan, the production of *Hehong Tea* still retains traditional handmade techniques, preserving rare ancient craftsmanship in an industrial society, which is also an important part of the local tea culture.

2.4.1. Picking

Tea farmers have strict requirements for picking when selecting fresh leaves suitable for making *Hehong Tea*. The timing requires that the buds must be picked around the Qingming Festival and on sunny mornings; The picked leaves must not be fully opened, with the maximum leaf width not exceeding one centimeter, with one bud and two leaves being optimal. Tea leaves with only buds naturally have higher commercial value; The container used for holding the freshly picked leaves must be bamboo, covered with thin and soft paper. This not only maintains the natural properties of the tea leaves but also effectively utilizes locally abundant bamboo and bamboo paper, reducing costs.

2.4.2. Withering

The picked tea leaves are spread out in well-ventilated sunny areas or in specialized machines for

withering, to remove some moisture and soften the leaves, which helps the tea leaves to begin slight oxidation. Tea leaves withered under the sun have more layers of aroma compared to those withered by machines because secondary metabolites are broken down by ultraviolet light to produce aromatic substances. Therefore, most local tea farmers choose sun withering to improve the quality of tea leaves.

2.4.3. Rolling

After withering, the tea leaves are rolled, a process that breaks down the leaf structure, causing the tea juice to ooze out and be exposed to the air, thereby accelerating the oxidation process. Rolling can be done manually or using machines. Similar to withering, manually rolled tea leaves have more layered aromas, higher quality, and greater commercial value, making them more favored by local high-end tea gardens.

2.4.4. Oxidation

The rolled tea leaves are spread flat on oxidation beds, with controlled temperature and humidity, allowing the tea leaves to fully oxidize. This step is crucial for the color, aroma, and taste of the tea leaves. The degree of oxidation determines the color and flavor characteristics of the tea.

2.4.5 Fixation

When the tea leaves reach the appropriate level of oxidation, they need to be exposed to high temperatures (usually through steam or hot air) to stop the oxidation process. This step is known as fixation. Fixation helps preserve the aroma of the tea leaves and stabilize their color.

2.5. Commercialization

2.5.1. Integration of Traditional Handmade and Mechanized Tea Production

In traditional tea-making processes, the manual rolling and sorting techniques give the tea a unique aroma and uniformity, but these processes require a lot of time and highly skilled craftsmanship, making it difficult to achieve a breakthrough in production and leading to variability in tea quality due to differences in the artisans' skills. Mechanized tea production has brought improvements in production efficiency, giving it a clear advantage in output, allowing the expansion of tea factory scales, stabilizing tea quality, and significantly increasing tea farmers' incomes. However, for tea farmers who have lived here for generations, they believe that such tea has lost its soul, and high-end tea still needs to be made by hand, as there are aspects of manual work that machines cannot replace. Therefore, some tea companies choose to retain traditional handmade tea-making techniques to a certain extent.

2.5.2. Small Workshop Business Model Based on Family Units

In Yanshan, many tea factories operate as family units, dividing tasks based on family members' characteristics, forming small and cozy tea-making workshops. These small-scale workshops focus more on family self-sufficiency, reducing tea-making costs while making the tea factories more flexible and efficient. Due to the strong seasonality of tea production, they usually only hire a small number of permanent tea factory workers and then hire a large number of temporary tea pickers during the busy farming season. During the off-season, they do not engage in other industries but choose to rest and train apprentices. Once the busy farming season arrives, the entire family, along with temporary workers, works together to pick and produce tea. The daily working hours start at six o'clock in the morning and last until five in the afternoon.

2.5.3. Division of Labor among Family Members

These family-run tea factories have developed a clear division of labor over a long period of time. Typically, the young male laborers, such as sons or sons-in-law, lead the tea factories and are mainly responsible for managing them. They enter the busy farming season from February each year, first observing the market and understanding the situation of each tea mountain to arrange work reasonably. The soil and nutrient conditions of different tea mountains vary, and timely observation and

investigation are crucial for improving tea quality. The older generation in the family, including fathers or fathers-in-law, are mainly responsible for training apprentices or leading temporary workers to pick tea during the tea season. Mothers or mothers-in-law are responsible for cooking, while daughters-in-law or daughters oversee bookkeeping. This division of labor makes the tea-making process more orderly, creates a more harmonious working environment, strengthens the tacit understanding among family members, and injects more human touch into the tea-making craft.

2.5.4. Apprentice System and Inheritance

In small tea factories or workshops, the main person in charge or the craft inheritor can take on apprentices without needing to pay them wages, only providing meals. After mastering the craft, apprentices can start their own businesses, establishing their own tea brands or small workshops. This inheritance model allows the tea craft to continue and provides learning opportunities and development platforms for the younger generation.

3. The Impact of the Development of the Tea Industry in Yanshan

3.1. Changes in Agricultural Concepts and Methods Due to the Tea Industry

In recent years, tea drinking has increasingly become a culture, even a high-end culture. Traditional agricultural concepts have gradually been challenged by the tea industry. People have begun to realize that tea is not only an agricultural product but also an industry rich in cultural connotations, that tea is not just a beverage, but is an inseparable part of cultural life. [4] Being a tea farmer is not only a career choice but also a reflection of one's attitude toward life and aspirations. Compared to other local industries such as bamboo cutting, tea farming is not only easier and cleaner, requiring less physical labor, but it also appears more elegant and dignified, making those engaged in the tea industry feel a sense of nobility and dignity in their work.

The rise of the tea industry has not only changed people's concepts but has also had a significant impact on work methods. In the past, going out for work was a common means of livelihood for rural people, but with the development of the tea industry, this has changed. The tea industry provides abundant employment opportunities, requiring labor at all stages, from tea garden management and picking to tea processing. This allows farmers to find stable jobs in their hometowns without having to leave home. Although the cost of manual tea picking is high, because such tea sells at a higher price, young people working in the local tea industry may even earn more than those working outside the province. This makes farmers more inclined to stay in their hometowns to work in the tea industry, as it allows them to maintain family integrity while also receiving relatively substantial economic returns.

In Yanshan, the rapid development of the tea industry in recent years has brought significant changes to the way local residents work. According to official data, in 2023, the annual production in Wuyishan Town exceeded 100 million yuan. [5] As of 2024, the comprehensive output value of the tea industry in Yanshan County has reached 2.4 billion yuan. [6] The tea industry has not only improved the overall scale of local industries in Yanshan but also significantly contributed to the improvement of local residents' living standards through employment and income channels. Take Zhenyuan Village in Jiakuan Township as an example. In 2022, the local tea mountain increased the village's annual income by 70,000 yuan, added 400 jobs, provided an average dividend of 900 yuan per household, and increased per capita annual income by 10,000 yuan. [7] At Luhua Organic Resource Development Company in Yanshan County, the company has driven more than 400 farming households within a year, with an average income increase of over 3,000 yuan per person. [8]

In Yanshan, the tea industry has also indirectly increased the area's popularity as a tourist destination. The vigorous development of the tea industry, combined with the area's unique mountainous natural scenery, has formed a strong attraction for surrounding tourists. In recent years, a complete industrial chain tourism industry involving homestays, cultural and creative products, leisure agriculture, and eco-tourism has gradually formed. In Wuyishan Town alone, there are more than 130 homestays, providing over 500 jobs and generating a total income of more than 20 million

yuan. [9]

3.2. Changes in the Status of Women and Vulnerable Groups Due to the Tea Industry

In the tea gardens, women occupy a larger proportion of the workforce. Women mainly participate in the tea-picking stage, and their efficiency in picking tea is generally higher than that of men, as they have more skilled techniques and faster speeds. Subsequent work, such as tea processing, is mainly handled by men. This has formed a mode of division and cooperation, fully utilizing the expertise of both men and women, and promoting the efficient operation of the tea industry. For female farmers, participating in tea picking is not just a job; it is also a beautiful experience of being immersed in nature. Compared with other agricultural industries, tea picking makes them feel more relaxed, which is one of the reasons they stay in the local area.

The rise of the tea industry has provided them with a new path to prosperity, significantly improving their income levels and enhancing their status within the family. In Yanshan, the tea industry has significantly improved the status of women and other vulnerable groups. Take Kongjia Village as an example. In 2019, Zhou Lanzhen founded a cooperative based on the tea industry in the village, and two-thirds of the initial members were women. [10] Ren Qinxian from Hufang Town employed 46 disabled individuals through the Disabled Employees Employment Association. [11]

4. Development Strategies for the Tea Industry in Yanshan

It is important to understand the broader implications of these recommendations on the development of the tea industry in Yanshan. In this section, key development strategies are outlined to designed to capitalize on Yanshan's strengths and address its challenges, ensuring the long-term success of its tea industry.

4.1. Increase Policy Support

Based on previous experience from other regions, government subsidies and financial support should be increased to help tea farmers reduce initial investment costs and lower the threshold for engaging in the tea industry; Then, through government-led implementation of incentive policies, such as providing tax incentives or exemptions for small tea enterprises, increasing investment, etc., to reduce the early operating costs of tea enterprises; By protecting the intellectual property rights of local tea varieties and promoting geographical indications (GI), the market competitiveness of local tea enterprises can be enhanced; Formulate strategic export plans, organize tea enterprises to participate in international trade fairs, and use the "Belt and Road Initiative" (BRI) to promote tea exports, increase international market share, and expand sales channels. [12]

4.2. Enhance Brand Effect

As the tea industry in Yanshan continues to evolve, it becomes crucial to establish a strong and recognizable brand. A well-crafted brand identity not only differentiates Yanshan tea from competitors but also builds consumer trust and loyalty. Below are potential channels through which the local tea brand could be promoted.

4.2.1 Create a Unique Brand Image

To create a distinctive brand image for Yanshan tea, it is essential to emphasize its quality, heritage, and uniqueness. By communicating the tea's rich history, traditional cultivation methods, and its deep connection to local culture, an emotional connection with consumers can be established. This story should be reflected in a memorable logo and packaging design that indicates Yanshan tea's unique origin and superior quality. This approach will set Yanshan tea apart from teas in other regions, making it a culturally significant product.

4.2.2. Expand Brand Influence

The government lays the foundation, and tea enterprises take the initiative. By encouraging collaboration between tea companies and other businesses, such as hotels, restaurants, and retailers,

Yanshan tea can establish itself as a high-end supplier. This cooperation promotes the brand and expands its reach. Additionally, working with local artists to create limited-edition packaging and launching serialized, artistic teas will appeal to collectors and enthusiasts. Implementing loyalty programs to reward repeat customers will further strengthen brand loyalty and encourage word-of-mouth marketing, helping grow Yanshan tea's influence.

4.2.3. Gather Incremental Markets

The rise of new-style tea drinks and the growth of the ready-made tea market are creating a new consumption trend. New products can be developed around consumers' personalized, creative, and digitalized consumption needs. The rise of new-style tea drinks and the growing ready-made tea market are shaping a new trend in tea consumption. To meet the needs of younger consumers, new products should focus on convenience, such as developing tea blends, flavored teas, and easy-to-use tea bags. Increased advertising and the creation of related products will help boost visibility. At the same time, establishing retail chains that cater to changing preferences can help position the tea as a trendy brand, appealing to younger generations.

4.3. Build Industrial Clusters

Yanshan is rich in moso bamboo and has a unique papermaking process using tender moso bamboo as raw material. It also has the "Ehu Academy," which has had an important influence on the history of Confucianism in China. While promoting the tea industry and tea culture, the local resource advantages can be fully utilized to create industrial clusters in tourism, papermaking, and education, deeply exploring the uniqueness of the tea industry.

One feasible solution is to establish a tea culture center or museum, organize various forces to study the history of local tea culture, understand the development process of local tea culture by sorting out historical materials, cultural relics, and ancient books related to local tea culture, and continuously enrich the cultural connotation of tea culture by exploring famous anecdotes, proverbs, legends, and poems related to the development of tea culture. [13] The government could assist in organizing tea culture festivals, setting up tea-related anniversaries, and promoting tea culture by organizing large-scale events to celebrate the heritage and traditions of tea production.

Another option is to integrate the tea industry with tourism by creating immersive consumer experiences throughout the tea production process. This could involve adopting tea trees or investing in tea mountains, participating in tea-picking and tea-making activities, and offering exclusive, customized tea products. Additionally, developing educational and interactive tea tourism sites—such as tea culture centers, field study areas, and wellness retreats—would further enrich the experience. This approach not only promotes the tea industry but also enhances its appeal through hands-on, personalized engagement with consumers. [14]

Alternatively, local government could integrate the tea industry and the papermaking industry through actively absorbing previous experiences from other regions, utilizing the large leaves and tea branches that will not be used for tea-making, creating unique tea-scented paper products during the papermaking process, and offering educational tours and workshops to experience innovative papermaking techniques. [15]

4.4. Build Talent Team

To address the problems of generally low education levels among villagers, the government could take the lead in providing regular training programs to improve villagers' skills in tea planting, picking, processing, and quality control. Another strategy on improving skills of local workers is to develop simple and easy-to-understand classes for villagers to familiarize them with the use of smart devices and network skills while providing them with support in modern planting techniques, financial services, and market information, thereby enhancing their awareness and interest in using new channels to sell tea and developing tea products that better fit the younger generation of consumers. The government could also collaborate with vocational and technical education colleges, agricultural institutions, and other educational entities to establish teaching practice bases and create "Master Tea Studios" that foster a strong synergy between the tea industry and education. Additionally, the

government could introduce scholarships and internship opportunities to support students aspiring to pursue careers within the tea industry, thereby ensuring the development of future talent. Further, the government could incorporate tea culture education into vocational school curricula, focusing on professional skills training for positions such as tea garden managers, tea makers, tea art masters, e-commerce specialists, tea tasters, and marketers.

5. Conclusion

A detailed study of the tea industry in Yanshan County indicates that, supported by a long history of tea culture and unique ecological environment, the tea industry in Yanshan County has become an important pillar of the region's economic development. The tea industry has not only had a profound impact on local agricultural production methods and employment patterns but has also significantly increased tea farmers' economic income and social status, particularly improving the living conditions of women and vulnerable groups.

To achieve sustainable development of the tea industry in Yanshan County, further optimization of development strategies is required. Increasing government policy support, expanding brand effects, building industrial clusters, and cultivating professional talents are key measures for the tea industry in Yanshan County to maintain competitiveness and increase market share in the future. By integrating resources and deepening the integration of culture and industry, the tea industry in Yanshan County is sure to thrive in both domestic and international markets, making greater contributions to local economic development and rural revitalization.

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