

Paths and Countermeasures of Local Universities in Guangxi Supporting the Construction of Regional Agricultural Industry Brands in the Context of Rural Revitalization: A Case Study of Xixiangtang District of Nanning City

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Abstract After the release of the No. 1 central document in 2021, the process of rural revitalization has accelerated. In this context, the construction of agricultural industry brands has become a key measure to promote regional agricultural development and achieve rural economic prosperity. In this paper, Xixiangtang District in Nanning City is taken as the research object, and the paths and countermeasures of local universities in Guangxi to assist in the construction of regional agricultural industry brands are deeply analyzed. By analyzing the current situation of characteristic agricultural brand construction in Nanning City and Xixiangtang District, it is found that there are problems such as insufficient exploration of characteristic agricultural brands and regional cultural characteristics, insufficient support for agricultural industry production entities, needing to strengthen government guidance services, and insufficient utilization of scientific and technological research and development advantages. In response to this, assistance countermeasures and suggestions for local universities in Guangxi are proposed in building regional public brands for agricultural products, improving the modern agricultural industry service system, providing technical support and talent cultivation, promoting the development of characteristic agricultural industries through scientific research institution and enterprise linkage, and assisting enterprises in expanding sales channels in all aspects.

Key words Rural revitalization; Local universities in Guangxi; Brand building in the agricultural industry; School – region collaboration

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Brands play a crucial role in the process of agricultural modernization, serving as an effective way to promote structural reform of the agricultural supply side and an important support for enhancing agricultural competitiveness and implementing rural revitalization strategies. In 2024, the No. 1 central document of the Central Government clearly proposed to build agriculture into a modern big industry, encourage local governments to vigorously develop characteristic industries according to their own reality, and support the building of local characteristic brands. During his inspection of Guangxi, General Secretary Xi Jinping emphasized the need to fully leverage the advantages of Guangxi's abundant forest, fruit, vegetable, livestock, sugar and other characteristic resources, vigorously develop modern characteristic agricultural industries, and make more "Guangxi" agricultural brands well-known throughout China. As an agricultural science and technology advantage area and an agricultural resource rich area in Guangxi, Xixiangtang District of Nanning City has the conditions and capabilities to play a greater role in agricultural modernization construction. It is of great significance in assisting the construction of a strong agricultural area in Xixiangtang District, Nanning City

by expanding and strengthening characteristic agricultural brands.

1 Current situation of characteristic agricultural brand construction in Nanning City

As an important engine of agricultural modernization in Guangxi, Nanning has vigorously developed rural prosperity industries with the characteristics of a capital city in recent years. It has made full use of its "local specialties", optimized and strengthened the "Yong series" brand, integrated production, processing and sales, and agriculture, culture and tourism, gradually built a modern agricultural industry system, and formed a development pattern with geographical indication products as the core, enhancing brand influence, further extending the industrial chain, and integrating the three industries as the path, and market-oriented as the driving force. In Nanning City, modern characteristic agriculture is vigorously developed. In recent years, it has successfully created a number of "Yong series" agricultural product brands such as bananas, pitaya, jasmine, and fertile oranges, which have driven farmers to increase income and promote industrial prosperity.

At present, in terms of industrial scale, Nanning's fertile orange, pitaya, and jasmine industries rank first in China, while the banana industry ranks among the top in China and first in Guangxi. The output of vegetables, freshwater products, and forest cut-

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ting rank first in Guangxi, and the output of fruits, meat, and silkworm cocoons ranks second in Guangxi^[1]. The annual output of fertile oranges in Wuming District accounts for 1/5 of the total national output, with a total output value of over 10 billion yuan in the entire industry chain. In 2024, exports to markets such as Europe, America, Southeast Asia, and the Middle East exceeded 0.2 million t. In 2024, the China Brand Building Promotion Association approved the brand value of "Wuming Fertile Orange" to reach 8.421 billion yuan. In Hengzhou City, it constructs a traceability product system, actively carries out brand certification work, and increases brand protection efforts by taking the "Hengxian Jasmine Flower (Tea)" regional public brand as the core. It is reported that the brand strength of "Hengxian Jasmine Tea" is 849 in 2025, with a brand value of 16.456 billion yuan, while the brand strength of "Hengxian Jasmine Flower" is 866, with a brand value of 6.213 billion yuan, and the comprehensive brand value reaches 22.669 billion yuan. Geographical indication products such as Nanning pitaya and Nalou Huaishan in Yongning District promote the coordinated development of Nanning landmark public brands and enterprise green food brands through large-scale planting, cultivation of characteristic industry brands, and e-commerce empowerment, adhering to standardized leadership. Market coverage is gradually expanded. In terms of brand building strategy, Nanning City focuses on the coordinated efforts of "policy + technology + culture": the government has issued and formulated the *Implementation Plan for Nanning City to Vigorously Develop Geographical Indications and Accelerate the Promotion of Agricultural Branding*, vigorously cultivating and developing "geographical indications", and enhancing the brand quantity and competitiveness of characteristic agricultural products in Nanning City. At the technological level, it promotes smart agriculture (such as Jasmine Production Digital Base, Fertile Orange Big Data Center, Modern Characteristic Agriculture Demonstration Zone, Digital Agriculture Cloud Platform, etc.), and improves the level of standardized production. In terms of culture, it strengthens brand IP and promotes the integration of agriculture and tourism through activities such as the Jasmine Culture Festival and the Fertile Orange Picking Festival. In addition, the deep integration of e-commerce channels has become a highlight. Wuming fertile orange has improved the "Internet +" online and offline marketing mechanism, built a large number of e-commerce enterprises such as "Manufacturer's Website", "Mingming Fruit Industry", "Nanfeng Fruit Warehouse", and cooperated with e-commerce platforms such as Taobao and Pinduoduo. "Direct production and marketing connection" has been achieved through "cloud shopping of agricultural land", direct delivery of production places and other modes, and e-commerce sales reached more than 5% of the total sales^[2]. Hengzhou has created a jasmine industry trading platform, which uses data intelligence to achieve a smart market, upgrades the entire process supervision system, realizes online jasmine trading, and enters the ASEAN market through cross-border

e-commerce. This series of measures has upgraded the agricultural brand in Nanning from "small and scattered" to "refined and strong", forming a preliminary "Yong series" brand matrix.

2 Current situation of building characteristic agricultural brands in urban areas

Based on local conditions and guided by market demand, Xixiangtang District of Nanning City actively promotes the standardization construction of agricultural product production bases, and strives to optimize and strengthen modern characteristic industries by relying on characteristic resources such as grain, fruits, vegetables, pigs, broiler chickens, aquatic products, and traditional Chinese medicine. By the end of 2024, relying on its resource advantages and industrial foundation, Nanning has established one national level modern agricultural industrial park, eight modern agricultural industrial parks at autonomous region level, and 85 modern characteristic agricultural demonstration zones at autonomous region level, all of which rank first in Guangxi in terms of quantity; 262 key leading enterprises in agricultural industrialization at or above the municipal level^[1]. Among them, Guangxi Guijie Agricultural Development Co., Ltd. has been selected for the Guangxi Agricultural Enterprise Brand Catalog, and the "Tianwanwan" brand has been selected for both the Guangxi Agricultural Brand Catalog and the China Agricultural Brand Catalog, forming a group of characteristic agricultural product brands with a certain scale and popularity, such as "Zhuangxiangmei", "Tianwanwan", and "Luoluoxiang".

2.1 Demonstration and leading, promoting standardization of the agricultural industry Based on the industrial advantages of its jurisdiction, Xixiangtang District of Nanning City actively promotes new varieties of high-quality chickens, pigs, eels, vegetables, fruits and other products, enhances industrial agglomeration, extends processing chains, and strengthens the integration of primary, secondary and tertiary industries, forming modern characteristic agricultural flagship products such as citrus, vegetables, pigs, three yellow chickens, eels, as well as new forms of leisure agriculture. According to statistics, 83 modern characteristic agricultural demonstration zones with distinctive features, complete chains, and high integration have been built at the district, city, county, township, and village levels. At the same time, there is one national level rural complex (Beautiful Southern Rural Complex in Xixiangtang District).

The Citrus Modern Big Digital Smart Agriculture Base of Qunnan Village, with Guijie Agriculture as the main body, is equipped with advanced 12-channel citrus sorting line commercial processing equipment. A 10 000 m³ of cold storage is built, and it is equipped with pesticide residue and soil detection equipment, forming a core competitive advantage in integrated citrus post-harvest processing. In Xialing Village and Shangling Village of Shibei Street, a cooperative operation model of "enterprises + coopera-

tives + research institutes + farmers" is adopted, and the "high-density breeding of land-based factory + *Macrobrachium rosenbergii* breeding in soil pond + ecological planting" model is implemented, to build a 53.33 hm² of demonstration base for the beautiful southern "vegetable basket" project. In addition, with the comprehensive meat industry chain around the annual output of 450 000 Muyuan pigs as the core, a complete industry chain is created; taking Jinling Agriculture and Animal Husbandry Group in Guangxi as the core, scientific research and origin advantages are leveraged to enhance the core competitiveness of the Three Yellow Chicken characteristic industry; with Xixiangtang District Seed Industry Innovation Industrial Park in Nanning City as the core, a spatial layout system for seed industry development with "one core, two parks, and N bases" is built, forming a modern seed industry full industry chain that combines industry, academia, research, and application, and integrates breeding, propagation and promotion.

2.2 Market orientation, enhancing brand awareness One is to implement standardized construction of agricultural products, promote standardized production technology, improve the quality level of agricultural products, and establish a sound monitoring system for agricultural product quality. 15 certifications for green food, organic food, and geographical indication are carried out, and green high-quality agricultural products such as Cara Cara Navel Orange and Murcott from Guijie Agriculture, white sugar from Jinguang Sugar Co., Ltd., Murcott, fertile oranges and pitaya from Minghe Company, fresh bamboo shoots from Gaofeng Forest Farm, mangoes from Daxing Cooperative, broiler chickens from Jinling Agricultural and Animal Husbandry Group, *Palea steindachneri* and *Mauremys mutica* from Guihai Company, as well as *Spinibarbus denticulatus*, *Ictalurus punctatus*, and *Pelteobagrus fulvidraco* from Caige Aquatic Products Company are cultivated. The second is to strengthen the integration and promotion of agricultural product brands in the park. Through various media, the promotion of agricultural product brands in the park is enhanced, Xixiangtang District Agricultural Product Brand Promotion and Marketing Center is gradually established in different regions, and the popularity of agricultural products in Xixiangtang District is expanded. The third is to expand sales channels and implement the "going global" strategy. By establishing e-commerce platforms, participating in agricultural product exhibitions, and conducting agricultural product promotion activities, the sales channels have been expanded, and the "Guizi" Xixiangtang District Citrus (Shenyang) Production and Sales Activity in 2023 was successfully held. It strengthens effective connection with high-end markets such as the Guangdong – Hong Kong – Macao Greater Bay Area, and carries out supply to Shenzhen and Hong Kong bases and "Zhenpin" certification work. Among them, the citrus production base of Guijie Agriculture Headquarters has been certified as a "supply to Shenzhen" base, and the production of fertile oranges has obtained "Zhenpin" certification; Datang Pig Farm and

Nanyuan Pig Farm of Jinguang Livestock Company have been registered as live pig breeding farms for Hong Kong and Macao; Jinguang No. 1 fertile orange of Jinguang Farm and triple crown Grade 1 white sugar of Jinguang Sugar Company have obtained the "Hong Kong Official Seal" certification. In 2023, urban fruits were exported to countries such as Russia, Canada, Thailand, Vietnam, and Malaysia for the first time.

2.3 Technological innovation, helping promote the development of modern agriculture Supported by technological innovation, Xixiangtang District of Nanning City optimizes the agricultural production structure, strengthens cooperation with research institutions, and promotes collaborative innovation between government, schools, enterprises, and industries. It actively introduces excellent domestic and foreign varieties, strengthens variety cultivation and improvement, jointly carries out agricultural science and technology research and achievement transformation, and improves the yield and quality of agricultural crops. Jinling Agriculture and Animal Husbandry, Wanda Agriculture and other agricultural enterprises have cooperated with Northwest A&F University, Chinese Academy of Agricultural Sciences, Guangxi Academy of Agricultural Sciences, Guangxi University, Guangxi Agricultural Vocational and Technical University and other universities and research institutes to establish 42 science institute – enterprise joint workstations.

Some enterprises have achieved significant technological innovation results. For example, the Nanning Hengmao Seed Industry Science Research Institute of Hengmao Company is the "Guangxi Two-line Hybrid Rice Engineering Technology Research Center" and the first batch of "Guangxi Zhuang Autonomous Region Good Variety Cultivation Center". Its developed "Y Liangyou 087" rice has been recognized as a super rice variety by the Ministry of Agriculture and Rural Affairs. Jinling Agriculture and Animal Husbandry Group has been recognized as a national local chicken gene bank (Guangxi), a national core breeding farm for broiler chickens, and a national base for the expansion and promotion of high-quality broiler breeds. It has established the Nanning Comprehensive Experimental Station for the National Broiler Industry Technology System and the Guangxi High-quality Chicken Breeding Engineering Technology Research Center. Five Jinling chicken supporting series of new livestock and poultry breeds have been approved by the state.

3 Existing problems

At present, there are still some problems in the construction of characteristic agricultural brands in Xixiangtang District, Nanning City, which need to be carefully studied and solved.

3.1 Insufficient exploration of characteristic agricultural brands and regional cultural features As an agricultural region, Xixiangtang District in Nanning City has not yet become a strong agricultural area, and the construction of regional public

brands lags behind. Although the application for geographical indication protection products has been launched, progress is slow. The scale of agricultural product production bases in urban areas is generally small, with low levels of production standardization and specialization, and insufficient industrial agglomeration. The local characteristic agricultural culture has not been fully reflected, and the regional cultural characteristics are not obvious. The integration of industrial clusters is insufficient, and the cluster effect of regional agricultural industry has not yet become prominent, making it difficult to leverage the competitive advantages of characteristic agricultural products.

3.2 Insufficient support for agricultural production entities

The radiation and driving effect of agricultural leading enterprises is limited. Although there are many excellent agricultural enterprises and brands in the urban area, such as Guangxi Zhaohe Seed Industry Company, which ranks among the top 10 hybrid rice seed enterprises in China, and Jinling Agriculture and Animal Husbandry Group, which has 26 varieties and a national level breeding chicken gene bank, the industrial development interests of leading enterprises and individual farmers are not closely linked, and their leading role in the market and driving role for individual farmers need to be strengthened. The follow-up development momentum of the demonstration park is insufficient, and the demonstration effect is not obvious. The urban area has 9 modern agricultural industrial parks at national and autonomous region level, but some parks have low development levels, poor sustainability, incomplete industrial chains, low added value of primary agricultural products, insufficient deep processing, and limited agricultural demonstration and driving effects on the surrounding areas and the entire urban area, which restricts the development of enterprises and individual farmers. In addition, the influence and competitiveness of specialty agricultural products in the market are relatively weak. Some crops in the urban area have a large planting area, such as bananas, winter melons, pumpkins, citrus, *etc.*, but they have not yet formed advantageous industries, with low regional brand recognition and lack of market competitiveness.

3.3 Government guidance services needing to be strengthened

There is insufficient guidance on existing brand building. The urban area has a group of agricultural product characteristic brands with a certain scale and popularity, but the urban government lacks effective guidance for their subsequent construction. The enthusiasm of market entities to participate in brand construction is not high, and there is a lack of professional brand operation institutions and teams for planning, packaging and operation. There is insufficient resource coordination effort, and the exploration of core values and cultural connotations is not enough. There is a lack of publicity platforms with powerful influence and specialized promotion channels, and effective brand effects are not formed.

3.4 Insufficient utilization of technological research and development advantages

The cooperation mechanism among ur-

ban governments, universities, research institutes, and enterprises in cultivating characteristic agricultural brands is not perfect, the connection is not close enough, and the transformation and application of scientific research achievements are insufficient. Agricultural enterprises, especially small and medium-sized agricultural producers, have weak ability to apply scientific research technology and achievements from universities and research institutes, and are in a state of "following the trend" and randomness. The communication and sharing platform and mechanism need to be improved.

4 Supporting strategies and suggestions by local universities in Guangxi

Xixiangtang District of Nanning City has abundant agricultural brand resources, numerous universities and research institutes, and good resource endowments, but it still lacks in the core elements of regional public brand market competition. Therefore, it is necessary to further explore its own advantages, clarify development strategies, and seize opportunities. Taking standardized production and quality certification as the entry point, regional public brands as the core, and technological innovation as the driving force, it should expand and strengthen characteristic agricultural brands.

4.1 Focusing on building regional public brands for agricultural products

Based on the regional and resource characteristics in urban areas, it should fully utilize the existing resources, and steadily promote geographical indication agricultural products as a single category to create the regional public brands, which is the most important task. It promotes product standardization through branding, improves product quality, and cultivates regional brands with geographical indication agricultural products as the core. Teachers and students majoring in marketing, advertising design, cultural research, and other related fields from universities within the region can form professional teams to assist in improving the design of agricultural branding development systems. Based on the characteristics of agricultural products and market demand in urban areas, they can utilize their own research resources to develop brand development plans, clarify the positioning, overall goals, and development direction of agricultural product brands, participate in brand planning and design, and leverage professional advantages in brand positioning, logo design, and slogan formulation, to promote the integration and development of regional public brands and industrial clusters, and create a brand image with differentiated competitive advantages.

In addition, universities can also explore local agricultural culture, farming traditions, folk customs and other elements, and fully leverage the characteristics of Zhuang ethnic folk culture. By combining local agricultural resources, cultural inheritance could be deeply integrated with industrial development, injecting cultural connotations into agricultural product brands. In brand build-

ing, it should highlight regional cultural value, strengthen the cultural significance, storytelling, uniqueness, and intangible value premium functions of the brand, creatively define the value dimensions of "Gui" and "Yong" agricultural products, making agricultural products a carrier of national cultural memory, enhancing brand influence, and better benefiting individual farmers' industries. This collaborative development model of universities based on regional agricultural industry resources can not only support educational innovation in Guangxi universities, but also provide sustainable impetus for local economic development.

4.2 Industry – university – research institution collaboration empowering agricultural brand building It should deepen the mechanism of industry – university – research institution cooperation and build a collaborative innovation practice platform. Universities should establish close mechanisms for industry – university – research institution cooperation with local agricultural enterprises and governments. Through the co-construction of industry – university – research institution cooperation bases, it could provide tangible practical platforms for the construction of agricultural industry brands. In the construction of industry – education integration bases, the technological research and development advantages of universities, the production and operation capabilities of enterprises, and the policy support resources of the governments are integrated to form a tripartite collaborative pattern of "university technology support – enterprise production transformation – government policy guidance". Specifically, experimental demonstration work for new variety cultivation and new technology application can be carried out within the base, and the practical exploration of agricultural brand building is systematically promoted, such as jointly building a modern agricultural industrial park that integrates technology research and development, transformation, and brand cultivation. Through the organic integration of third-party resources, full chain support can be provided for the branding development of the agricultural industry.

It should establish a sound system for the transformation of scientific and technological achievements, and enhance the level of technological empowerment in the agricultural industry. Universities need to establish a mechanism for the transformation of scientific and technological achievements that matches the needs of agricultural industry brand building. High-quality varieties, advanced planting technologies, deep processing techniques for agricultural products, and other scientific research achievements should be promoted and applied to local enterprises and farmers in a timely manner through diversified forms such as technology transfer, cooperative development, and co-construction of entities. In the process of transformation, emphasis is placed on building a full chain service system from laboratory research to industrial application. At the same time, it should strengthen the linkage effect between the transformation of scientific and technological achievements and brand building. Through the application of advanced technology, it could improve the quality of agricultural products.

The stability of product quality could be ensured through a standardized production system, further enhancing the market competitiveness of brands, achieving effective transformation of scientific and technological achievements into brand value, and injecting sustained momentum into the branding development of Guangxi's agricultural industry.

4.3 Strengthening the cultivation and delivery of professional talents In the process of building agricultural industry brands, talent is the core driving force, and its cultivation and delivery are crucial. Especially for agricultural colleges and universities, their advantages should be fully leveraged, and they should consciously shoulder the historical mission of serving the rural revitalization strategy. Relying on the high-quality educational resources of the school and Guangxi Rural Revitalization College, it could accurately serve the rural revitalization strategy through optimizing professional settings, vigorously carrying out continuing education, intellectual assistance, and school – enterprise collaborative education. To establish a scientific and sound talent training system, the professional curriculum should fully integrate the actual needs of agricultural industry brand building, and offer core courses such as agricultural brand planning, agricultural product packaging design, agricultural marketing, and agricultural product storage and transportation. At the same time, it should attach great importance to the combination of theory and practice. By participating in brand promotion projects of local agricultural products, students can personally participate in various aspects such as market research, brand positioning, and communication strategy formulation. Through project practice, students can deeply understand the connotation of agricultural brand construction, master key skills, and effectively enhance their ability to apply theoretical knowledge to practical work.

Universities should provide targeted short-term training on brand building for local agricultural enterprise employees, members of farmer cooperatives, and other groups. The training content should not only cover basic content such as brand management and marketing skills, but also add practical knowledge such as agricultural product quality control and market trend analysis according to actual needs, making the training content more in line with the practical work of practitioners. In terms of training methods, a diversified approach is adopted, combining centralized teaching, on-site guidance, and online learning organically. Online platforms could be utilized to provide practitioners with abundant course resources, facilitating flexible learning according to their own time and needs, thereby enhancing the effectiveness of training and improving practitioners' brand building capabilities.

In terms of talent transfer, universities should actively establish close cooperative relationships with local governments and agricultural enterprises, and a talent transfer platform of "university – government – enterprise" collaborative education is built. Through multi-party cooperation, it could provide more high-quality internship and employment opportunities for students in related

majors, so that students can exercise and grow their abilities in practical work.

4.4 Assisting enterprises in expanding their sales channels in all aspects

In the fiercely competitive agricultural market environment, it is the key to promoting the brand building of the agricultural industry in Xixiangtang District by accurately meeting market demand and expanding sales channels in multiple dimensions. Universities utilize their talent and intellectual advantages to organize professional teams to conduct full process research on locally produced agricultural products such as bananas, citrus fruits, and vegetables. By utilizing big data analysis, questionnaire surveys, consumer interviews, and other methods, it can accurately grasp consumer needs. In terms of expanding sales channels, universities help to build e-commerce platforms for agricultural products. By connecting with top e-commerce platforms such as Taobao and JD.com, flagship stores are open to expand online sales channels. It should organize teachers and students to conduct live streaming sales training, invite professional anchors, and showcase the characteristics of agricultural products through short videos and live broadcasts, to attract consumers. At the same

time, under the dual changes of current consumption grading and technological revolution, the campus market is becoming a new consumption scene in China. It is not only a testing ground for brands, constructing an emotional connection between agricultural brands and young consumer groups, but also a value incubator for youth growth.

The assistance of universities in building agricultural brands is not only the transformation of technological achievements, but also a revolution in educational philosophy. The universities of Guangxi are exploring a path of integrating industry and education with regional characteristics. This innovative practice not only provides the "Guangxi Plan" for rural revitalization, but also leaves a profound Guangxi mark on the reform process of higher education.

References

- [1] GUO SD. Vigorously developing modern characteristic agriculture and accelerating the comprehensive revitalization of rural areas[N]. Nanning: Nanning Daily, 2025-01-08.
- [2] Wuming fertile orange, coming from the sweetness of Zhuang township [J]. Newsletter about Work in Rural Areas, 2025(10): 55-56.

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