

Route of Guizhou Vocational Education in Serving the Export of Guizhou Goods Beyond Regional Boundaries in the Context of Rural Revitalization

Tao WANG, Yanling REN*, Shoumei WAN, Jinyu ZHAO, Xiaolei JI, Jian TANG, Lingling XIAO, Jing PENG, Haiyan WANG

Guizhou Institute of Light Industry, Guiyang 550032, China

Abstract This study examines the current state of vocational education in Guizhou and its role in facilitating the export of Guizhou goods beyond regional boundaries, and explores various strategies for vocational education to contribute to rural revitalization, including the optimization of professional and curriculum systems, the deepening of industry-education integration and school-enterprise cooperation, the enhancement of brand development and marketing efforts, the strengthening of cross-border e-commerce and international cooperation capabilities, and the improvement of policy support and resource allocation systems. The findings aim to provide a theoretical foundation for Guizhou vocational education to support local economic development.

Key words Rural revitalization, Vocational education, Guizhou goods, Route

0 Introduction

Vocational education plays a crucial role in the development of a new generation of vocational farmers, addressing the talent shortages that hinder rural revitalization efforts. It serves as a significant support mechanism for regional economic growth and industrial advancement. The implementation of the rural revitalization strategy is a significant decision-making initiative established during the 19th Party Congress, with the optimization of talent serving as a crucial guarantee for its success. In response to various pressing issues, including the significant migration of young and capable rural laborers to urban areas, the limited skill set of rural workers, and the shortage of qualified personnel for rural revitalization, the *Strategic Plan for Rural Revitalization* (2018–2022) explicitly advocates for the robust development of vocational education in rural areas, and emphasizes the need to expedite the structural adjustment of vocational colleges and universities and enhance the establishment of vocational education centers, thereby addressing the demands of rural industrial development and revitalization efforts. Under this new opportunity and challenge, vocational education should actively engage with rural areas, promote innovation and transformation, and contribute to the modernization of agriculture.

The rural revitalization strategy is a significant development initiative introduced by China during the 13th Five-Year Plan period. This strategy seeks to address the longstanding developmental disparities that have persisted within the dual structure of urban

and rural areas. By revitalizing the rural economy, the strategy aims to enhance the incomes and living standards of rural inhabitants, thereby guiding individuals in ethnic regions toward a trajectory of common prosperity. Due to natural geographic and historical factors, the economic development of ethnic minority regions in western China is relatively underdeveloped, resulting in lower income levels for residents. These areas are identified as key support regions within the rural revitalization strategy. Guizhou Province, situated in the southwestern frontier of China, serves as a primary gathering area for various ethnic minorities, including the Miao, Dong, Buyi, Yi, Tujia, *etc.* Currently, the socio-economic development of ethnic regions in Guizhou Province lags behind that of the eastern coastal and central areas in China. Following the introduction of China's rural revitalization strategy, the Party Central Committee has placed significant emphasis on the socio-economic advancement of western ethnic regions. This has involved substantial investments in capital, technology, human resources, and other production factors. Additionally, initiatives such as the pairing of cities from eastern and western regions have been implemented to promote socio-economic development and enhance the living standards of the local population. Among the various factors of production, the most pressing requirement for ethnic regions is the availability of skilled labor, particularly vocational talents that can be rapidly converted into productive forces. The establishment of a comprehensive vocational education system in these areas is essential for the continuous supply of skilled workers to support the growth of regional industries. This, in turn, contributes to the socio-economic development of ethnic regions and the revitalization of agriculture-related industries. The Department of Commerce of Guizhou Province, along with seven other departments, has issued the *Work Program for the Implementation of the "Rural Foreign Trade" Strategy*. This program aims to enhance the development of import and export trade to facilitate the international promotion of high-quality agricultural products. Additionally, it seeks to foster

Received: April 12, 2025 Accepted: June 10, 2025

Supported by 2024 Planning Project of the China Vocational Education Association "Research and Practice on the Route of Guizhou Vocational Education in Serving the Export of Guizhou Goods Beyond Regional Boundaries in the Context of Rural Revitalization".

Tao WANG, doctoral degree, professor, research fields: vocational education.

* Corresponding author. Yanling REN, doctoral degree, professor, research fields: vocational education, research-led education.

the growth of rural industries and enterprises, thereby contributing to the consolidation and expansion of poverty alleviation efforts and comprehensively advancing the revitalization of rural areas.

Currently, research on vocational education aimed at facilitating rural revitalization primarily concentrates on the exploration of its functional mechanisms^[1], theoretical frameworks^[2], and value orientations^[3]. Furthermore, vocational education continues to face challenges in effectively adapting to and supporting rural revitalization efforts. These challenges are primarily evident in the inadequacies of the educational system, a deficiency in the capacity to contribute to rural revitalization, and prevalent misconceptions regarding rural vocational education^[4]. In recent years, Guizhou Province has placed significant emphasis on the advancement of vocational education. This commitment is evidenced by a continuous increase in investment, the optimization of the vocational education framework, and enhancements in the quality of vocational training. These efforts aim to establish a robust foundation for vocational education to facilitate the export of Guizhou goods beyond regional boundaries. In this context, conducting an in-depth study on the route through which Guizhou's vocational education can support the export of its goods beyond regional boundaries holds considerable practical significance and theoretical value. The initiative not only facilitates the promotion of Guizhou distinctive agricultural products to a wider market, thereby enhancing farmers' income and contributing to their prosperity, but also supports rural revitalization. Furthermore, it offers valuable practical experience and theoretical insights for the comprehensive integration of vocational education with regional economic development.

1 Current status of Guizhou vocational education in promoting the export of goods beyond regional boundaries

1.1 Current development status Since the 14th Five-Year Plan, Guizhou Province has consistently prioritized vocational education as a central focus and objective in its efforts to establish a robust framework for distinctive educational practices. The province has allocated significant resources towards planning, funding, and policy support for this initiative. The development of vocational education in Guizhou has emphasized both expansion and quality enhancement as primary objectives, and insist on addressing existing deficiencies while capitalizing on its strengths, thereby fostering ongoing reform and innovation. This has been achieved through a concentrated effort on system development and the integration of industry and education, resulting in notable progress.

In recent years, vocational education in Guizhou has experienced significant development, characterized by a continuous expansion in scale. As of the end of 2023, Guizhou Province is home to 232 vocational colleges, accommodating a total of 687 000 students. Furthermore, the province has established 19 national exemplary secondary vocational schools, and three higher vocational institutions have been selected as part of the national "Double High Plan"^[5]. In terms of professional construction,

Guizhou Province focuses on its distinctive industries and the demands of economic growth, maintains an industrial orientation that fosters a strong linkage between vocational colleges and the 32 characteristic industrial chains present throughout the region, and undertakes a comprehensive optimization and adjustment of specialties from a top-down perspective. Focusing on the new forms of industrial development and the field of people's livelihood in the information age, a total of 74 provincial key specialty clusters and 204 provincial backbone specialties have been established. Additionally, four national-level exemplary vocational education groups (alliances) and 21 provincial-level exemplary vocational education groups (alliances) have been formed. The professional settings are intricately connected to the regional industrial development, encompassing various sectors including agriculture, industry, and services. For example, in response to the burgeoning big data industry in Guizhou, specialties such as Big Data Technology and Application, as well as Artificial Intelligence, have been introduced. Additionally, in the context of the tourism industry, specialties such as Tourism Management and Hotel Management have been established, thereby offering substantial talent support and technical assurance for the promotion of Guizhou products beyond regional boundaries.

Guizhou Province is committed to the high-quality development of vocational education and has adopted a "dual-wheel drive" strategy to actively advance reforms in this sector. By enhancing the coordinated execution of the "Enriching Guizhou and the People" action plan alongside the "Skillful Guizhou" construction special project, the province has utilized "small entry points" to facilitate "significant transformations". To date, a total of 521 key projects under the "Enriching Guizhou and the People" initiative have been implemented, while 886 special projects under the "Skillful Guizhou" initiative have received approval for construction. A comprehensive "three-in-one" quality support system has been established, which includes the formation of a cluster of high-level industry-education integration training bases, the creation of the "Qianjiang Workshop" distinctive educational brand, and the development of a matrix of high-quality vocational education courses, thereby thoroughly consolidating the foundation for connotative development. By leveraging the three strategic platforms of the Inland Open Economy Pilot Zone, the National Big Data Comprehensive Pilot Zone, and the core area of China-ASEAN Education Cooperation, Guizhou vocational education has successfully established an open framework characterized by "dual highlands". On one hand, seven overseas vocational education institutions have been established in regions along the "Belt and Road", including Southeast Asia, South Asia, and Central America. Additionally, five higher vocational colleges have been selected for the China-ASEAN "Double Hundred Vocational Schools" flagship cooperation program, thereby creating a "bridge" for international exchanges in vocational education. On the other hand, China's inaugural provincial-level smart cloud platform for vocational education has been established in Guizhou and incorporated

into the national pilot program. This initiative facilitates the "cloudification" upgrade of the entire digital campus, implements "digital portrait" management for the advancement of colleges and universities, and cultivates a novel digital vocational education ecosystem characterized by "cloud-network-terminal" collaboration. Consequently, this development enables significant progress in the digital transformation of vocational education.

1.2 Problems

1.2.1 Disconnection between vocational education and industry needs. Currently, in the specialty setup of vocational education in Guizhou, there exist several issues that do not align with the actual demands for the export of local goods beyond regional boundaries^[6]. Certain vocational colleges do not adequately assess market demands and industrial development trends when establishing specialties, leading to a significant misalignment between some specialties and the relevant industries associated with Guizhou goods. For instance, in the domain of agricultural product e-commerce, there exists a significant demand for professionals who specialize in cross-border e-commerce operations and live-streaming sales of agricultural products. Nevertheless, certain vocational colleges have not yet established relevant specialties in a timely manner. Furthermore, there are issues related to course content, including outdated materials and a lack of practical teaching experiences. The curriculum content of certain vocational colleges and universities remains entrenched in traditional pedagogical approaches that emphasize theoretical knowledge, thereby neglecting the timely integration of contemporary technologies, techniques, and market demands. Specifically, within the agricultural products processing specialty, the curriculum has not been updated adequately, resulting in a limited introduction of innovative agricultural products processing technologies and techniques. In terms of talent training modes, certain vocational institutions exhibit insufficient collaboration with enterprises and demonstrate a lack of comprehensive integration between industry and education. This disconnection results in a disparity between the knowledge and skills acquired by students in schools and the actual production requirements and market demands of businesses. Consequently, this gap hinders students' ability to swiftly acclimate to their professional roles upon graduation.

1.2.2 Market obstacles for the export of Guizhou goods beyond regional boundaries. In terms of brand development, there exists a prevalent issue regarding the low brand awareness and limited brand influence associated with products from Guizhou. Despite the abundance of distinctive agricultural products in Guizhou, many of these items suffer from a lack of cohesive brand strategy and promotional efforts. Consequently, their brand images are insufficiently differentiated, hindering their ability to compete effectively in the marketplace^[7]. For example, mushrooms and *Gastrodia elata*, despite their high quality, possess relatively low visibility and reputation within the national market. Regarding market promotion, products from Guizhou encounter the challenge of limited promotional channels and a singular approach to promotion. A

limited number of enterprises continue to depend on conventional offline sales channels, while the adoption of e-commerce platforms, new media, and other emerging promotional channels remains inadequate. The absence of innovative promotional strategies hinders the ability to capture consumer attention effectively. Additionally, certain agricultural products originating from remote regions are susceptible to losses during transportation, which adversely impacts the market competitiveness of Guizhou products.

1.2.3 Insufficient resource allocation. The capital investment allocated to vocational education and the promotion of local product exports from Guizhou is comparatively inadequate. There is a pressing need to enhance the educational infrastructure of vocational colleges, and increase financial support for practical training equipment and the development of the teaching faculty. Simultaneously, enterprises are facing challenges related to insufficient funding in areas such as brand development, market promotion, and technological research and development. Regarding resource integration, the communication and coordination mechanisms among government entities, enterprises, and vocational colleges are inadequately developed, resulting in insufficient intensity of resource integration. The lack of timely information sharing among all stakeholders has contributed to an inefficient allocation of resources, thereby hindering the establishment of a collaborative effort to enhance the export of Guizhou goods beyond regional boundaries.

2 Route exploration of Guizhou vocational education in promoting the export of Guizhou goods beyond regional boundaries

2.1 Optimization of professional and curriculum systems of vocational education In response to the actual demand for the export of Guizhou goods beyond regional boundaries, targeted adjustments have been implemented in the specialty setup of vocational education. The focus will be on incorporating additional specialties, including cross-border e-commerce, international logistics, international trade of agricultural products, and brand planning and promotion of agricultural products. Furthermore, we will emphasize areas closely related to the deep processing of Guizhou distinctive agricultural products, such as the deep processing technology of *Rosa roxbunghii*, tea refining and processing, as well as the research, development, and production of chili products. These initiatives aim to ensure that the specialty setup is closely aligned with the demands of the industry. Concurrently, specialties that exhibit minimal relevance to the export of Guizhou goods beyond regional boundaries, as well as those characterized by low market demand, will be systematically phased out to optimize the professional structure.

It is essential to establish a curriculum system that reflects the unique characteristics of Guizhou, incorporating local culture and industrial attributes^[8]. In the professional courses related to agricultural product processing, it is important to integrate the processing techniques and technologies specific to Guizhou distinctive agricultural products, such as the production processes for

Guizhou sour soup and the curing and smoking methods utilized for Guizhou cured meat, *etc.* Additionally, in the marketing course, it would be beneficial to include case studies on brand marketing for Guizhou characteristic agricultural products, allowing for an analysis of both the successful strategies and the challenges encountered in the brand development of Guizhou goods. It is essential to enhance the integration of practical teaching within the curriculum framework by increasing the proportion of practical instruction to ensure that it constitutes more than 50% of the total instructional hours. Furthermore, it is imperative to establish stable internship and training partnerships with agricultural production enterprises, e-commerce companies, logistics firms, and similar organizations. Such collaborations will provide students with authentic working environments and practical experiences, thereby facilitating the acquisition of professional skills and improving their capacity to address real-world challenges effectively.

2.2 Deepening of industry and education integration and school-enterprise cooperation

It is essential to establish a robust and enduring mechanism for cooperation between schools and enterprises. Vocational colleges should be encouraged to enter into long-term cooperation agreements with enterprises, thereby delineating the rights and responsibilities of both parties^[6]. Through collaborative efforts in the establishment of industrial colleges, training bases, and research and development centers, it is possible to achieve resource sharing and leverage complementary advantages. For example, vocational colleges and agricultural product processing enterprises collaboratively establish research and development centers focused on agricultural products to engage in the research and development of new products and technological innovations. Additionally, vocational colleges jointly create an e-commerce industry college in partnership with e-commerce enterprises to train professionals who meet market demands. This collaboration extends to the cultivation of talent, wherein enterprises actively participate in the formulation of talent development plans, course development, and teaching evaluations within vocational colleges. Such involvement ensures that the training provided aligns with the actual needs of the enterprises. Vocational colleges provide continuing education and skills training for employees within enterprises, thereby enhancing their overall competencies and professional capabilities. For example, enterprises may assign key technical personnel to engage in teaching activities at vocational colleges, where they share practical work experience and skills with students. Additionally, vocational colleges offer specialized training courses, such as agricultural product processing technology and e-commerce operations, specifically designed for enterprise employees. It is essential to enhance collaboration among industry, university, and research institutions to jointly conduct technological research, development, and innovation, thereby facilitating the transformation and application of scientific research outcomes. Vocational colleges and enterprises should collaboratively pursue scientific research projects aimed at addressing technical challenges encountered during the export of Guizhou

goods beyond regional boundaries, including issues related to agricultural product preservation technology and logistics distribution optimization technology. Furthermore, it is imperative to actively promote scientific research achievements to improve the technological sophistication and market competitiveness of products originating from Guizhou.

2.3 Enhancement of brand development and marketing efforts

It is essential to fully leverage the advantages of vocational education in the areas of brand development and the cultivation of marketing talent. This necessitates the establishment of relevant specialties and courses aimed at developing professionals with competencies in brand planning, brand communication, marketing, *etc.*^[9]. In the marketing major, courses such as brand management, market research, and marketing planning are designed to enhance students' competencies in brand development and market promotion. Similarly, the advertising design major offers courses such as brand image design and advertising creativity and production, which provide specialized support for the branding of Guizhou products. It is essential to enhance the publicity and promotion of brands associated with Guizhou goods by leveraging diverse channels, including new media, e-commerce platforms, and exhibitions, to improve the visibility and reputation of these brands. For example, students can be organized to engage in promotional activities for Guizhou products, effectively highlighting their unique characteristics and advantages through methods such as the creation of short videos and live-streaming sales. E-commerce platforms can also be utilized to conduct brand promotion initiatives for Guizhou goods, thereby increasing their market share. Additionally, Guizhou products should be represented at various domestic and international exhibitions to showcase their brand image and expand market channels. It is essential to develop and enhance the brand standards and certification system for products originating from Guizhou. This includes reinforcing brand oversight to ensure the quality and classification of Guizhou products. It is important to establish quality standards and certification norms for brands of Guizhou goods, certify products that comply with these standards, and award brand logos accordingly. Furthermore, it is imperative to intensify the supervision of Guizhou brands, combat counterfeit and substandard products, and protect the reputation of Guizhou goods.

2.4 Strengthening of cross-border e-commerce and international cooperation capabilities

It is essential to actively engage in the development of cross-border e-commerce professionals by establishing pertinent specialties and courses focused on this field. This initiative aims to cultivate skilled individuals proficient in cross-border e-commerce operations, international business communication, cross-border logistics management, *etc.* Courses such as Introduction to Cross-border E-commerce, Operation of Cross-border E-commerce Platforms, International Business Negotiation, and Cross-border Logistics and Supply Chain Management have been established to develop students' professional competencies in the field of cross-border e-commerce. The curriculum emphasizes

practical teaching, fostering collaboration with cross-border e-commerce enterprises to provide students with hands-on opportunities in this domain. It is essential to enhance international exchanges and cooperation in order to promote collaboration between vocational colleges and foreign universities and enterprises. This approach will facilitate the acquisition of advanced foreign vocational education practices and agricultural product trade models. For instance, exchange student programs with international universities can be implemented to facilitate students' comprehension of vocational education concepts and pedagogical approaches utilized abroad. Additionally, vocational colleges may collaborate with foreign enterprises to initiate agricultural product trade cooperation projects, thereby expanding the overseas market for goods from Guizhou. Vocational colleges should play an active role in the development of the "Belt and Road Initiative" by leveraging the opportunities it presents. They should enhance trade exchanges with countries and regions along the routes and facilitate the entry of Guizhou products into the international market^[10]. For example, enterprises producing Guizhou goods can be organized to participate in international events such as the Belt and Road Forum for International Cooperation and the China International Import Expo. These platforms would allow them to showcase the unique characteristics and advantages of Guizhou products, thereby expanding their share in the international market.

2.5 Improvement of policy support and resource allocation systems The government should enhance policy support for vocational education to facilitate the export of Guizhou goods beyond regional boundaries. It is essential to further delineate the significant role of vocational education in the context of rural revitalization and establish policy guarantees that enable vocational education to contribute effectively to the export of Guizhou products. This could include support in areas such as capital investment, tax incentives, and land use. Additionally, a mechanism for connecting vocational education with industrial development should be established to promote the coordinated advancement of vocational education alongside the industries related to Guizhou products. It is essential to enhance financial investment in vocational education and the export of products from Guizhou. This includes the establishment of a dedicated fund to support the development of professional infrastructure, the construction of faculty teams, and the establishment of practical training bases within vocational colleges. Additionally, efforts should be directed towards brand development, market promotion, and technological research and development for Guizhou products. For example, a dedicated fund can be established for the advancement of vocational education, with a specific allocation of financial resources designated annually to support the development of vocational colleges. Additionally, a specialized fund can be created to facilitate the export of Guizhou products beyond regional boundaries, aimed at supporting brand development and market promotion for enterprises producing Guizhou goods. Resources from various sectors are integrated to establish a collaborative mechanism that involves multiple stake-

holders, including government entities, enterprises, vocational colleges, and social organizations, forming a joint force to promote the export of Guizhou products beyond regional boundaries. The government should assume a guiding role by coordinating resources from various sectors and promoting the integrated development of vocational education and industry. Enterprises are expected to take a leading role by increasing investments in the export of Guizhou products beyond regional boundaries, while also enhancing product quality and market competitiveness. Vocational colleges should contribute to talent cultivation and provide technical support, thereby offering intellectual resources that facilitate the export of Guizhou products beyond regional boundaries. Additionally, social organizations serve as bridges and links, fostering communication and collaboration among all stakeholders involved.

3 Conclusions

The potential for vocational education in Guizhou to facilitate the export of products beyond regional boundaries is substantial. With the comprehensive implementation of the rural revitalization strategy and the accelerated development of Guizhou's economy and society, vocational education is poised to assume an increasingly significant role in enhancing the export of products from Guizhou to markets outside the region. In terms of talent development, vocational education will prioritize the cultivation of high-quality technical and skilled professionals who align with market demands, thereby ensuring a robust talent pool to support the export of Guizhou products beyond regional boundaries. Regarding technological innovation, vocational colleges will strengthen their collaboration with enterprises to jointly engage in research and development initiatives, fostering innovation and facilitating the enhancement of quality and industrial advancement of Guizhou products. In the context of brand development and market promotion, vocational education will play a proactive role in the formation and dissemination of the Guizhou goods brand. This initiative aims to enhance the visibility and reputation of Guizhou products while facilitating their expansion into both domestic and international markets. Furthermore, with regard to international collaboration, vocational education in Guizhou will strengthen exchanges and partnerships with countries and regions participating in the "Belt and Road Initiative", thereby promoting Guizhou products to access a wider international market. To effectively advance the development of vocational education in Guizhou in supporting the export of local products beyond regional boundaries, it is essential to first strengthen the monitoring and research of the interplay between vocational education and industrial development. This entails timely adjustments and optimizations of specialty setup and curricular frameworks to ensure that vocational education is closely aligned with the export demands of Guizhou products. Secondly, it is imperative to conduct comprehensive research on innovative models and mechanisms for the integration of industry and education, and enhance the depth and breadth of collaboration between schools

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and enterprises, thereby facilitating the efficient allocation of both educational and industrial resources. Thirdly, it is essential to enhance research focused on the brand development and market promotion of Guizhou products. This includes exploring more effective strategies for brand communication and market expansion, thereby improving the market competitiveness of these products. Fourthly, it is imperative to intensify research on cross-border e-commerce and international collaboration. This effort should involve the cultivation of professionals equipped with an international perspective and cross-cultural communication skills, ultimately promoting the sustainable development of Guizhou products in the global market.

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