

Practical Paths for Higher Vocational Education to Empower Rural Revitalization in the Kangba Region

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Abstract: Under the background of rural revitalization, higher vocational education plays a crucial role in talent cultivation, industrial layout, and ecological civilization construction. As an important multi-ethnic integration area in western China, the Kangba region undertakes key tasks such as plateau ecological protection, ethnic cultural inheritance, and new energy industrial layout. Promoting rural revitalization in the Kangba region through higher vocational education, deepening industry-education collaboration, innovating educational carriers, and driving higher vocational education to empower rural revitalization and modern development in the Kangba region.

Keywords: Higher vocational education; Kangba region; Rural revitalization

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1. Introduction

In January 2025, the Central Committee of the Communist Party of China and the State Council issued the National Rural Revitalization Plan (2024–2027), proposing to implement the rural revitalization strategy and steadily advance the “five revitalizations” of rural industries, talents, culture, ecology, and organizations ^[1]. Rural revitalization is a strategic concept with systematic and complex top-level planning. The effective implementation of top-level design requires the joint promotion of “1+X” factors, and the most fundamental and core factor for implementing the rural revitalization strategy is rural human capital. Higher vocational education can lay the foundation for the accumulation and transformation of rural human capital. To promote rural revitalization, education authorities at all levels and local governments have introduced relevant policies, improved the agriculture-related higher education system, optimized and upgraded vocational education, and provided talent reserves for rural revitalization. The Kangba region, as an important area in southwest China, is renowned for its unique geographical environment and rich ethnic culture. However, due to various factors, the

development level of vocational education in the Kangba region is relatively low, modern industries are backward, and the development of plateau characteristic agriculture and animal husbandry is restricted. Therefore, optimizing and upgrading the higher vocational education system in the Kangba region, strengthening the cultivation of rural digital talents and e-commerce talents, and developing AI + plateau characteristic agriculture and animal husbandry will inject a “cardiotonic” into rural revitalization in the Kangba region.

2. Necessity of higher vocational education promoting rural revitalization in the Kangba region

2.1. Higher vocational education is a cradle for cultivating skilled talents

Since the 18th National Congress of the Communist Party of China, the president of the CPC has made unremitting efforts to coordinate education, science and technology, and talent work. He pointed out that “we should adhere to the priority development of education, self-reliance and self-improvement in science and technology, and talent-led drive”. Education, as the core element of human capital, is also an important way to promote the continuous accumulation of human capital ^[2]. For the Kangba region, higher vocational education can, on the one hand, cultivate technical and skilled talents serving rural development; on the other hand, drive the technological research and development and product upgrading of small, medium, and micro enterprises through industry-education integration, and provide skill education and lifelong learning services for local people. The important social contribution and effect of higher vocational education lie in large-scale talent output. National higher vocational colleges output over 10 million technical and skilled talents to the society every year, covering key fields such as high-end manufacturing, information technology industry, medical and health care, artificial intelligence, and cultural and tourism industries. Data shows that about 70% of vocational college graduates enter small, medium, and micro enterprises, alleviating the shortage of technical talents ^[3]. For underdeveloped areas such as the Kangba region, talents from higher vocational education can establish cross-field collaboration to promote industrial chain integration through technical output and industrial support, help local enterprises enhance competitiveness, promote industrial upgrading, and drive the balanced development of the regional economy.

2.2. Higher vocational education is a pioneer in transforming productivity

Developing new productive forces is an inherent requirement and important focus for promoting high-quality development. There is a close relationship between higher vocational education and the development of socially productive forces in rural areas. For higher vocational education, a two-dimensional deconstruction from the main elements of productivity composition and the operation process of productivity runs through the cultivation of technical and skilled talents, knowledge innovation, and cultural inheritance. At the same time, as the main driving force for technology diffusion and application, it applies new technologies to rural development, thereby realizing the multi-dimensional coupling of advanced technology with people, rural communities, and ecological chains ^[4]. Nowadays, the characteristics of China’s vocational education type have become increasingly prominent. On the one hand, higher vocational education improves new productive forces by cultivating high-skilled talents for reproduction, and promotes the overall upgrading of local workers with the demand for knowledge and skill improvement. On the other hand, the coupling and embedding of new productive forces and higher vocational education have caused profound changes in various elements in the field of higher vocational education, promoting the leapfrog development and upgrading of higher vocational

education productivity. The development of new productive forces has accelerated the intelligent and digital process of higher vocational education, improved the ability of vocational education to adapt to the development of the new era, promoted higher vocational education to be more in line with the requirements of the times and regional development models, and driven the quality and upgrading of regional industries ^[5].

2.3. Higher vocational education is a frontier for cultivating ecological civilization

The president of the CPC pointed out: “Striding into the new journey, we must support high-quality development with high-quality ecological environment, break through the resource and environmental constraints on sustainable development, activate the green ‘engine’ of high-quality development, and improve the ‘gold content’ with ‘green content’” ^[6]. The Kangba region is known as “a bright ecological pearl on the plateau”. Therefore, people must adhere to the orientation of ecological priority and green development, and run green and low-carbon development through the whole process of economic construction. The development path of vocational education is closely related to the development direction of modern industrial civilization. Higher vocational education plays a vital role in promoting the development of modern industry and building an ecological power ^[7]. To implement the fundamental task of “fostering virtue through education”, higher vocational education must first start from ecological moral education, closely combine ecological civilization construction with technical services, organically integrate ecological cultural awareness into curriculum, ideological and political education, and cultivate high-quality technical and skilled talents with ecological civilization literacy ^[8].

3. Typical models in developed countries

3.1. American model

The United States has solved the development problems in rural areas in roughly three stages ^[9]. In the early stage, the focus was on transforming rural infrastructure, including the upgrading of water, electricity, and roads, to improve the basic conditions for agricultural and rural development; in the middle stage, attention was paid to the urban-rural gap. On the one hand, agricultural subsidies were strengthened; on the other hand, various means such as introducing emerging industries and providing technical assistance were used to increase residents’ income and alleviate the urban-rural income gap; in the later stage, emphasis was placed on education and training, employment, ecological environment protection and other fields, focusing on cultivating the sustainable development capacity of rural areas and promoting the continuous development of backward and underdeveloped areas. In terms of vocational education, the “Agricultural Vocational Training” project in the United States ^[10] has clarified specific measures for developing sustainable agriculture and designed characteristic training programs suitable for poor areas to improve farmers’ awareness and participation in sustainable agriculture, including five core capabilities: industrial practice, operation and sales, financial planning and resource acquisition, business planning and management, and land acquisition and transfer.

3.2. German model

Germany attaches great importance to industry-education integration ^[11]. First, promote in accordance with the law to ensure the authority of the industry-education integration mechanism; second, be clear and specific to ensure the operability of the industry-education integration mechanism; third, design systematically to ensure the effectiveness of the industry-education integration mechanism. In 2014, Germany established the Vocational

Education and Continuing Education Alliance, which runs the concept of industry-education integration through the whole process of vocational education work, integrates human resource development into the demands of the times and regional development, and seeks higher-level vocational education goals ^[12]. On the one hand, effectively implement the synchronous planning and development of vocational education and the economic society. On the other hand, further promote the close integration of vocational education and industrial development, and promote vocational education to integrate into the whole process of economic and social development.

3.3. Japanese model

Japan attaches importance to carrying out rural science and technology education to improve the agricultural management ability of the general public ^[13]. For areas with harsh natural conditions, first, increase investment in public facilities construction to improve the basic conditions of poor areas; second, increase vocational training to improve the production technology level and independent management ability of agricultural workers, and ultimately improve the output and quality of agricultural products; third, introduce incentive policies to encourage farmers to operate independently, cultivate new agricultural subjects, and increase farmers' income; fourth, protect culture according to local conditions and inherit skills in combination with characteristics. Japan relies on vocational education to manage rural areas according to local conditions in combination with local characteristics, including the rational protection and development of local cultural resources. In addition, Japan encourages industry associations, private enterprises, etc., to give full play to their advantages to promote the protection of characteristic culture and traditional skills.

4. Practical paths for rural revitalization in the Kangba region

4.1. Improving infrastructure construction and industrial layout

In recent years, the state has attached great importance to the infrastructure construction in the Kangba region, including the construction of Sichuan-Tibet Railway and Sichuan-Qinghai Railway, the planning and construction of multiple expressways, the renovation and upgrading of national highways, provincial highways, and rural roads in the region, ensuring that every household has access to electricity and the Internet, and express delivery services reach home. Since 2022, PetroChina has comprehensively laid out the “One Network and Two Corridors” based on the geographical and traffic conditions of the Western Sichuan Plateau, namely the “photovoltaic network”, “gas corridor”, and “electricity corridor”, which has not only promoted the new energy transformation and upgrading in the plateau area but also effectively protected the ecological environment. In 2022, the world's largest hydro-solar complementary power station — Yalong River Kola Photovoltaic Power Station was completed, becoming a new model for large-scale centralized development of clean and renewable energy in the world; the largest single high-altitude photovoltaic project under construction, and multiple large-scale water conservancy and hydropower projects are under construction. In addition, using the rich tourism resources in the Kangba region, people will fully implement the strategic deployment of “adhering to cultural integration with tourism and tourism highlighting culture, and promoting the in-depth integration and development of culture and tourism”, and strive to promote the high-quality development of culture and tourism industries, making new contributions to the comprehensive economic and social development of the region ^[14].

4.2. Empowering talent cultivation in the Kangba region through higher vocational education

First, digital empowerment ^[15]. Use the virtual simulation training platform of higher vocational colleges to solve the problem of insufficient enterprise equipment. For example, construction majors simulate construction scenarios through BIM technology. Second, cross-regional collaboration: establish vocational education groups and integrate regional industrial chain resources. For example, jointly build vocational education alliances, unite secondary and higher vocational colleges, and co-build talent databases through school-enterprise cooperation. Third, use higher vocational education resources to establish a lifelong learning system in the Kangba region: carry out “recycling” training for enterprise employees to form a closed loop of “enrollment—training—employment—re-education”; carry out knowledge and skill training for farmers and workers to improve their employment ability.

4.3. Leading ecological civilization construction and industrial development in the Kangba region through higher vocational education

First, establish a holistic view and an educational view of ecological civilization. In the education process, organically integrate the essence of ecological thought in traditional Chinese culture, the development of Western ecological ethics, and Marxist discourse on the relationship between humans and nature, cultivate green production and lifestyle, and build a green ecological campus. Second, focus on improving students’ green action ability. Take ecological civilization education as the starting point to promote their own green, intelligent, and modern development. Third, highlight the cultivation of green technical skills. Guide students to pay attention to the green development of the ecological environment, economy, and society, establish green development goals, and attach importance to professional green technical skills required by various industries and occupations in the Kangba region, including skills required for providing environment-friendly products or services, as well as environment-friendly skills related to green technologies, processes, procedures, production tools, and materials. Fourth, pay attention to setting up green majors according to the demand for skilled talents in typical green economic fields, and carry out green transformation of existing majors ^[16]. For example, set up cultural and tourism majors to connect with the characteristic cultural and tourism industries in the Kangba region; set up environmental protection-related majors dedicated to plateau ecological protection; set up agriculture and animal husbandry-related majors to build a modern digital plateau agriculture and animal husbandry industry; set up Tibetan medicine and characteristic health care-related majors to lead the medical and health care industries in the Kangba region.

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Disclosure statement

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