

# Navigating Educational Challenges in Cambodia: Insights from China's Vocational Education Assistance Programs

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**Abstract:** This paper provides a comprehensive exploration of China's pivotal role in supporting Cambodia's vocational education under the ambit of the Belt and Road Initiative, shedding light on the crucial contribution of educational exchanges in fostering economic development. The examination encompasses a detailed analysis of the challenges faced by Cambodia in its pursuit of industrial transformation and workforce skill enhancement. China's substantial aid, manifested through initiatives such as school construction and teacher training, has played a transformative role in fortifying Cambodia's educational infrastructure and facilitating a seamless economic transition. While these initiatives have borne significant fruit, persistent challenges in cultural adaptation, technology transfer, and sustainable development loom large, demanding sustained attention.

**Keywords:** Belt and Road Initiative, Vocational Education, Vocational Education Assistance Programs.

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## 1. Introduction

The Belt and Road Initiative proposed by China in 2013 encompasses not only infrastructure construction, trade, and investment but also soft power areas such as education and cultural exchange, emphasizing the importance of educational exchange and cooperation. This strategy aims to enhance economic cooperation and development among countries along the Silk Road Economic Belt and the 21st Century Maritime Silk Road. In the field of education, it has particularly promoted the establishment of academic cooperation networks, student and teacher exchanges, cooperative establishment of educational institutions, and joint development of educational projects. In recent years, to support the "going global" of vocational education, China has introduced a series of important documents. For instance, the "State Council's Decision on Accelerating the Development of Modern Vocational Education" clearly states, "Implement Sino-foreign vocational college cooperative education projects, explore and standardize the establishment of vocational colleges abroad." The Ministry of Education in the "Action Plan for Innovative Development of Higher Vocational Education (2015-2018)" proposes that higher vocational education should "actively explore and serve the needs of 'going global' enterprises, cultivate technical and skilled talents with international perspectives and understanding of international rules, and local talents needed for overseas production and operation of Chinese enterprises." It also emphasizes the role of specialized higher vocational colleges in "conducting technical and skill training and academic vocational education for local employees in collaboration with 'going global' enterprises" and "supporting specialized higher vocational colleges to operate abroad to train technical and skilled talents familiar with Chinese traditional culture and urgently needed by the local economy."

Cambodia, located in the heart of Southeast Asia and bordering significant maritime and land trade routes, plays a pivotal role in the Belt and Road Initiative. Its strategic position, openness to Chinese investment, and role in regional

economic integration make it one of the key countries for the successful implementation of the initiative. Cambodia has become one of China's major investment destinations in Southeast Asia, especially in infrastructure such as roads, bridges, ports, and airports. These projects have not only improved Cambodia's transportation conditions but also facilitated the country's connectivity and exchanges with neighboring countries and a broader region [1]. Besides infrastructure, China has also invested in Cambodia's energy, agriculture, and tourism sectors. These investment projects have driven Cambodia's economic growth, improved the living standards of local residents, and provided new market and investment opportunities for Chinese enterprises [2]. In the tourism sector, with the improvement of infrastructure and the increase in Chinese tourists, Cambodia's tourism market has seen significant development, becoming one of the important drivers of the country's economic growth [3].

Cambodia's economy has experienced significant growth over the past decades, but it faces numerous challenges in its industrial structural transformation. As a lower-middle-income country, Cambodia's economic growth is robust but still lags behind neighboring countries such as Thailand, Vietnam, and Laos. The GDP growth rate of Cambodia from 1994 to 2019 averaged 6.05%, slightly lower than Vietnam and Laos but higher than Thailand and the average growth rate of East Asian and Pacific countries. Cambodia's economic growth relies mainly on labor-intensive industries, such as textiles and tourism, making the economy highly sensitive to external market fluctuations. According to a World Bank [4] report, Cambodia's GDP is primarily derived from the secondary and tertiary sectors, but most employees still work in the primary sector [5]. The labor participation rate and educational level in Cambodia vary significantly. Although the labor participation rate is high, there is a mismatch between education and employment. University students mainly study majors such as economics, management, and law, while the Cambodian labor market has a greater need for technical graduates, such as engineers [6&7]. According to the Asian Development Bank [1], about

80% of the workforce has not received formal secondary education, and this widespread lack of skills restricts the ability for industrial upgrading and economic transformation. Despite the high youth employment rate, the quality of employment is low, reflecting problems in Cambodia's youth labor market [8].

Furthermore, Cambodia's position within the Belt and Road framework highlights the urgent need for vocational education, especially considering the multidimensional poverty and educational system challenges the country faces [9]. Due to historical factors such as civil war and the Khmer Rouge period, Cambodia's education system has been severely damaged, leaving the country's educational investment and teacher quality far behind [10]. Meanwhile, although the growth of the tourism industry provides opportunities for economic development, educational inequality and lack of skills limit the sustainability of these opportunities. The Asian Development Bank [11] points out that Cambodia's Technical and Vocational Education and Training (TVET) system faces multiple challenges, such as inadequate funding, outdated training methods and equipment, etc.

This study aims to deeply explore the complexity and diversity of Sino-Cambodian vocational education cooperation under the Belt and Road Initiative. It focuses on assessing the current state of Sino-Cambodian vocational education cooperation, its effectiveness, and the challenges faced. It also explores the opportunities within this cooperative framework. By analyzing and promoting successful cooperation models, this study aims to enhance international understanding and cooperation. The findings will provide concrete policy recommendations for governments, educational institutions, and international development organizations, helping them design and implement vocational education cooperation projects more effectively.

## **2. Current State of Vocational Technical Education in Cambodia**

With technical assistance from the Asian Development Bank, Cambodia has developed a new vocational technical education and training policy (TVET Policy 2017-2025). The aim is to transform and modernize Cambodia's skill development system to better serve the young people entering the labor market, existing workers, and the future development of Cambodia.

As a rapidly developing country, Cambodia's Vocational and Professional Education and Training (VPET) system has undergone significant reform but still faces future challenges. Cambodia's need for vocational education is reflected in addressing quality issues in its education and training system, increasing education participation and completion rates, and more closely aligning the vocational education system with labor market demands. Despite rapid economic development, many young people, especially in rural areas, lack opportunities to acquire market-relevant skills through high-quality education and training. The education system is inefficient and faces issues in effectiveness, quality, and equity, leading to skill gaps and employment vulnerabilities [10]. The enrollment and completion rates in secondary education have significantly declined, particularly affecting impoverished youth, highlighting ongoing regional and income disparities in education [10]. To improve this situation,

Cambodia faces the challenge of creating a relevant skill system linked to the market system, including the private sector, particularly in rural areas. There is a need to strengthen access to quality education and training to enhance the employability skills and market adaptability of young people [10&12]. Considering Cambodia's geographical diversity, it is important to ensure effective vocational and technical training access for people across the country, including remote areas, and to ensure training is open and accessible to all social groups, including women and ethnic minorities [13].

## **3. Challenges in Cambodia's Vocational Education Development**

### **3.1. Low Societal Recognition of Vocational Education in Cambodia**

In Cambodia, vocational education is generally perceived as "second-class education." On the one hand, most students' parents do not value vocational technical education and training. Due to a lack of proper recognition of the value of technical and vocational education and training, Cambodian students' parents tend to encourage their children to complete their education in the general education system. On the other hand, there still exists an underlying societal educational bias in Cambodia, where many students and parents underestimate the returns of vocational technical education and training. Vocational technical education and training are often seen as training workers rather than specialists, with most young people preferring to pursue higher academic degrees at universities or choose to earn a living in the workplace rather than seeking higher-level vocational technical education and training.

### **3.2. Insufficient Government Funding**

Over the past nine years, the Cambodian government's investment in education has remained at about 1.9% of GDP, with the budget for vocational education development far from meeting the high cost requirements of vocational education operations [14]. The severe shortage of funds directly leads to issues such as outdated and severely insufficient vocational education infrastructure, low preparedness for vocational education and technology usage, and inability to adapt to the continuously evolving demands of vocational education. Cambodia's vocational education system still needs a lot of "foreign aid."

### **3.3. Low Industry Participation**

Cambodia's vocational technical education and training institutions have not effectively communicated with industry enterprises, and the schools lack understanding of industry enterprises. Even if industry enterprise representatives are willing to participate, the lack of apparent improvements in vocational technical education and training work by the schools results in almost no motivation for industry enterprises to invest time and energy in vocational technical education and training research.

### **3.4. The Vocational Technical Education System is Not Yet Well-Established**

There are still gaps in the pathways for students to enter vocational technical education and training. The quality of formal vocational technical education and training institutions restricts the development of Cambodia's workforce. Entry into formal vocational technical education

and training institutions requires the completion of nine years of compulsory education, hence the enrollment rate in vocational high schools is less than 1%. Moreover, formal vocational technical education and training are mainly provided in urban areas, and financial barriers such as course fees also limit their development. Due to a lack of accommodation and limited part-time courses, participation by female students and students from remote areas is hindered. Although some public vocational technical education and training institutions offer certificates and diplomas, they are limited to a few fields and often lack appropriate industry-related equipment and training facilities.

## **4. Cases of China's Vocational Education Assistance to Cambodia**

### **4.1. Sihanoukville Business and Technology Institute**

Established in 2018 through a collaboration between Wuxi Business Vocational Technology College and Hongdou Group, this institute serves as the first overseas shareholding applied undergraduate university by a Chinese vocational college. It adopts innovative "school-enterprise cooperation" and "industry-education integration" models, offering higher education and vocational training in business management, logistics management, and information technology. The institute has strengthened deep cooperation with Chinese and Cambodian enterprises to enhance their involvement in talent training models, curriculum design, teaching content and methods, vocational skills training, dual-teacher training, and evaluation. The institute also explores various talent training models like order-based, work-study, and segmented school-factory systems, contributing significantly to the Sino-Cambodian "education community."

### **4.2. China-Cambodia Vocational Education Cooperation Alliance**

This alliance has successfully facilitated the establishment of three Sino-Cambodian Silk Road Institutes, assisting in their smooth operation. These institutes, established through collaborations between Chinese vocational colleges, Cambodian technical institutes, and the Yalong Intelligent Equipment Group, focus on vocational education tailored to the needs of the Cambodian economy and society. They adopt a government-school-enterprise tripartite cooperation model, with government-led policy support, Yalong Group providing teaching and training equipment, and Chinese colleges responsible for content development. These institutes also implement dual-standard education and training programs, combining Chinese expertise and local cultural understanding to improve effectiveness and adaptability.

### **4.3. Luban Workshop at the Cambodian National Institute of Technology**

Established in March 2018 by the Tianjin Municipal Government and Tianjin Sino-German University of Applied Sciences, the Luban Workshop aims to adapt to the specific needs of China and Cambodia. It focuses on developing teaching resources and materials suitable for Cambodia, conducting phased teacher training, including "seed teacher" training, and adopting a "Chinese language + vocational skills" teaching model to train talents meeting international market demands.

### **4.4. Zhejiang Economic and Technical Vocational College - Cambodia Innovation Institute International Education Center**

Founded in April 2017, this center is the first vocational education center established by China in Cambodia. It undertakes Chinese language and culture teaching (short-term face-to-face and long-term online) and international training in e-commerce.

### **4.5. Guilin University of Electronic Technology - Cambodia Vocational Education and Training Center**

Officially established in September 2017, this center offers professional training in electronic information technology and internships. Graduates receive vocational qualification certificates jointly issued by the Cambodian Ministry of Labor and Vocational Training and Guilin University of Electronic Technology, recognized by both China and Cambodia.

## **5. Effectiveness of China's Assistance in Cambodia**

Under the Belt and Road Initiative, Cambodia's strategic location and open investment policies have made it an important partner for China in Southeast Asia. China's investment in Cambodia extends beyond infrastructure construction to include support in education and skills development. This support helps to bridge the skills gap in the education system and facilitates Cambodia's transition to a more diversified and knowledge-intensive economy.

### **5.1. Improving Educational Infrastructure**

The Chinese government and local governments have implemented a series of aid projects, including the construction of schools and provision of educational facilities. Jujing University in Cambodia, a comprehensive university built with Chinese government assistance, officially opened in April 2018. It offers majors in agriculture, agricultural processing, fisheries studies, foreign languages, and information technology. Additionally, the Chinese Embassy in Cambodia has helped build a library in Kampong Speu Province and new school buildings for the "Father and Mother of the Nation" School in Siem Reap Province. Local governments in China, such as Jiangsu Province and Yunnan Province, have also actively participated in assistance to Cambodia, including the construction of schools and donation of equipment and materials.

### **5.2. Promoting Quality of Chinese Language Education**

As the largest foreign investor and the biggest source of tourists in Cambodia, China has met the needs of Chinese language education development in Cambodia through donations, dispatching volunteer Chinese language teachers, and organizing training programs in China for Cambodian teachers.

#### **5.2.1. Setting Up Scholarships**

Since September 2010, when the first group of Cambodian Royal Academy of Cambodia Confucius Institute scholarship students began their year-long Chinese language studies in China, the number of Cambodian students coming to China under the Confucius Institute scholarship has become a

regular occurrence. By the end of 2016, the Chinese government scholarship program had accepted over 2000 Cambodian students in total. In 2017, 181 Cambodian students received Chinese government scholarships, and in the 2017/2018 academic year, the number of scholarships offered to Cambodian students reached a record high of 334.

### **5.2.2. Establishing Confucius Institutes**

The Royal Academy of Cambodia Confucius Institute, established in December 2009 and the only Confucius Institute in Cambodia at that time, has been repeatedly recognized as a "Global Advanced Confucius Institute." Jointly operated by the Royal Academy of Cambodia and Jiujiang University in China, it has trained over 50,000 Cambodian students from various fields and social strata. By 2018, the Institute had established 3 Confucius classrooms and 27 Chinese language centers, including 2 Chinese departments, catering to a wide range of learners including government officials, military personnel, students, foreigners, social workers, and monks.

### **5.2.3. Teacher Training**

China sends over 200 volunteer teachers to Cambodia every year, significantly alleviating the shortage of teachers in Chinese schools in Cambodia. These teachers and volunteers play a central role in Chinese language teaching, local Chinese language teacher training, teaching research, cultural exchange, and the promotion of Sino-Cambodian friendship.

### **5.2.4. Short-term Chinese Language Training**

The Confucius Institute in Cambodia conducts short-term Chinese language training programs, with language teaching points in Phnom Penh, Siem Reap, Sihanoukville, and other provinces and cities. The Chinese language centers penetrate various layers of Cambodian society, covering education at all levels, including higher education, high school education (Confucius classrooms), official training, corporate education, social education, and degree education.

## **5.3. Accelerating Vocational and Technical Talent Training**

On October 30, 2018, the Chinese Academy of Tropical Agricultural Sciences and the Cambodian Ministry of Labor and Vocational Training signed a letter of intent for cooperation. The Academy executes a talent cultivation project for tropical agriculture in the Lancang-Mekong River Basin countries, responsible for training agricultural scientists and officials from countries in the basin, including Cambodia.

The Guangxi Construction Vocational and Technical College's first overseas educational base, "China-ASEAN Building Talent Training Base," has been established at the Cambodian National Technical Training Institute (NTTI). In the first half of 2022, the college conducted 14 training sessions on BIM technology basics, construction project management practices, and landscape design engineering for NTTI teachers and students, with a total of 1400 participants.

## **6. Conclusion**

China's vocational education assistance has significantly contributed to fostering educational cooperation and socio-economic development in Cambodia. Initiatives like school construction, provision of educational facilities, and teacher training programs have addressed skill gaps in Cambodia's education system and supported the country's transition to a knowledge-intensive economy.

## **6.1. Ongoing Challenges**

While China's vocational technical education assistance projects have played a significant role in promoting educational cooperation and socio-economic development in Cambodia, several challenges persist, requiring improvement.

**Cultural and Language Differences:** The Chinese educational model and materials might not fully align with Cambodia's cultural and linguistic context, potentially leading to ineffective teaching and difficulties in student comprehension.

**Technology Transfer and Adaptability Issues:** Advanced technologies and teaching methods from China may not be directly applicable in Cambodia, especially in regions with less developed infrastructure. The trained talents may not effectively match Cambodia's job market, impacting the actual effectiveness of vocational education.

**Educational Quality and Standardization:** Cambodia lacks a unified standard and quality control mechanism for vocational education, leading to inconsistent education quality.

**Sustainability Issues:** Dependence on external assistance may result in a lack of long-term autonomous development capabilities in vocational education in Cambodia.

**Teacher Training and Professional Development:** Local teachers in Cambodia may lack opportunities for high-quality vocational technical education training, affecting teaching quality.

## **6.2. Recommendation**

**Enhancing Cultural and Language Adaptability:** Develop teaching materials adapted to local culture and language; provide Chinese teachers with training in Cambodian culture and language, and use bilingual teaching that combines Cambodian native language and Chinese.

**Localization Adaptation in Technology Transfer:** Consider local needs and conditions in technology transfer, providing customized technological solutions for Cambodia and strengthening infrastructure investment, especially in rural and remote areas.

**Establishing an Educational Quality Monitoring System:** Collaborate with the Cambodian government to establish unified vocational education standards, implement regular educational quality assessments and monitoring, and promote exchanges and cooperation between educational departments of both countries.

**Promoting Project Sustainability:** Develop local Cambodian vocational education management and teaching talents, gradually transferring project management and operations to the Cambodian side, and increase long-term investment in Cambodian vocational education.

**Strengthening Teacher Training and Professional Development:** Provide training opportunities in China for Cambodian teachers, establish teacher training centers in Cambodia, and offer continuous professional development support through distance learning and online courses.

## **Acknowledgment**

This research is supported by China Life Science Association of (Research on the Impact of Continuous Decline in Birth Rates on Vocational Education Enrollment) and (Research on Brand Building and Communication of Vocational Education with Chinese Characteristics from the Perspective of Foreign Aid).

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