

SECTOR ASSESSMENT (SUMMARY): EDUCATION

Sector Road Map

1. Sector Performance, Problems, and Opportunities

1. The People's Republic of China (PRC) is one of the fastest growing economies in the world with an average annual growth rate of 10.0% since 1980.¹ Despite this impressive growth, the PRC is facing a number of urgent development challenges. The government's priorities of rebalancing the economy from export to consumption-oriented growth; from low to higher value industries; and from unsustainable to environmentally sustainable and socially inclusive development all require significant investments in human capital to develop more skill-intensive and value-added products, and a production-based secondary and tertiary economy. The overall quality of human resources is still low compared to more developed countries, which makes upgrading the skills of the workforce a top priority.

2. Continuing large-scale urbanization and the ambitious plans for economic transformation create both a challenge and an opportunity for the education sector. The National Long-Term Strategy on Education, 2010–2020² identifies technical and vocational education and training (TVET) as one of the key priorities for educational reform. One of the targets is for 28.0% of the total labor force to be highly skilled by 2020. The main elements of policy reform that have emerged over the past decade include expanding TVET, increasing access and equity, modernizing curriculum and teaching methods, strengthening the role of employers, and managing reforms. Two policy reforms introduced in 2014 are (i) the creation of TVET applicable universities, focused on scientific and technological courses; and (ii) the creation of a multilevel TVET systems (MLT), which will blend vocational training and academic education, provide learning pathways, and foster career development opportunities. These reforms form the basis for provincial and local education strategies to enhance TVET as a socially inclusive and employment-driven form of education.

3. TVET in the PRC is provided under the governance of the Ministry of Education (MOE) and the Ministry of Human Resources and Social Security (MOHRSS). The MOE oversees secondary vocational schools (SVSs) and tertiary vocational colleges at the post-secondary level. The entry requirement into SVS is the successful completion of junior high school (grade 9), and admission to vocational colleges is based on performance in the national higher education entrance examination. SVSs mostly offer 3-year programs and graduates either enter the labor market or progress to vocational colleges (and a small minority to undergraduate programs). The vocational colleges offer 2–3 year programs in over 300 occupational courses. The MOHRSS is responsible for vocational training in skilled worker schools and senior skilled workers schools at the secondary level. These institutions provide 2- to 3-year certificate courses specially designed for the state occupational qualification of skilled workers. Workplace training is an integral part of training programs. A national skill testing system exists for vocational qualifications under MOHRSS with open access.

4. Despite impressive progress, TVET quality and development is hampered by funding constraints, inexperienced training instructors, a shortage of investment for training equipment and facilities, low relevance of the training curricula to the labor market needs, and insufficient

¹ State Council of the PRC. 2011. *People's Republic of China Twelfth Five-Year Plan for National Economic and Social Development (2011–2015)*. Beijing. The government's Twelfth Five-Year Plan targets annual gross domestic product growth of 7.5% during 2011–2015.

² State Council of the PRC. 2010. *People's Republic of China National Plan for Medium and Long-term Education Reform and Development (2010-2020)*. Beijing.

mechanisms for school-industry partnerships. TVET curricula need to be developed using industry-recognized competency standards. Most lecturers and instructors in TVET institutions don't have dual qualifications (from both academia and industry) which would help to provide more relevant training for students. Facility and equipment upgrades are important to improve the quality of instructional processes.

2. Guangxi Province and Baise County's Sector Context and Strategy

4. The Guangxi Zhuang Autonomous Region (GZAR)³ is located in the southern part of the country, bordered by Yunnan to the west, Guizhou to the north, Hunan to the northeast, Guangdong to the southeast, and Viet Nam to the southwest. Its population includes of six main ethnic minority groups: Zhuang, Yao, Miao, Dong, Milam, Mao Nan, and 31 other smaller ethnic minority population groups. Ethnic minority population accounts for 38.4% of the region's population. The single largest minority group is the Zhuang with more than 15 million persons, representing 85.7% of the region's minority population.

5. Baise has a total land area of 36,300 square kilometers and a population of 3.98 million. Baise administers 12 counties and/or districts and 135 towns and/or townships. Over the past 7 years, Baise has emerged as a new economic growth pole in GZAR focused on four base industries of aluminum processing, agriculture, tourism, and regional trade and logistics. Located near the border with Viet Nam, Baise is also an important gateway to countries of the Association of Southeast Asian Nations (ASEAN) and Greater Mekong Subregion (GMS).

6. Baise has limited TVET options as it has only two vocational colleges and one undergraduate university program (Baise University) as well as 22 SVSs. In 2013, Baise had 19,918 SVS students, more than 400 vocational college students, and more than 8,000 undergraduates. The action plan for developing TVET education in Baise⁴ projects that by 2015, enrolled SVS students and enrolled vocational college students will increase to 58,000 and 8,000, respectively. The current gap between the present educational situation and the expected targets is large, and the increased enrollments are unlikely to be achieved.

7. Baise University is approved by the MOE as a full-time integrated undergraduate institute for local vocational education. The university has two campuses, Donghe (occupying 217 mu^5 /0.145 square kilometers [km^2]) and Chengbi (1698 mu /1.082 km^2) with a total area of 1,915 mu /1.277 km^2 . Its 150,000 square meter-dorm area can accommodate 13,600 students. It possesses 10 departments with 30 undergraduate specialties, 37 advanced vocational programs, and seven SVS specialties. It has developed the basis for a MLT system based on its SVS, vocational, and undergraduate levels. However, links between its programs and institutions need strengthening.

8. Baise University used to be a normal college, focused mainly on teacher training. In the last decade, it became a university offering both 3-year post-secondary associate degree programs (and 4-year university degree programs. During the period of the Twelfth Five-Year Plan, Baise University has been trying to implement the national policy of becoming a TVET-applied university focusing on the application of science and technology in the workplace. The university sees its future as offering education programs at secondary and higher TVET levels

³ The GZAR has an area of 236,700 km^2 with a population of 46,026,629 and population density of 207/ km^2 (2010 census).

⁴ Baise Municipal Government. 2012. *Plan for Deepening TVET Reform*. Baise.

⁵ A mu is a Chinese unit of measurement (1 mu = 666.67 m^2).

and intends to define itself as a community college, serving the local community and neighboring GMS and ASEAN member countries.

9. A key strategy to improve higher education in Baise is building an MLT system. Baise University intends to provide more access for students from SVS to vocational college and increased access to its 4-year university programs. It also plans to allow students to transfer between majors and departments. These are key strategies to reposition itself in the education system and redefine its role. The transition of Baise University to a TVET-applicable university is in line with the government's policy to create 600 transformed universities, focused on scientific and technological applications. Baise University is one of 18 other universities in Guangxi Province that were chosen in 2014 to become TVET-applicable universities. The initial planning and support that Baise University is receiving through a loan from the Asian Development Bank (ADB) positions it as a valuable resource for Guangxi Province and underlines its importance as a central TVET hub for the province. There is great potential for Baise University to achieve demonstration school status in a number of high-demand sector industries.

10. Baise Vocational School (BVS) is a private secondary vocational school registered by the Educational Department of GZAR. It is sponsored by Baise University and administered by Baise Education Bureau. It is also a designated vocational training institute, jointly approved by Baise Human Resources and Social Security Bureau and Baise Finance Bureau. Relying on Baise University, BVS is seeking to have seven secondary vocational specialties, including preschool education, electromechanical technology applications, music, computer application, e-commerce, accounting, and welding technology applications. Currently, only preschool education and computer science are offered. In addition, it also carries out 14 adult education (including migrant workers) training programs for turners, welders, maintenance electricians, chemical inspection workers, food inspection workers, and computer network administrators. The school enrolls students from the 12 counties of Baise but currently has less than 400 enrolled students. The school has managed to attract substantial sponsorship arrangements, primarily for work placements and employments of graduates and short-course students.

11. The development of TVET in Baise has followed a similar pathway to that in Guangxi, with local planning being guided by generally similar targets. However, Baise's strategic location and the context of its Five-Year Plan, 2012–2016⁶ have added a number of specific initiatives and targets that are the focus of TVET activity. Firstly, Baise is aiming to become a central hub for TVET through the development of several facilities including a TVET training center to provide teacher training and research opportunities, and a TVET training park or incubator that encourages more education and industry cooperative activities. A second feature of TVET in Baise is the focus on core specializations that are focused on high-demand skills that will support economic development, and industry restructuring and upgrading for the area. The focus areas include aluminum processing, engineering management, industrial design applications, tourism, logistics, and commercial agriculture to support horticulture and food processing. The planning includes the extension of industry upgrading and cooperative activities into regional (GMS and ASEAN) areas.

12. Baise City's five-year plan has flagged the importance of expanding industry in high-demand areas such as organic large-scale commercial farming and downstream processing of aluminum to create new and highly marketable products. The expected expansion will lead to the creation of new jobs that also require new knowledge and skills, primarily technicians and technologists. Achieving the expected expansion in the short- to medium-term will require the supply of skills to be geared to these new (for Baise) priority areas and occupations. The TVET

⁶ Baise Municipal Government. 2012. *Baise Municipality Five-Year Plan*. Baise.

system, particularly given its recent multilevel institutional links, will be a primary supply source for the necessary knowledge and skills required by industry. The MLT system focused on Baise University's needs to respond by attracting students entering the upper secondary level of education (BVS and other secondary schools in Baise) and to retain them to then enter vocational or undergraduate levels of education and training. The new campus and new TVET capacity building arrangements at Baise University need to be geared towards the supply of relevant and high-priority skills required in Baise's industry expansion.

13. Baise is engaged in poverty reduction initiatives that increasingly use TVET programs as a means to improve opportunities for employment and social restructuring. The development of migrant worker retraining programs and education targeting girls from impoverished families are two TVET focused schemes receiving government funds and subsidies. These programs need to be better connected to continuing education and training programs, and this will be a project focus through learning pathways development. A more diversified and dynamic MLT TVET system is required that produces graduates with relevant and required skills, has well-trained teachers with industry experience, encourages enhanced education and industry cooperation and partnerships, and has a regional focus for TVET development.

3. ADB Sector Experience and Assistance Program

14. This project is the fourth ADB loan in education in the PRC.⁷ ADB TVET sector experience is relatively limited in the PRC, especially in project implementation. However, lessons learned from TVET projects operated by others (e.g., AusAID, the German development cooperation through Gesellschaft für Internationale Zusammenarbeit [GIZ], the Department for International Development of the United Kingdom, and the World Bank) in the PRC have been incorporated into the project design. These include (i) actively involving representatives of industries in identifying priority sectors that are in demand, developing competency standards, curriculum development, and focusing on quality assurance; (ii) creating learning pathways that articulate between courses and institutional levels (i.e., secondary vocational, vocational college and university); and (iii) strengthening the capacity of teachers by providing access to professional development and research opportunities. The focus of ADB technical assistance projects in TVET on improving training and curriculum development, promoting lifelong learning, and strengthening industry partnerships are also a feature of the current Guangxi Baise project.⁸

15. **Strategic fit.** Graduates' preparation for the workforce, through their acquisition of relevant employability and technical skills in high-demand skill areas, is considered important for the PRC's structural reform of the economy. ADB's support for the TVET sector is, therefore, warranted as it seeks to improve and modernize the existing system. The project supports ADB's Strategy 2020,⁹ its education sector strategic plan, and the PRC country partnership strategy, 2011–2015.¹⁰ The project is consistent with the PRC's Twelfth Five-Year Plan, 2011–2015, which promotes environmentally friendly and resource-efficient urban development rebalancing economic growth and giving priority to developing high-quality human resources and accelerating education reform.

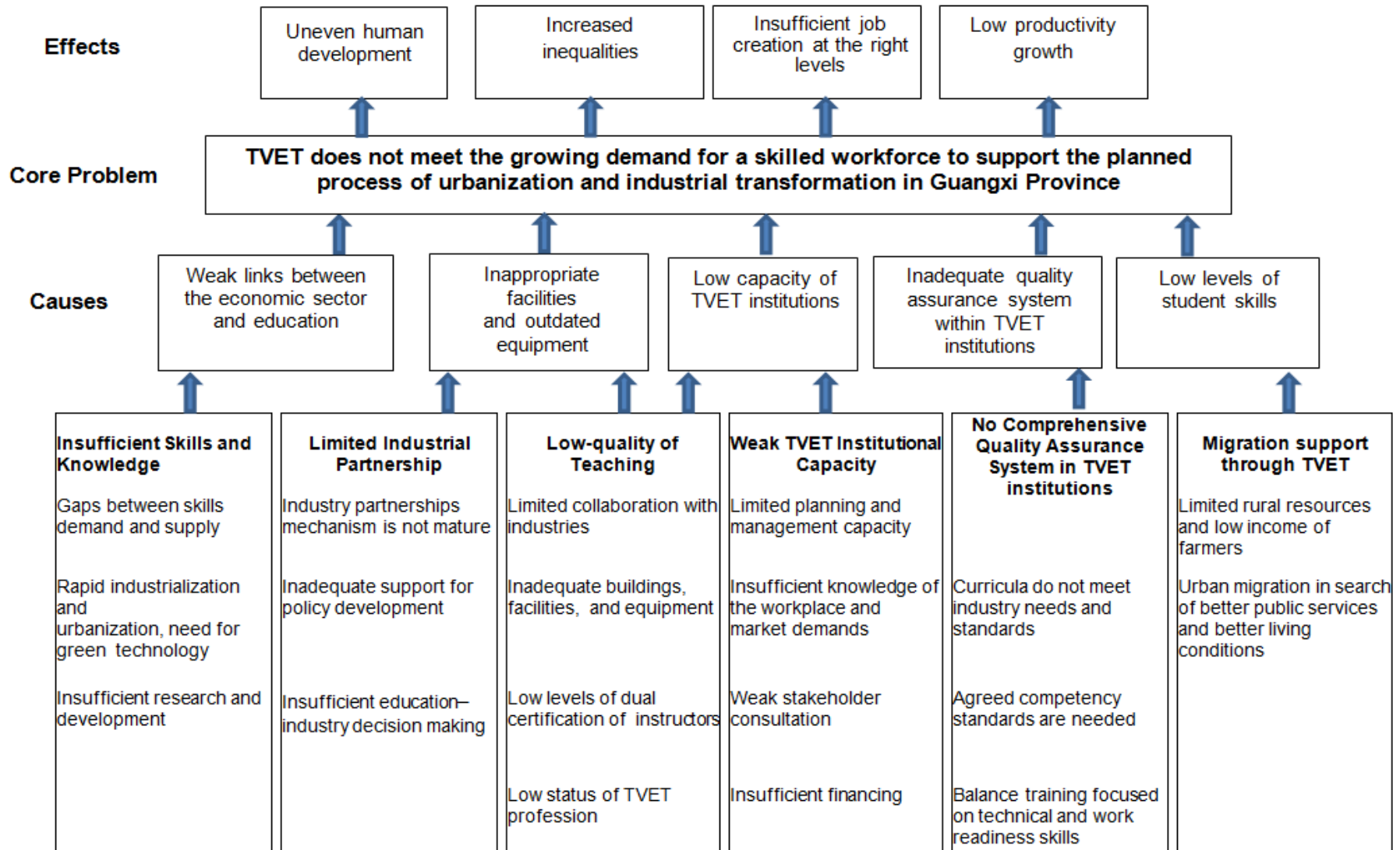
⁷ ADB. 2013. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for the Hunan Technical and Vocational Education and Training Demonstration Project*. Manila; ADB. 2013. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of China for the Guangxi Nanning Vocational Education Development Project*. Manila; and the Shanxi TVET Development Project (pending approval as of June 2014).

⁸ ADB. 2007. *Technical Assistance to the People's Republic of China for Shanxi Development Strategy for Technical and Vocational Education and Training*. Manila.

⁹ ADB. 2008. *Strategy 2020: Working for an Asia and Pacific free of Poverty*. Manila.

¹⁰ ADB. 2012. *Country Partnership Strategy: People's Republic of China, 2011–2015*. Manila.

Problem Tree for Education



TVET = technical and vocational education and training.

Sector Results Framework (Technical and Vocational Education and Training, 2011–2015)

Country Sector Outcomes		Country Sector Outputs		ADB Sector Operations	
Outcomes with ADB Contribution	Indicators with Targets and Baselines	Outputs with ADB Contribution	Indicators with Incremental Targets	Planned and Ongoing ADB Interventions	Main Outputs Expected from ADB Interventions
Access to municipal and social services improved.	Number of enrolled students at secondary vocational schools increased from 21.79 million in 2009 to 22.5 million by 2015, and at post-secondary vocation schools from 12.8 million in 2009 to 13.9 million.	TVET quality improved and capacity developed.	Increased secondary school enrollment ratio from 82.5% to 87.0%.	<p>Planned key activity areas Capacity development for curriculum, teacher training, human resources, industry-school partnerships, and facilities upgrading.</p> <p>Pipeline projects with estimated amounts Guizhou Vocational Education Development Project (\$100 million) Guangxi Baise Vocational Education Development Project (\$50 million) Shanxi Technical and Vocational Education and Training Development Project (\$100 million)</p> <p>Ongoing projects with approved amounts Hunan Technical and Vocational Education and Training Demonstration Project (\$50 million) Guangxi Nanning Vocational Education Development Project (\$50 million)</p>	<p>Planned target subsectors Students educated and trained under improved quality assurance systems</p> <p>New or improved educational facilities</p> <p>Teachers trained with quality or competency standards</p> <p>Pipeline projects improved facilities, increased quality, effectiveness of TVET, and information technology processes</p> <p>Ongoing projects Improved quality of TVET provision (at least 80% of teachers at project schools trained in competency-based curricula development)</p> <p>Students benefitting from improved curriculum and facilities (100,000)</p>

ADB = Asian Development Bank, TVET = technical and vocational education and training.