

SECTOR ASSESSMENT (SUMMARY)

Context of Sector Analysis

- 1. Rapid economic growth.** The People's Republic of China (PRC) is one of the world's fastest growing economies, with an average annual growth rate of 10% in the past three decades. The government's key priorities include rebalancing the economy by moving from export- to consumption-oriented growth, increasing the value added by industries in support of rapid urbanization, and promoting environmentally sustainable and socially inclusive development, all of which require significant investment in human capital. This will require rebalancing and generally increasing the skill level of the workforce. It will also demand a better-developed services industry workforce, including public social services.
- 2. Urbanization and demographic changes.** It is expected that 60% of China's population will be urban residents by 2020. The urban population increased from 20% in 1980 to 51.3% in 2011,¹ the first year the urban population exceeded the rural population. The overall growth in the labor market has slowed to near zero as a consequence of limited population growth. The labor market is expected to reach a peak at around 920 million in 2013, and then decline gradually as a result of family planning policy and the aging of the population. The percentage of people in the PRC over 60 years of age will increase from 12.5% in 2010 to 20% in 2020. By 2030, the number will double and is projected to reach 440 million by 2050.
- 3.** The Guangxi Zhuang Autonomous Region (GZAR) is one of the 12 less-developed PRC provinces and autonomous regions in the western PRC. Nanning is the capital of GZAR, had a population of 7.12 million in 2011, and an annual growth rate of 15.5%. Industrialization has created a rising demand for skilled workers and the extension of social services to provide balanced access to education and health services in rural and urban areas. The percentage of the gross domestic product (GDP) generated by the service sector in Nanning was 32.6% in 2010, which was lower than the national average of 43%. Some 50% of the population is still employed in agriculture.

Sector Road Map

1. Sector Performance, Problems, and Opportunities

- 4. Education funding.** Funding for education in the PRC has equaled about 3% of GDP, which is low compared to the average (5.8%) for member countries of the Organisation for Economic Co-operation and Development. In 2012, the government announced that fiscal expenditure on education would reach 4.0% of GDP. The government has the political will and commitment to increase investment in education. However, the overall quality of the PRC's human resources remains low compared to more developed countries. Most tertiary education resources have been directed to universities. Specialist secondary schools and tertiary-level technical colleges have been under-resourced and suffered from the widespread perception a university education is preferable to technical and vocational education and training (TVET).
- 5.** The PRC government regards TVET as an essential component for the economic and social development of the PRC. Urbanization and economic transformation have created increasing demand for improved public services, especially in the health sector, because of the aging population and rising public expectations for improved health care.

¹ United Nations Department of Economic and Social Affairs. 2012. *World Urbanization Prospects: the 2011 Revision*. New York.

6. The importance of formal preschool education and its influence in breaking intergenerational cycles of poverty and addressing social inequality has been largely overlooked, and preschool education has received inadequate funding in education budgets. Government education sector policymakers have increased the priority given to pre-school education, and the Twelfth Five-Year Plan (2011–2015) includes specific targets for kindergarten enrollment. This will require a large increase in the number of well-trained specialist pre-school kindergarten teachers.

2. Government's Sector Strategy

7. The Twelfth Five-Year Plan (2011–2015) outlines measures to establish “a sound and sustainable basic public service system”, with a focus on public education and medical care. The plan is supported by recent reforms in the education and health sectors, which focus on providing equitable access to opportunity through the provision of universal kindergarten and improved primary health care services in rural and urban areas. The National Medium- and Long-term Education Reform and Development Plan (2010–2020) calls for preschool education to be developed so that by 2020, 1-year preschool will be universal.² The priorities in national health care reform include strengthening primary health care services. The Twelfth Five-Year Plan also responds to the challenge of an aging society by improving elderly care and the increasing the number of qualified personnel.³ There is an urgent need to expand elderly care services with well-trained personnel, and it is envisaged that more than 5 million new jobs in elderly care services will be created.

8. The National Medium- and Long-term Strategy on Education (2010–2020) also contains goals and reforms to better align the education system with the demand for inclusive and sustainable growth. A main target of the strategy is for 28% of the total labor force to be highly skilled by 2020, with TVET identified as a key priority of the education reform agenda. There is a target to train more than 8 million highly skilled workers in key social development areas, including education and medical and health industries, by 2020.⁴

9. The main policy reform elements include expanding and increasing access to and the equity of TVET, modernizing curriculum and teaching methods, strengthening the role of employers in TVET, and management reforms. These will all be supported under the proposed Guangxi Nanning Vocational Education Development Project.

10. Other national and regional policies and sector plans underpinning the specific project interventions and choice of project schools include (i) the Early Childhood Education Policy 2010; (ii) the Three-Year Action Plan for Preschool Education Development in Guangxi Zhuang Autonomous Region (2011–2013); and (iii) the Plan of Medical Teaching Programs (Secondary School) to Promote Training of Assistant Medical Practitioners in Rural Areas (2011–2015). The PRC government's policy of economic transformation from a manufacturing to a service led economy will continue to be a catalyst for reform at the national level, including of the TVET management and administration. Strategies are in place to foster international collaboration and exchange, including through government and non-government organizations, agencies and institutions.

11. TVET in the PRC is provided under the governance of the Ministry of Education, which is responsible for vocational education, and the Ministry of Human Resources and Social Security (MOHRSS), which is responsible for vocational training. The Ministry of

² Overall, the number of preschool students in the PRC will increase from 26.58 million in 2009 to 40 million by 2020.

³ Government of the People's Republic of China. 2010. *The State Medium- and Long-term Guideline for Education Reform and Development (2010–2020)*. Beijing. Chapter 36.

⁴ J. Bo. 2012. China's TVET: Reform and Opening-up. Keynote Address at the World Federation of Colleges and Polytechnics World Congress 2012. Halifax, Canada. May 26–29.

Education oversees secondary vocational schools (SVS) and tertiary vocational colleges (TVCs) at post-secondary level. Most SVSs offer 3-year programs and graduates receive a diploma and either enter the labor market or progress to TVCs. TVCs, also referred to as “polytechnics”, offer 2–3 year programs leading to a diploma in occupational and technical disciplines. TVCs provide an important post-secondary education and training service with over 300 different occupational specializations. Entry into SVSs requires successful completion of junior high school (grade 9). Admission to TVCs is based on performance in the national higher education entrance examination.

12. MOHRSS is responsible for vocational training in secondary-level skilled and senior skilled worker schools. These institutions provide 2–3 year certificate courses specially designed for the state occupational qualification of skilled workers. Workplace training (i.e. student internships lasting between 1 semester and 1 year) is an integral part of training programs. A national skill testing system for vocational qualifications operates under MOHRSS, with open access.

13. **TVET funding.** Funding for TVET is the responsibility of local governments, which provide more than 80.0% of total public spending on education. In comparison to basic, general secondary and higher education, the government has until recently underinvested in TVET. Based on international experience, TVET requires specialized facilities and equipment that is more expensive per student compared with the needs of general education. However, less has been spent per student on TVET in the PRC than for general senior secondary schools and higher education (details are provided in linked document 7, the project financial analysis).

14. **Curriculum and teaching–learning quality.** TVET curricula are generally in need of modernization to reach international competency-based curricula (CBC) standards. However, educators undertaking curriculum development have not had the opportunity for specific training in modern curriculum development or teaching–learning methods. The curriculum development process still relies to a large extent on technical work tasks and processes rather than transferable employable skills. CBC requires that TVET institutions engage with enterprises to identify and develop needed competencies. TVET institutions need to receive training and assistance to develop effective CBC, teaching and learning materials, and assessment methods.

15. Generally, current teaching–learning methods are centered on the teacher rather than the student. Most TVET lecturers and instructors have limited current workplace experience. The adoption of CBC demands effective teacher training and requires that TVET institutions provide training in the range of professional skills required by teaching staff to provide effective student-centered CBC. Lack of and/or obsolete equipment to simulate a workplace for practical demonstration and application reduces the quality of teaching–learning processes.

16. **Curriculum and teaching–learning quality (kindergarten).** The quality of kindergarten teaching staff varies, and a significant number of kindergarten teachers are not certified and/or underqualified. The biggest bottleneck faced by preschools in Nanning has been the critical shortage of qualified teachers. There is an urgent need to increase the number of kindergarten teachers and to enhance the quality of both pre-service and in-service training through continued professional development.

17. **Curriculum and teaching–learning quality (nurse and elderly care training).** The curriculum quality of elderly care nursing education needs to be improved, which requires curriculum innovation, flexible delivery modes, student-centered teaching–learning methods, authentic assessment, theory–practice integration, and inclusion of professional ethics and cross-cutting issues. Existing pre-service training needs to be modernized to include

continued professional development, bridging programs, and refresher courses.

18. **Curriculum and teaching-learning quality (rural health practitioners).** There is lack of capacity in public health and in the teaching and training of rural doctors. The lack of rural health practitioners led to development of a national policy to train assistant rural health doctors at secondary vocational schools, public health system reforms, and new policy and work demands. Currently, traditional theory-based training methods and models are used to teach students, with an emphasis on clinical medicine instead of public health. Shifting the training sites from county hospitals to township hospitals, village clinics and rural communities poses new opportunities and challenges.

3. ADB Sector Experience and Assistance Program

19. This project is only the second Asian Development Bank (ADB) loan-financed project in the PRC.⁵ Therefore, ADB sector experience is very limited in the PRC, although lessons have been drawn from similar projects in other developing member countries and through consultations with the World Bank on their project experience in the sector. These lessons, which have been incorporated into the project design, include (i) actively involving representatives of industries in identifying occupational areas that are in demand, developing competencies for the occupational areas, and working with the project TVET institutions to develop modular, competency-based and/or outcome-based curricula and learning materials; (ii) creating pathways to further education by establishing training programs that can meet the entry requirements for advanced programs; (iii) building a learning culture to capture lessons for future policy and program development through mechanisms such as training bases and tracer studies; and (iv) establishing a robust project monitoring and evaluation system. Earlier ADB technical assistance projects in TVET and health also identified the need to improve training and curriculum development, and develop continuing learning and industry partnerships.⁶

20. **Strategic fit.** ADB's involvement in TVET is justified on the basis of ADB's PRC country partnership strategy (2011–2015),⁷ and national-level policy dialogue, which has drawn high-level support for ADB involvement as a catalyst for sector reform and modernization. The project supports ADB's education policy and sector strategies and, as documented above, key elements of the PRC's Twelfth Five-Year Plan. The latter prioritizes development of high-quality human resources, increased scientific and technological innovation, and acceleration of educational reform. Furthermore, TVET-related projects in the PRC are in the early stages of development in Baise, GZAR and in Shanxi Province.

21. In focusing on kindergarten, nursing education, and related teacher development, it is envisaged that this project will be a catalyst for developing and disseminating best practices suitable for adaptation in the PRC and potentially in ASEAN countries. More specifically, the project will assist the government (as reflected in government policies) to improve the quality and relevance of TVET provision for two critically important public services, and align these with industry demands. The project will actively involve industry representatives in the identification of current and future employer needs; in developing competencies for those needs; and in working with the project TVET institutions to develop modular, competency-based curricula and learning materials.

⁵ The first was 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 Demonstration Project*. Manila.

⁶ ADB. 2006. *Technical Assistance to the People's Republic of China for Technical and Vocational Education Development*. Manila; ADB. 2007. *Technical Assistance to the People's Republic of China for Rural Health Service System*. Manila.

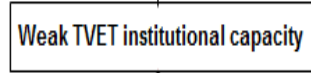
⁷ ADB. 2012. *Country Partnership Strategy: People's Republic of China, 2011–2015*. Manila.

PROBLEM TREE

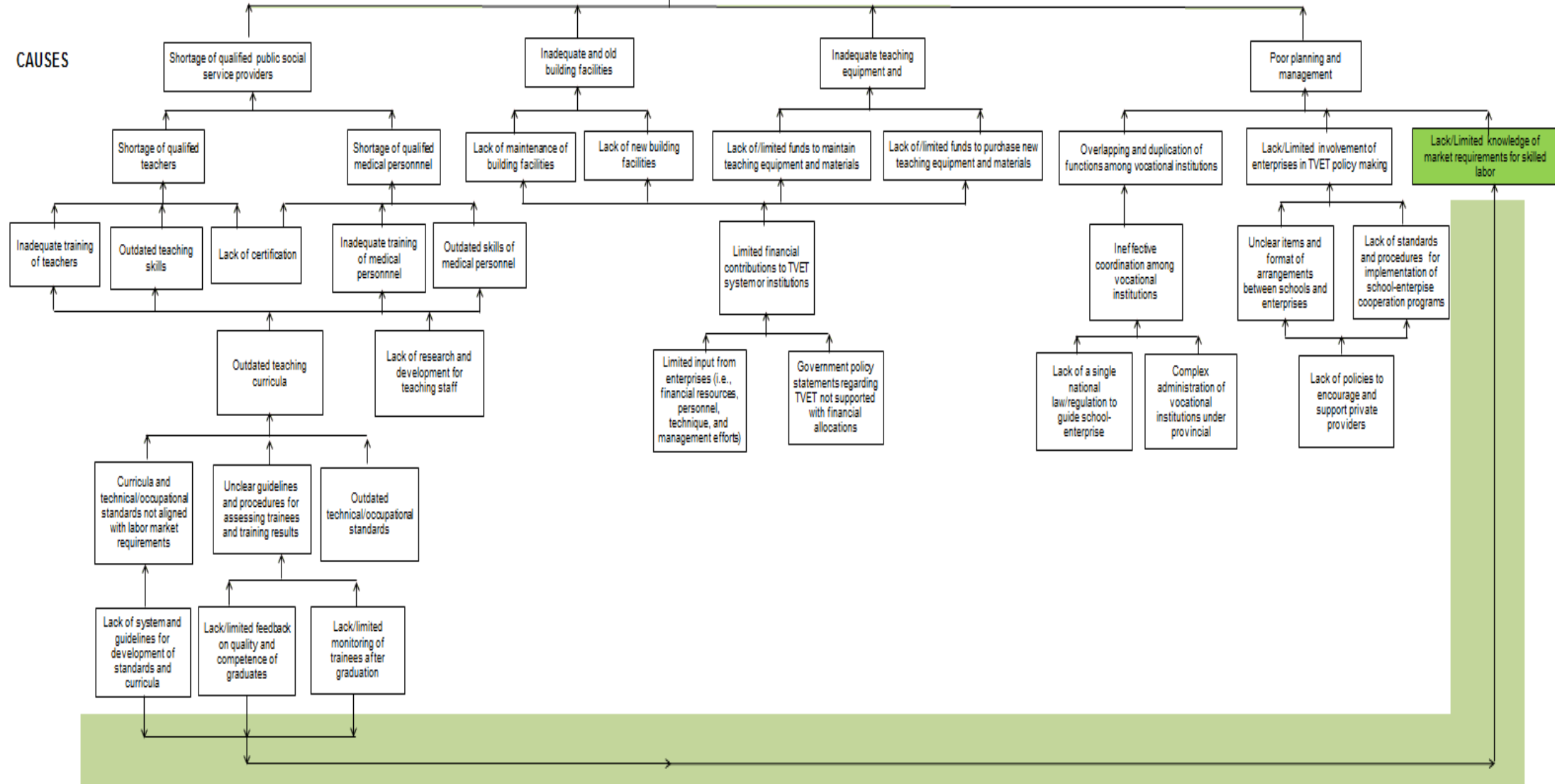
EFFECTS



CORE PROBLEM



CAUSES



Sector Results Framework (Technical and Vocational Education 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	<p>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 vocational schools from 12.8 million in 2009 to 13.9 million by 2015</p> <p>A national urban development strategy and provincial TVET strategies formulated</p>	TVET infrastructure and system quality improved	<p>Increased secondary school enrollment ratio from 82.5% to 87%</p> <p>Secondary vocational education free of charge for rural students, students from urban families in economic difficulties and students studying agriculture-related majors by 2015</p>	<p>Planned key activity areas Capacity development for curriculum, teacher training, human resources, industry-school partnerships, facilities upgrading</p> <p>Pipeline projects with estimated amounts Guangxi Nanning Vocational Education Development Project (\$50 million)</p> <p>Shanxi Technical and Vocational Education and Training Development Project (\$100 million)</p> <p>Guangxi Baise Vocational Education Development Project (\$50 million)</p> <p>Ongoing projects with approved amounts Hunan Technical and Vocational Education and Training Demonstration Project (\$50 million)</p>	<p>Planned key activity areas 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>