



# Technical Assistance Consultant's Report

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## People's Republic of China: Guangxi Nanning Vocational Education Development Project (Financed by the Technical Assistance Special Fund)

### Volume 2

Prepared by the consultants of TA 8158-PRC: Guangxi Nanning Vocational Education Development Project in the People's Republic of China

For the Nanning TVET Project Office, Nanning Health School, and Nanning No. 4 Vocational & Technique School

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People's Republic of China:  
Guangxi Nanning Vocational Education Development Project  
TA 8158-PRC: Project Preparatory Technical Assistance

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# INTRODUCTION

1. The Guangxi Nanning Technical Vocational Education Development Project is the second TVET project in PRC funded by ADB. It supports two TVET institutions: the Nanning Health School (NNHS) and Nanning No 4 Vocational School (NNVS) to improve quality of education by delivering focused market-oriented training that equips students with improved skills and qualifications required by the society and the labor market. The project aims, outputs and impact are responding to the Twelfth Five-Year Plan (2011-2015), The National Medium- and Long-term Education Reform and Development Plan (2010–2020) and the National Health Care Reform. It focuses on TVET strategies that will enhance development of relations with local industries, employers and communities and emphasize the development and/or modification of courses and programs, which can be used as models to other institutions in Nanning and beyond.
2. Impact. The expected impact of the project is to improved delivery of social services in Nanning M. This is to be achieved through improving TVET quality and training capacity building in NNVS and NNHS.
3. Purpose of the PPTA is to prepare a Project to be supported by a loan from the Asian Development Bank to the Government of the People's Republic of China for the execution of a Project of capital works and institutional developments designed to improve quality of TVET education, delivering market-oriented training to equips students with skills and qualifications required by the society and the labor market, the Project will be carried out by Nanning Municipal Government (NNMG) and the Borrower will make available to NNMG the proceeds of the Loan;
4. This Report presents the full technical reports and findings of the national and international consultants for each of the sub-components of the project. The report draw together literature, stakeholder consultations, International best practice in presenting a technical, economic, financial, environmental, and social analysis of project components and review and strengthen project design based on international best practices.

## **PREAMBLE**

This Volume comprises the technical reports of each of the sub-components comprising the People's Republic of China: Guangxi Nanning Vocational Education Development Project TA 8158-PRC: Project Preparatory Technical Assistance. The Consultants Reports are presented in full, with the exception of the tentative Terms of Reference proposed by each consultant. These have subsequently been discussed with key stakeholders from the ADB and the Executing Agency and have been amended in response to these discussions. The revised Terms of Reference as reflected in the PAM are attached as a separate report in this Volume.

## **CONSULTANT REPORTS**

The views expressed in this report are those of the consulting team and do not necessarily reflect the views and policies of the Asian Development Bank (ADB) or its Board of Governors or the governments they represent. ADB does not guarantee the accuracy of the data included in this publication and accepts no responsibility for any consequence of their use.

TA 8158-PRC: Project Preparatory Technical Assistance

**TVET SECTOR / Sub-Sector ASSESSMENT**

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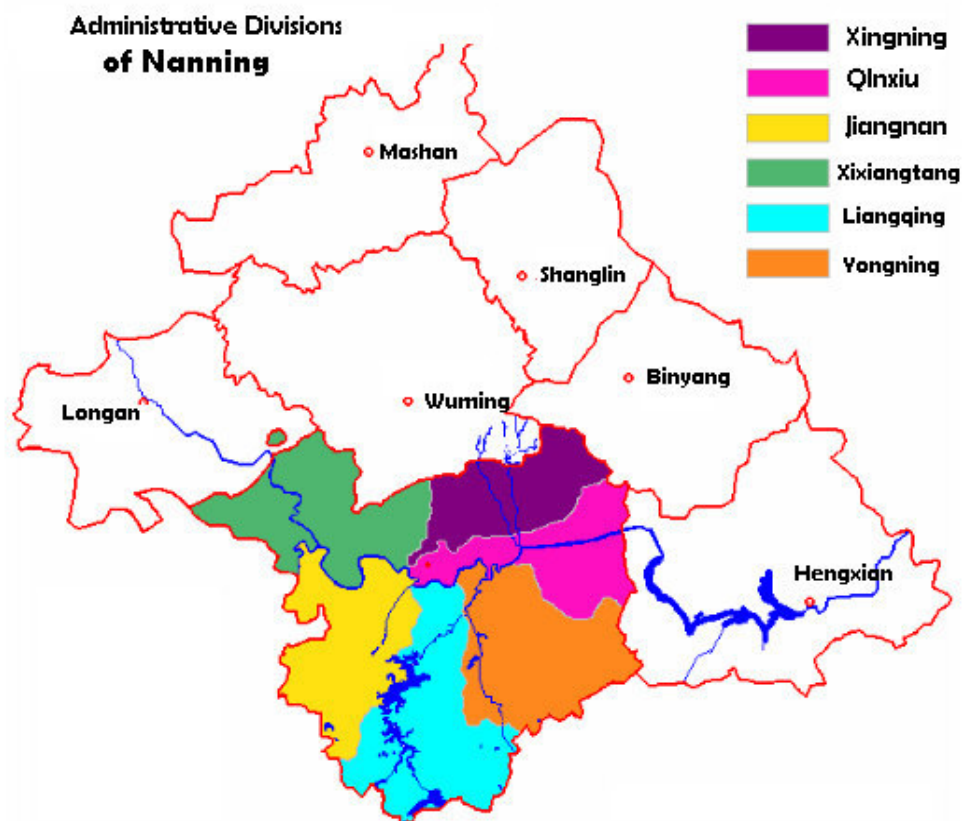
## MAPS

### Map of Guangxi



Source: [www.china-fun.net](http://www.china-fun.net)

### Map Nanning



Source: Nanning Municipal Government, <http://english.nanning.gov.cn>



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## ACRONYMS

ADB	Asian Development Bank
ASEAN	Association of South-East Asian Nations
CBC	Competency Based Curriculum
CNSD	China National Statistics Data
CNY	Chinese Yuan Renminbi
CPD	Continuous Professional Development
DVAE	Department of Vocational and Adult Education, MOE
GDP	Gross Domestic Product
GFC	Global Financial Crisis
GIZ	Gesellschaft für Internationale Zusammenarbeit
GZAR	Guangxi Zhuang Autonomous Region
ILO	International Labor Organization
IMF	International Monetary Fund
MOE	Ministry of Education
MOHRSS	Ministry of Human Resources and Social Security
NNHS	Nanning Health School
NNMG	Nanning Municipal Government
NNVS	Nanning No 4 Vocational School
OECD	Organization for Economic Cooperation and Development
PBOC	People's Bank of China
PPP	Public-private partnership
PPTA	Project Preparatory Technical Assistance:
PRC	Peoples' Republic of China
RPL	Recognition of prior learning
SME	Small and Medium Enterprises
SVS	Secondary Vocational Schools
TEIA	Training and Education Institute - Australasia
TVC	Technical and Vocational College
TVET	Technical and Further Education
UNESCO	United Nations Educational, Scientific and Cultural Organization
USD	United State Dollar
WB	World Bank

## EXECUTIVE SUMMARY

**The purpose** of the review was to analyze the system of technical and vocational education and training (TVET) as an input into the ADB Vocational Education Development Project Preparatory Technical Assistance for PRC: Guangxi Nanning Project TA-8158. The report is based on a review of documents, statistics, narrative data, stakeholder interviews and site visits.

**The scope** of the review was to determine the economic, social, labor market and demographic effects on the TVET sub-sector development at sub-degree level education and training. In line with international development<sup>1</sup> such as enhancement of domestic, regional and global competitiveness and economic growth, PRC's government identified TVET as a catalyst for economic growth and social equity.

**A. SOCIO-ECONOMIC BACKGROUND:** PRC was to a large extent an agricultural country. However in 2011, for the first time the urban population exceeded the rural population by 2%. That is, 665 million of the 1.34 billion of total population lived in 2011 in rural areas. This shift towards urbanisation has and will have a significant impact on the economy, the society, TVET sector and the labour market. By the middle of this century, 60% of population will be living in urban locations. This will exert additional pressure on social services such as education and skills development, bringing with it transference of rural surplus labor force. This requires (i) strategies for up-skilling rural population; (ii) a transition from 'labor intensive' rural employment to 'technology & knowledge intensive' labor force.

**1. Demographics:** PRC's total population increased at a rate of one percent annually from 1.14 billion in 1990 to 1.34 billion in 2011. The national birth rate is 12.31 births / 1,000 population (2012 est. data) and death rate is 7.17 deaths / 1,000 populations (July 2012 est. data). The population growth is slowing. In 2006 the annual national population growth was 0.56% whereas in 2011 it was 0.47%. The share of people over 60 will increase from 12.5% in 2010 to 20% in 2020. By 2030 their number will double from today's 178 million. Investing in a formal long-term care system with qualified human resources to complement the informal care currently provided primarily by family members could also encourage their continued participation in the provision of care.

**B. ECONOMY:** PRC is the second largest and fastest growing economy in the world. Over the last three decades, the average annual growth rate was above 9.0%. The national government's 12th Five-Year Plan has set an annual gross domestic product (GDP) growth target at 7.5% for the 2011–2015 period. The economy is in a transition from export led to domestic demand driven led economy and will be influenced by (i) an aging society and supply of young skilled "labor shortage"; (ii) increased labor costs with shortage of skilled workers; (iii) vanishing demographic bonus and emerging Lewis Turning-Point. In order to support economic growth TVET sub-sector will have to: (i) supply highly skilled workforce and (ii) address imbalances in the PRC's economic growth to promote greater social harmony.

**1. Labor force, employment and skills supply and demand:** PRC has the largest labor force in the world, adding about 7 million people each year. Given the continuously increasing demand for labor and the decline of working age population due to aging problem, the growth of labor demand exceeds and will continue to exceed the growth of labor supply. Skilled and semi-skilled persons with technical competencies enjoy strong demand in the labor market. Graduates from TVET

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<sup>1</sup> GIZ: Labour Market and Technical and Vocational Education and Training, <http://www.giz.de/Themen/en/871.htm> (retrieved 29<sup>th</sup> June 2013)

reportedly encounter few problems in finding employment. In 2012 vacancies to applicants ratio for senior technicians and technicians was 2.2 and 2.3, respectively.

**2. Nanning economic background:** Nanning is the capital of GZAR, which is one of the 12 less developed autonomous regions in western PRC. During 2000-2010 period, Nanning's GDP grew from CNY 37,793 million to CNY 180,026 million. Labor force data shows that in 2011 there were 4,090,000 persons employed in Nanning. This included 2,048,000 in primary industry, 709,000 in secondary industry and 1,334,000 in tertiary industry. Due to demographic changes, urbanization, industrialization and labor market demands it is evident that there will be growing social and economic pressure to intensify efforts in advancing TVET provisions.

**3. Nanning Education and Health Sector Background:** In 2011 Nanning had 1080 kindergartens with a total enrolment of 198,000 pupils. There were 1504 primary schools with 94,000 new student enrolments in regular primary schools, and total enrolment of 531,000 pupils. In 2011 Nanning had 2,324 health institutions of which 201 were hospitals. Totally there were 28,821 beds available including 26,945 hospital beds. Given the demographics, provisions for compulsory education and health services need to be expanded in order to meet future needs and demands.

**C. TVET SYSTEM ANALYSIS:** In 2010, the PRC government identified TVET as the principal target for educational expansion to develop a skilled workforce. TVET in PRC (a) provides skill sets needed by enterprises nationally; (b) supports pathways into employment for young people and (c) strengthens mobility between occupations for experienced workers. In 2009 enrollments in secondary TVET institutions was 21.79 million. This will increase to 22.50 million in 2015 and 23.50 million in 2020. In terms of enrolments TVET is the largest post-compulsory educational sub-sector.

**1. TVET policies, plans and strategies:** Core PRC's TVET policies are: (i) aligning TVET with employment requirement; (ii) expansion of TVET to meet labor market demands; (iii) improving TVET access and equity; (iv) institutional decentralization and diversification of TVET; (v) integrated public-private TVET delivery approach; (vi) introduction of TVET institutional administrative reforms; (vii) modernization of TVET curricula and teaching methods. Major plans are: (i) PRC Government's *Twelfth Five-Year Plan* outlining measures for 'a sound and sustainable basic public service system'. (ii) The *National Medium- and Long-term Education Reform and Development Plan (2010–2020)* proposing that by 2020, one-year preschool will become the norm, two-years universalized, and three-years popularized. (iii) The *National Health Care Reform* prioritizes the strengthening primary health care services and training for grassroots health workforce.

**2. TVET governance, coordination and type of TVET institutions:** TVET in PRC consists of vocational 'education and vocational 'training'; the former is administered by MOE mainly responsible for occupational and technical education and the latter by MOHRSS mainly responsible for technical/vocational training. MOE and MOHRSS execute their responsibilities independent of each other. There are four types of TVET institutions: (a) Vocational-technical colleges/polytechnic colleges. (b) Specialized junior colleges/secondary vocational schools. (c) Technician colleges. (d) Adult higher educational institutes.

**3. TVET and industry partnership and participation:** The *National Medium- and Long-term Education Reform and Development Plan (2010–2020)*, recognizes the importance of TVET and industry partnerships. Employers and industry contribute to TVET mostly through: (i) development of vocational standards at national level, (ii) advise on curricula and syllabus content at provincial and institutional levels, and (iii) providing internships training places for TVET institutions.

**4. TVET Nanning student data and employment prospects:** Enrolment in Nanning's TVET schools has increased from 76,051 students in 2005 to 210,225 students in 2012. From 2010 to 2011 Nanning's annual employment in the education

and health sectors increased by about 7%. This will continue due to demographic changes and economic requirements. In the 2006-2011 period the average wages increased by 15.53% in the education and 12.57% in the health sectors.

**5. TVET funding and resourcing:** Over the 2009-2012 period, Nanning's TVET expenditure has increased by about 2.0% of Nanning Municipal Government's annual total expenditure and about 10.1% of the municipality's total expenditure on TVET. In real terms this is low, averaging CNY 0.6 billion/year. This underfunding militates against TVET institutions meeting quality improvements, such as curriculum reforms, acquisition and maintenance of plant and equipment and assuring human resources. There is also an imbalance between funding and resource allocations between urban and rural TVET institutions, in favor of the former.

**D. TVET SUB-SECTOR RELEVANCE AND DELIVERY:** Cultivating more high skilled workers for social services as well as for business and industry transformation is at Secondary Vocational Schools (SVS) levels insufficiently articulated. Thus, there is a need to (i) building smooth pathways from secondary to post secondary vocational education, (ii) re-structuring TVET curriculum and teaching-learning methods and (iii) enhancing TVET and industry and employer partnerships to increase quality of productivity.

**1. TVET and occupational standards:** At national level occupational standards tend to be outdated and do not reflect quality norms expected in developed countries. This leads potentially to a reduced productivity. Due to absence of verifiable processes in established occupational standards it is difficult to ascertain how well qualified the labor force is to meet future labor market demands and international benchmarks.

**2. Labor market information and analysis:** There is little evidence that the NNVS and NNHS use labour market information to identify newly emerging needs and demands or to modify curriculum and teaching-learning methods to meet future labour market demands.

**3. Flexible skills development and supply:** TVET schools have the flexibility to develop and adapt curriculum to local conditions within the national framework and recognized disciplines and occupations. TVET institutions may introduce or discontinue course, and engage teaching staff. There is however no incentives to reduce or eliminate courses that are not viable or outdated, and affected teachers would need to be redeployed or required to undergo retraining.

**4. Access, Equity and inclusive education:** Most institutions have an admission policy guaranteeing about 50% of places for female students. Enrollments by gender are generally balanced in SVS, i.e. 51% of the enrollments are female. PRC has an extensive system of compensatory financing allowing disadvantaged and low-income groups to participate in TVET. There is no apparent policy at GZAR or at municipal SVS on inclusive education and training.

**5. Educational quality and employer satisfaction:** SVSs in Nanning lack articulated comprehensive and internationally acceptable quality indicators. This hinders development and implementation of international 'best practice' ensuring TVET quality. CBC, learner centered teaching-learning methods and authentic assessment concepts are acknowledged at systemic and institutional levels. In reality there are slow and minor modifications to existing out-dated practices. There is little evidence of systematic surveys to ascertain employer satisfaction with the performance of TVET graduates. The main criticism from employers is the lack of soft skills and personal traits.

**6. Systemic and institutional management:** TVET has a management system of "over-all leadership by the State Council, administration at different levels, major decision-making by local authority, coordination by governments and participation by

social sectors". TVET at systemic and institutional management levels lacks effective and efficient measures for HRD including CPD, release to industry, alternative students' progress mechanisms such as RPL, institutionalised M&E and quality control.

**7. Resourcing, resource utilization and institutional partnership:** Measured against student progress, graduation and pass rates, and employment and employability rates, TVET institutions appear to be appropriately resourced and utilizing allocated resources effectively and efficiently. However, there is evidence of diminishing efficiency measure relating to allocation of funds and outputs, including curriculum innovation and delivery. In contrast to the higher education institutions, SVS did not develop institutional partnership to enhance quality and resource sharing. Overall the SVS are inward looking and lack the political will and capacity for developing significant national and international partnerships with similar institutions.

## RECOMMENDATION

Nanning TVET institutions such as NNHS and NNVS have a strong track record of achievement, which should be used as a platform to strengthen the quality of delivery, HRD, management, national and international partnership development and cooperation with industry and employers. There are challenges to be addressed.

Specific recommendations:

- Policy dialogue: Initiate a policy dialogue on inclusive education/training and mainstreaming in TVET at systemic and institutional levels.
- Policy dialogue: Incentives for industry and employers contribution to TVET institutions
- Establishment of M&E and Impact Assessment mechanisms: Establish a comprehensive M&E and Impact Assessment mechanism at provincial, municipality and institutional levels, providing quantitative and qualitative data on educational performance, staffing, leadership, employability of graduates, skills relevance, needs and demands, financial management and other factors.
- TVET quality improvements: Improve national, regional and international competitiveness in skill development by implementing curriculum and delivery reforms, including institutionalization of student centered, competency based education and training and bring them into line with international 'best practice'.
- Occupational Standards: Review and update existing occupational standards on a regular basis, e.g. a three-year cycle to ensure standards quality, relevance and validity.
- Labor market analysis: Establish systemic labor market data collection and analysis in collaboration with industry and make it accessible to TVET institutions enabling industry based forward planning for viability of existing, and/or development of new courses on basis of needs and demands.
- Staff development: Institutionalize and maintain teaching staff development through CPD, including development of 'release to industry' schemes, ensuring industrial relevance, skills and knowledge of teaching staff.
- Staffing: Develop flexible staffing policies utilizing a mix of full-time teaching staff, part-time teaching staff and visiting teaching staff from industry and introduce redeployment and retraining mechanisms for teaching staff when courses are abolished.
- Educational leadership development: Provide regular educational leadership development training for existing and aspiring educational



leaders at institutional and systemic level relating to educational, financial, human and physical resource administration and management practices.

- Industry partnership and collaboration: Strengthen industry representation and authority in decision-making processes at systemic and institutional level relating to curriculum, skills development, internship for students, release to industry schemes for teachers, institutional management.
- Finance and funding: Institutionalize performance based budgeting and financing including funding equalization mechanisms between poorer rural and better-off urban TVET institutions.
- Institutional cooperation: Establish policies and strategies for sustainable collaboration with TVET institutions at provincial, national and international levels to improve educational quality through staff and student exchange, joint curriculum development, resource sharing and information dissemination.

## I. INTRODUCTION

1. The Guangxi Nanning Technical Vocational Education Development Project is the second TVET project in PRC funded by ADB. It supports two TVET institutions, namely the Nanning Health School (NNHS) and Nanning No 4 Vocational School (NNVS) to improve quality of education by delivering focused market-oriented training that equips students with improved skills and qualifications required by the society and the labor market. The project aims, outputs and impact are responding to the Twelfth Five-Year Plan (2011-2015), The *National Medium- and Long-term Education Reform and Development Plan (2010–2020)* and the *National Health Care Reform*. It focuses on TVET strategies that will enhance development of relations with local industries, employers and communities and emphasize the development and/or modification of courses and programs, which can be used as models to other institutions in Nanning and beyond.
2. **Impact.** The expected impact of the project is to improved delivery of social services in Nanning Municipality. This is to be achieved through improving TVET quality and training capacity building in NNVS and NNHS.
3. **Purpose** of the review is to analyze the system of TVET as an input into the Vocational Education Development ADB Project Preparatory Technical Assistance for the proposed Technical and Vocational Education and Training TA-8158 PRC: Guangxi Nanning Project. The report is based on a review of documents and statistics, interviews with stakeholders and school visits.
4. **Scope** of the review is to determine the economic, social, labor market and demographic effects on the TVET sub-sector development at sub-degree level education and training. The report attempts to place TVET in the overall development context, and MOE's TVET activities within the whole TVET system.
5. **Framework** for the review is structured according to three broad criteria:
  - i. PRC's socio-economic background impacting on TVET, including (a) demographics and urbanization; (b) economy; (d) labor force and employment; (e) skills supply and demand; (f) Nanning education and health sector background
  - ii. TVET sub-system, including: (a) opportunities and challenges; (b) policies, plans and strategies; (c) governance; (d) industry partnership; (e) Guangxi and Nanning TVET student enrolment and graduation data; (f) employment prospects of TVET graduates and (g) TVET Funding.
  - iii. TVET relevance including: (a) TVET economic relevance; (b) TVET access equity and inclusion; (c) quality (curriculum, teaching–learning methods, assessment, employer satisfaction, systemic and institutional management, resourcing and resource utilization, institutional partnerships).

6. **Context.** TVET sub-sector in PRC has recently received increased attention as an area of priority for stimulating economic growth, providing access to work-related skills and employment opportunities. TVET in PRC is shaped by international, regional, national, provincial economic, educational and social conditions of communities it serves. One overarching principle embedded in government policies and plans is the need to ensure that the TVET system is closely linked to the national socio-economic and socio-political development agenda. Thus TVET is closely linked to social, economic, political, labour market and economic factors.
7. **Limitations.** The TVET sub-sector assessment is limited by the parameters of the project, namely TVET under the governance of the Ministry of Education (MOE), excluding (i) TVET under the Ministry of Human Resources and Social Security (MOHRSS), (ii) non-formal training and enterprise-based training. The report represents the views of the author, not necessarily those of the Asian Development Bank or the PMO. Any omissions or errors of fact or interpretation are solely the responsibility of the author.

#### A. TVET SUB-SECTOR– A GENERAL INTRODUCTION

8. Technical and Vocational Education and Training (TVET) acts as an engine of economic growth and promotes and ensures social equity. A skilled labor force, produced by an effective training system, enables national economies to achieve domestic, regional and global competitiveness, and social and economic advancement of the society, communities and individuals. TVET influences and is influenced by economic developments, labor market forces, social dynamics, and demographics<sup>2</sup>.
9. UNESCO recognizes TVET as an essential and emergent priority for economic development. International research has shown that TVET is a catalyst for promoting national economic growth and the social-economic development. This benefits individuals, society, the industry and employers. TVET focuses on improving education and training for the world of work and is a major contributor to transition from school to work. It has the potential to help increase the incomes of those who live in poverty, it can provide individuals with more choices in their working lives and it can empower individuals who otherwise would be marginalized. TVET plays also an important role in building an orderly and empathetic civil society<sup>3</sup>.
10. From an international policy perspective, OECD<sup>4</sup> recognizes that TVET systems play important roles in advancing a country's ability to respond to rapidly changing labor market conditions, such as are being experienced in PRC. Several OECD countries have developed policies

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<sup>2</sup> GIZ: Labour Market and Technical and Vocational Education and Training, <http://www.giz.de/Themen/en/871.htm>

<sup>3</sup> McGrath, S., The UNESCO World VET Report and the Purposes of VET, posted on NORRAG Website on May 31, 2012; OECD (2012) Better Skills, Better Jobs, Better Lives – A Strategic Approach to Skills Policies, <http://dx.doi.org/10.1787/9789264177338-en>

<sup>4</sup> OECD (2013), Education at a Glance 2013: OECD Indicators, OECD Publishing. <http://dx.doi.org/10.1787/eag-2013-en>

to improve and expand TVET programmes at the upper secondary and post-secondary non-tertiary levels in order to equip young people with the skills the labour market demands. These programmes often include intensive workplace training and are based on extensive partnerships between schools and enterprises. In comparison, PRC has implemented such policies and has established a well-functioning upper and post-secondary TVET system through secondary vocational schools and colleges.

11. From an international 'best practice' perspective TVET is arguably the most important sub-sector of education and training that contributes significantly to economic development and social labor market needs and demands. From an economic development point of view, TVET is concerned with preparing people of all ages, and irrespective of gender, ethnic and socio-economic backgrounds to participate in the world of work. This can be measured by how effective and efficient (i) individuals and groups meet the labor market demand for skills, knowledge and attributes, (ii) systemic and institutional responsiveness to changing labor market demands and social needs, (iii) accountability and attractiveness of the system<sup>5</sup>.
12. On basis of international models of development TVET is also arguably the most effective and efficient education and training sub-sector that promotes access, equity, participation and inclusion thereby building bridges between the learning and skills development and the world of work. Internationally there is a basic assumption that TVET shall promote access to education and training for all, irrespective of gender, ethnicity, socio-economic background, age, disability or other social characters. TVET also provides, more than any other education sub-sector opportunities for life-long learning, attainment of horizontal and vertical education, training and qualifications, and sustainable social- and self-development of individuals<sup>6</sup>.
13. Governments in developed and developing countries alike, proclaim the importance of TVET as a catalyst for the economic and social development of individuals, the society and the nation itself. Despite the research supporting this claim TVET remains the 'weak link' in the education sector of many developed and developing countries. This is also the case in PRC and has been recognized as such by the government. TVET lacks the attractiveness ascribed to academic schooling.
14. Recognizing the importance of TVET at central level alone is insufficient to address its weaknesses at systemic and institutional levels. There is a need to address issues of policy implementation and governance, leadership, expertise, capabilities and funding at systemic and institutional levels, and its overall image in the society.

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<sup>5</sup> ILO, Upskilling out of the downturn: Global Dialogue Forum on Strategies for Sectoral Training and Employment Security, Geneva, 29–30 March 2010

<sup>6</sup> Maclean, R., (2011) 'Key Issues and Research Challenges for TVET: Bridging the gap between TVET research and the needs of policy makers', in NORRAG NEWS, *Towards a New Global World of Skills Development? TVET's turn to Make its Mark*, No.46, September 2011, pp. 125-127, <http://www.norrag.org>

15. In comparison to other vocationally, occupationally and professionally oriented tertiary and post-secondary education providers such as colleges or universities, TVET sub-sector suffers from image problems, especially as the quality of curriculum, standards, teaching-learning methods and outcomes are mostly ambiguous and at times outdated. Thus it is not surprising that parents see TVET as the 'last' option for their children's education and training path. Instead of TVET, parents prefer 'academically' oriented education at university level for their children. This leads more often than not to unrealistic expectations amongst parents and undue pressure on students in schools. The consequence is an unjustifiable preconception that TVET is inferior to other post-compulsory education sub-sectors and thus it is presented in less positive light than it deserves. TVET is thus often associated with those who are less academically inclined.
16. Thus the greatest challenge for TVET is the ability to change its image on basis of improving the quality of its graduates, through improving the quality of its curriculum, teaching-learning modes, teaching and educational leadership staff, relation with industry and liaison with community.
17. A major issue confronting TVET in PRC is the need for transformation. The reason is that many current practices are unlikely to meet the future needs of individuals and labor market demands. In addition to the need to modernize technical skills there is a lack of providing graduates with opportunities to develop 'soft skills' such as creativity, problem solving, communication, team membership and leadership, innovation skills, etc.
18. With few exceptions, TVET institutions in PRC including the NNHS and NNVS still lack the ability to initiate innovation in skills development, curriculum, teaching-learning and assessment modernization, appropriate recognition of importance of industry's contribution to skills development such as introduction of new technical and broader skills, and empowering learners and teachers to become 'agents of innovation' within the world of work. These weaknesses need to be strengthened.

## **II. SOCIO-ECONOMIC BACKGROUND**

19. While much progress has been accomplished in PRC in recent years, the government continues to strive to strengthen the link between TVET policy needs and socio-economic developments. This presents various challenges and trade-offs. Firstly, TVET at systemic and institutional levels need to respond to educational and training issues that are high on economic as well as social agenda and where international perspective can offer important added value to skill development and labour market competitiveness. Secondly, while TVET needs to advance competitiveness within an international forum, it also needs to be PRC country specific, allowing for historic, social, economic, systemic, and cultural characteristics.
20. There are significant policy indicators that the PRC government will continue to address these challenges vigorously and to pursue not just the development of TVET where it is feasible and promising to develop

its quality further, but also to advance TVET systemically in areas where a considerable policy and planning investment still needs to be made, especially in relation to economic, demographic and social imperatives.

21. PRC is to a large extent an agricultural country: 665 million of the 1.34 billion of total population are living in rural areas (2011 data). However there is a gradual population shift from rural to urban areas. Since 2005 the rural population has decreased by 11.20%. For the first time in 2011 the urban population marginally exceeded the rural population by 2%. This shift has a significant impact on the economy, the social sector, the education and training sector and system and the labour market
22. There are three important factors to consider within a framework of PRC's socio-economic backgrounds. Firstly, there are marked discrepancies between rural and urban areas as far as PRC's labor market is concerned. This is characterized by a surplus of labor in rural areas and skill shortages in cities, particularly in the manufacturing sector. Secondly, the overall growth of the labor market has slowed to less than 1% as a consequence of limited population growth. Thirdly, PRC is facing an increase in aging population, which, among other things will impact on labor force. In response to the first point, the government's strategy is to balance economic growth geographically, expanding the productive capacity in less developed provinces such as GZAR. This includes implementation of policies that shift growths from the traditional coastal areas and cities such as Beijing and Shanghai to inland provinces, which traditionally showed a low growth rate.
23. Nationally and in provinces, demands for skilled workers and technicians are strong. This is evidenced by extraordinarily high employment rates for graduates. For example between 98 – 100% of graduates from the two project schools (NNHS and NNVS) find employment within six month of completing their studies. Notwithstanding this success rate, currently economic developments, the aging of the population and urbanization, with emerging social needs and demands make upgrading the skills of the workforce an urgent and important task. Meeting future economic, social and labor market needs is PRC's government top priority, as evidenced in the relevant policy papers<sup>7</sup>.
24. The principal policy direction of the newly elected government is urbanisation, expansion of cities, liberalization of the economy, all of which will have impact on the education sector, including TVET sub-sector through migration and reforms of the hukou system.

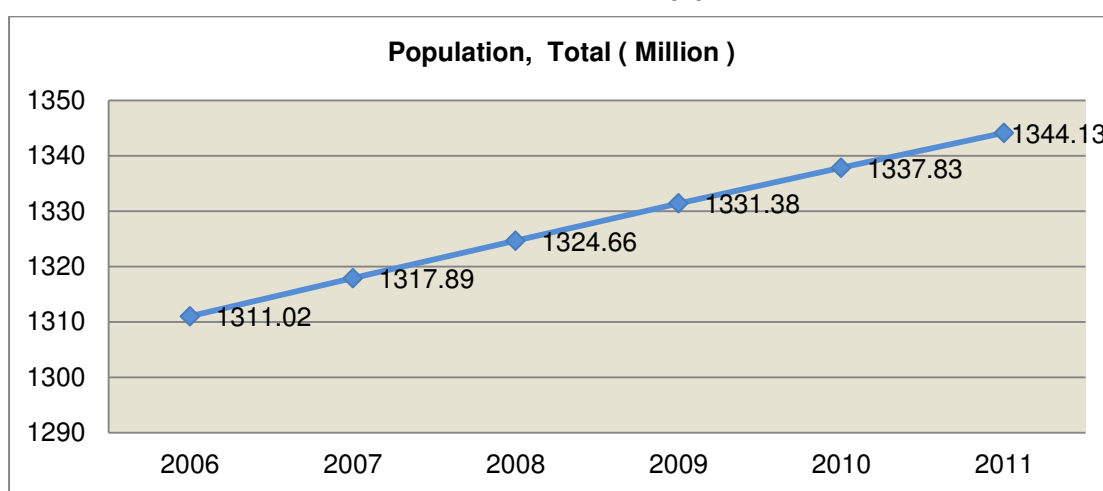
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<sup>7</sup> The State Medium and Long-term Guideline for Education Reform and Development (2010-2020); PRC Twelfth Five-Year Plan (2011-2015)

## A. DEMOGRAPHICS

25. The life expectancy at birth in PRC increased from 72 years in 2004 to 73 in 2007 and it remained at this level up to 2011<sup>8</sup>. 2012 estimates show life expectancy of the total population a 74.84 years (female: 77.11 years; male: 72.82 years)<sup>9</sup>. Over the last two decade PRC's total population increased at a rate of 1% annually increasing from 1.14 billion in 1990 to 1.34 billion in 2011. In 2012 (July 2012 estimates) the national birth rate was 12.31 /1,000 population and death rate was 7.17/1,000 of population. There is no indication of a national downward trend.

**Chart 1: PRC's Total Population by year 2006 – 2011**



Source: CHN Country Meta-Data

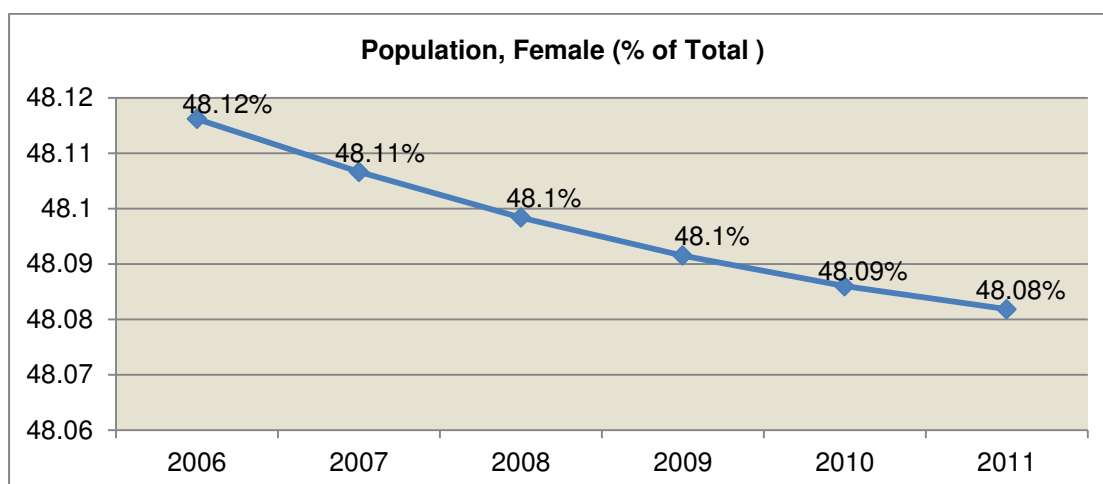
26. However, when gender factors are considered it is evident that in the same period the female population as a percentage of total population has gradually decreased from 48.12% in 2006 to 48.08% in 2011. Although this gradual decrease is 0.4% over a five-year period, it may have a significant effect on the population growth as it is shown elsewhere in this report.

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<sup>8</sup> Source: World Bank Development Indicators  
<http://databank.worldbank.org/data/views/reports/tableview.aspx>

<sup>9</sup> Source: Index Mundi [http://www.indexmundi.com/china/life\\_expectancy\\_at\\_birth.html](http://www.indexmundi.com/china/life_expectancy_at_birth.html)

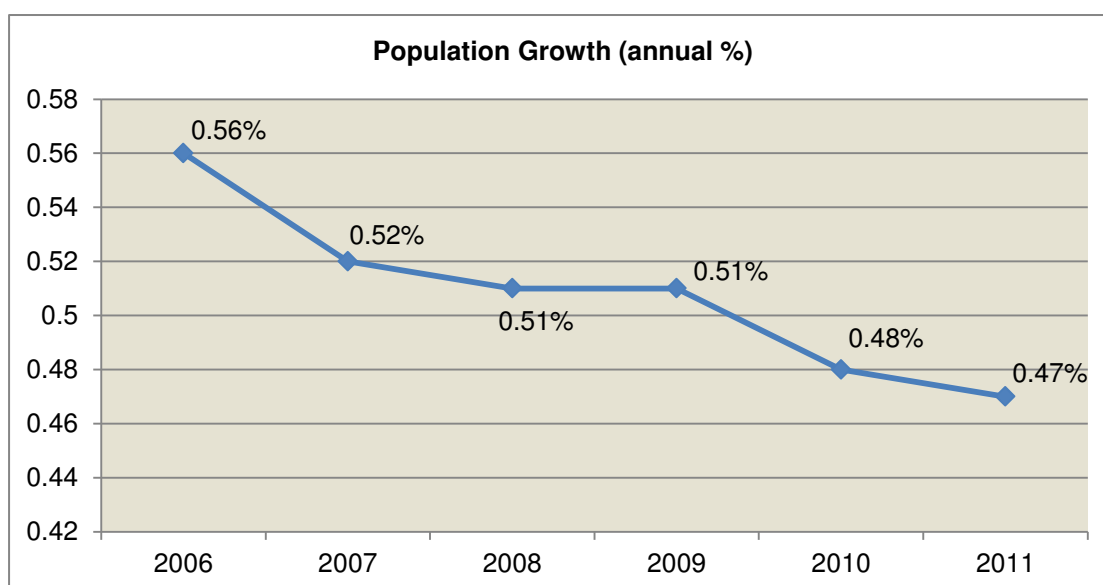
**Chart 2: PRC's female population as percentage of total 2006 – 2011**



Source: CHN Country Meta-Data

27. Given the above population indicators it is important to note the population growth is slowing. In 2006 the annual national population growth was 0.56% whereas in 2011 it was 0.47%.

**Chart 3: PRC's Population growth in percent by year 2006 – 2011**



Source: CHN Country Meta-Data

28. There are a number of factors that can be contributed to the slowdown in population growth. One factor is the one-child policy, another is the increase of cost associated with child upbringing and another is urbanization process. The annual population growth rate decreased from 1.36% in 1990 to 0.47% in 2010.



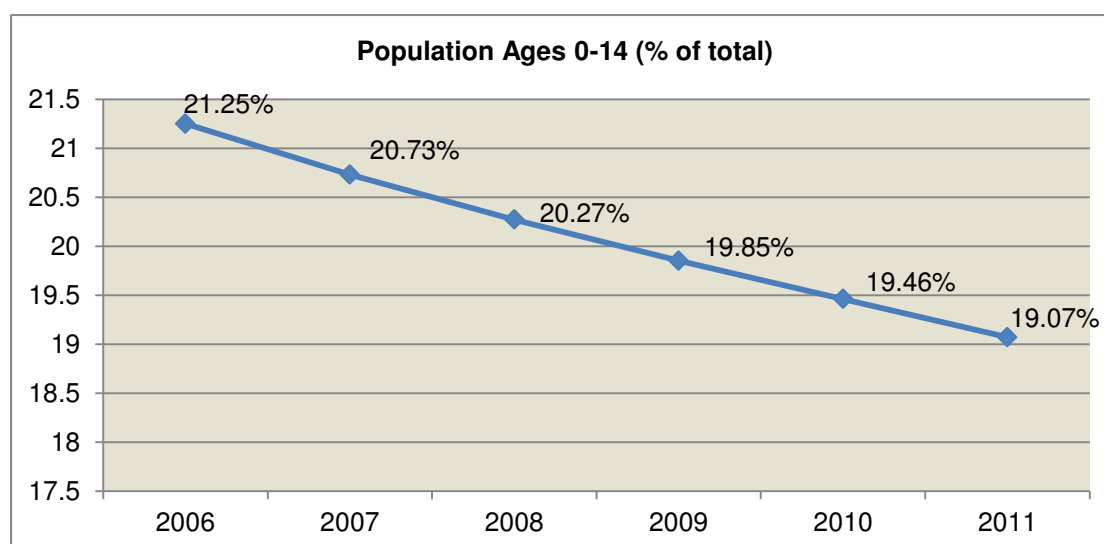
**Chart 4: Total Population and Annual Growth Rate in PRC 1990-2011**



Source: Derived from World Bank Country mega-data

29. The population distribution by age groups shows a potential trend of further decline in the working age population. For example in the age group 0 to 14 years of age the population has decreased from 21.25% in 2006 of total population to 19.07%, a decline of 2.18% in 2011.

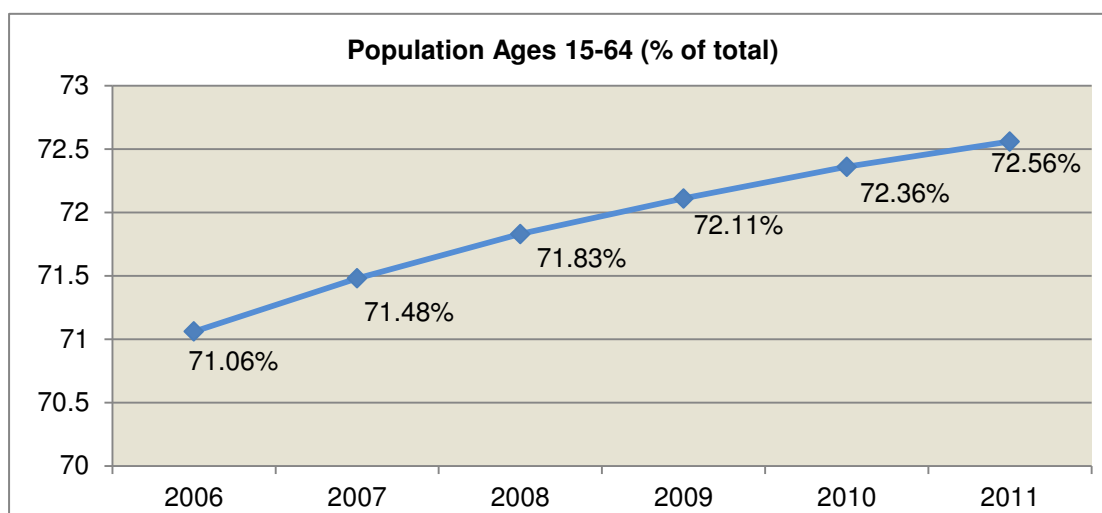
**Chart 5: Population Age 0 – 14 years 2006 - 2011**



Source: CHN Country Meta-Data

30. In comparison the 15 to 64 years age group has increased from 71.06% as part of total population in 2006 to 72.56% in 2011. This is an increase of 2.07%.

**Chart 6: Population Age 15 – 64 years 2006 - 2011**



Source: CHN Country Meta-Data

31. Taking into consideration the decline in the 0 – 14 years age group and an increased numbers in the 15 – 64 years age group with the significant increase of persons in the above 65 years of age group as shown in the Chart X above, it is evident that the population growth rate in PRC will continue to decline beyond 2011.

### **1. Migration**

32. Since 1982, hukou migrants' number in PRC has remained stable around 18 million. However, China's booming economy in recent years has made many hukou restrictions disappear, especially those that restrict the freedom of movement. That is, in 1999 and 2001 PRC government implemented a reform of the residency restriction system or 'hukou' in small cities and towns that removed not only the limitations on labour migration, but also it deregulated the labour market. This policy aimed at bridging the income discrepancies between rural and urban population, there is no systematic statistical analysis of the effects of this policy available. Most of the evidence addressing the effects of relaxation hukou policies is qualitative, showing both merits and problems associated with the reforms. On balance it appears that the freedom of movement brought about by the PRC government policies had a favourable effect on rural-urban migration and income inequality.
33. To be sure, the hukou is an internal passport which classes people as either rural or urban. This affects the residency status of every Chinese citizen. For example, historically for the rest of their lives people can only go to school, university and settle down in the place they were first registered. There are exceptions to this rule.
34. As stated above, since February 2013, the PRC government is pursuing significant new economic policies, which are poised to reform the hukou system. For example Shanghai announced in June 2013, introduction of new regulations allowing persons from rural areas to

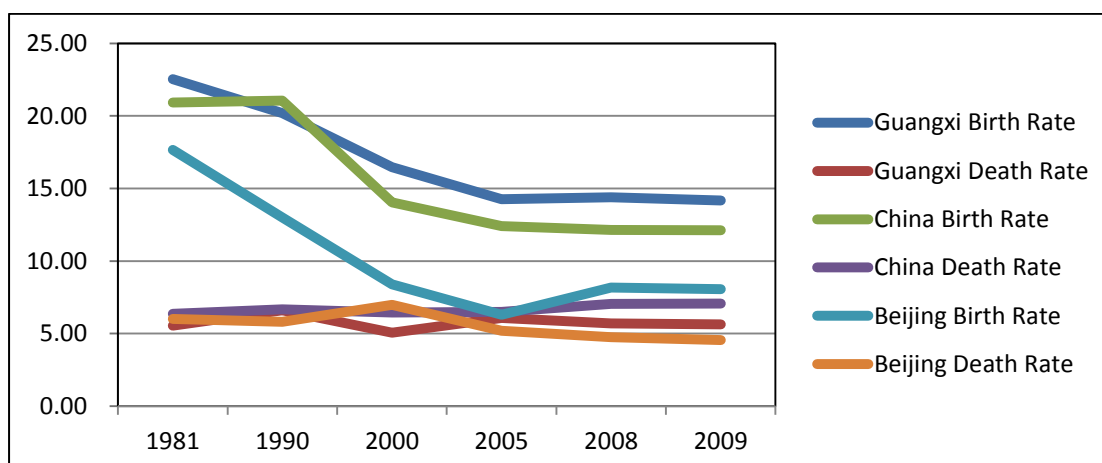
move into urban areas and enjoy the same privileges and benefits, such as access to education, training, health provisions and welfare.

35. It could be argued that the relaxation of hukou policies and its associated factors of rural to urban areas migration will continue to put additional pressures on the education and training sectors and the health sector. There will be an increased demand for education provisions and health services for the hukou population in urban areas in rural areas. This brings to the fore the biggest reservations about the changes to the hukou regulations, namely employment opportunities, education, training, health and welfare costs.
36. Further reform for the hukou system represents a timely investment in human capital that's conducive to economic growth, which in turn requires, among other enhanced skills development. There is abroad consensus that China should move forward with more hukou adjustments.
37. For non-hukou population, there are five types of forms in the length of their stay. These are "overnight", "3 days", "6 months", "6 months or one year" and "regularly engaged in work outside". Statistical data shows that non-hukou population who stayed for "3 days", "6 months" and "regularly engaged in work outside" is increasing year by year. This illustrates the migratory tendency in the growing population.
38. In 2011, the total amount of the migrating population in PRC was nearly 230 million, accounting for 17% of the country's total population. The average age among the migrating population was about 28 years of age, and those migrant workers born in the 1980s accounted for 44.84% of the total working-age migrant population. It is predicted that the pace of the transfer of rural labor to urban areas will gradually stabilize by 2020. PRC's urbanization rate will reach 60% in the middle of this century, and then the urbanization will remain stable (PRC's floating population development report 2012).
39. Inter-provincial migration flows were led by regional economic disparities. Migrating toward the coastal provinces has intensified in the 1990s and early 2000s. Based on the indicator "net percentage" Guangdong was the most sought-after destination of inter-provincial migrants. At its peak, this province's net migration accounted for about 30% of the nation's total inter-provincial migration in 1995-2000.

## **2. Aging Population**

40. PRC's population is aging, and will continue to do so in the foreseeable future. There are a number of reasons for this phenomenon, including significant fertility decline and the afore-mentioned improved longevity over the past two decades. PRC's fertility rate - the average number of children a woman has in their lifetime - is 1.6. This is lower than the rate in the UK and the US. It is a partial contributor to PRC's aging population. Others contributing factors are improvements in health over the past five decades, with life expectancy at birth increasing by two-thirds from 40.8 to 71.5 between 1955 and 2005 and has been estimated to be 74.84 years (female: 77.11 years; male: 72.82 years) in 2012.

**Chart 7: Birth and Death Rate in PRC, Beijing and Guangxi 1981-2009**



Source: China Statistical Yearbook and Nanning Statistical Yearbook 2010

41. Over the next few years PRC will undergo a significant demographic shift. The share of people over 60 in the total population will increase from 12.5% in 2010 to 20% in 2020. By 2030 their number will double from today's 178 million.

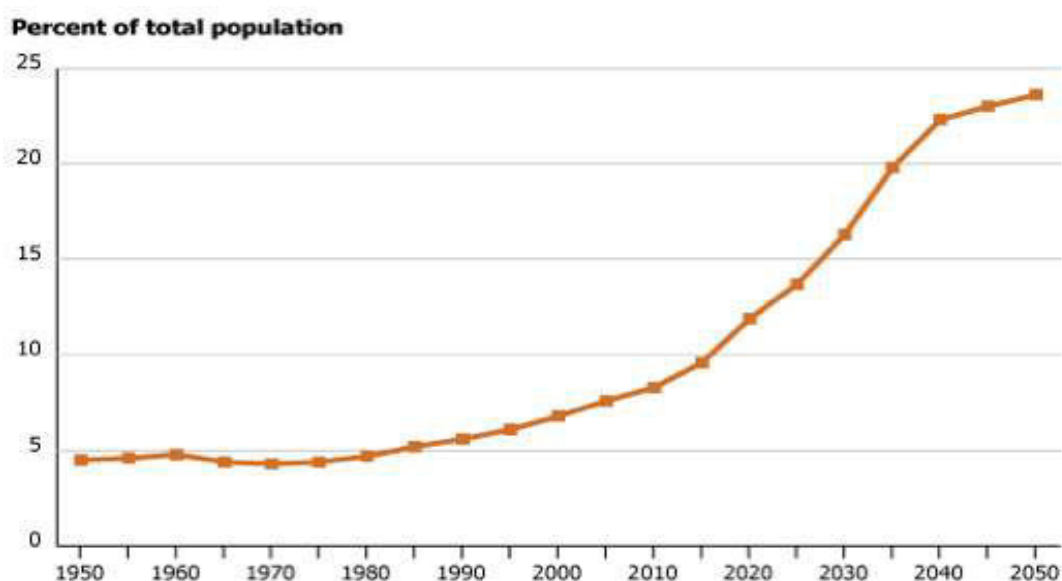
### **3. Effects of aging population: project related factors**

42. Meeting the long-term health and elderly care needs in the population will require increased government allocation of funds for age-care related additional infrastructure, services and education and training. This will include increased provision of qualified health staff at various levels, increased training provisions for elderly care nurses and enhancement rural training centers. These are only a few of many other requirements, such as welfare provisions.
43. PRC needs to improve health care of its growing elderly population. This has been recognized by its government, which has started to develop a comprehensive response. As a first step, Chinese health officials have implemented various chronic-disease prevention programs at the national level. They are also starting to set up long-term care delivery systems for the elderly. But while PRC's economy continues to grow rapidly, whether it will be able to allocate enough funding to meet these rising health care costs remains uncertain.
44. PRC has about 8.3% elderly population (those ages 65 and over), or over one-fifth of the world's elderly population. The percentage of elderly in PRC is projected to triple from 8.3% to 24% between 2011 and 2050, to a total number of 322 million<sup>10</sup>. This is significantly higher in percentage terms than estimates for EU countries where the population over the age of 65 will increase from 12.7% in 2011 to 14.4% in 2020 and 17.6% by 2050<sup>11</sup>.

<sup>10</sup> United Nations Population Division, World Population Prospects: The 2004 Revision

<sup>11</sup> European Commission: Eurostat

**Chart 8: Percentage of Older Adults (Age 65+) in PRC 1950-2050**



Source: *World Population Prospects: The 2004 Revision* (2005).

45. Traditionally adult children (especially by daughters-in-law) provide long-term care for the elderly in PRC at home. This will become increasingly less feasible in coming decades when parents of the first generation of the one-child policy start reaching old age and retiring. These 'singletons' will face the need to care for two parents and often four grandparents without siblings with whom to share the responsibility, a problem sometimes referred to in PRC as the "4-2-1 problem".
46. While the number of elderly in the population of PRC who require care is growing, the size of the working-age population (who pay much of the health care costs) is shrinking. The elderly-support ratio<sup>12</sup> is projected to decline from 9 persons in 2011 to 2.5 persons by 2050<sup>13</sup>.
47. The dependency ratio<sup>14</sup> will stabilize by 2015. Presently the dependency ration as percentage of 15 to 64 years of age of total population shows a marked increase of elderly in relation to children whereby in the 2010 - 2050 period the ration of dependent children will remain stable at about 25%. In the same period the dependency ration of elderly will increase from 15% to approx. 57%<sup>15</sup>.
48. The challenges of responding to needs of aging population are daunting for any country, but especially so for PRC. Unlike many developed countries, where economic development preceded increase of aging population, PRC faces the massive demands of aging population at one of the fastest rates ever. While its economy is still not fully developed there are and will be limited funds available to

<sup>12</sup> The working-age adult (ages 15 to 64) per number of elderly (age 65 and above)

<sup>13</sup> United Nations Population Division, *World Population Prospects: The 2004 Revision*

<sup>14</sup> The number of people of non-working age, both young and old, as a proportion of those of working age

<sup>15</sup> United Nations, *World Population Prospect 2009*

address the needs and demands. PRC's dilemma is how to allocate resources among competing needs of various sectors while still continuing its economic growth.

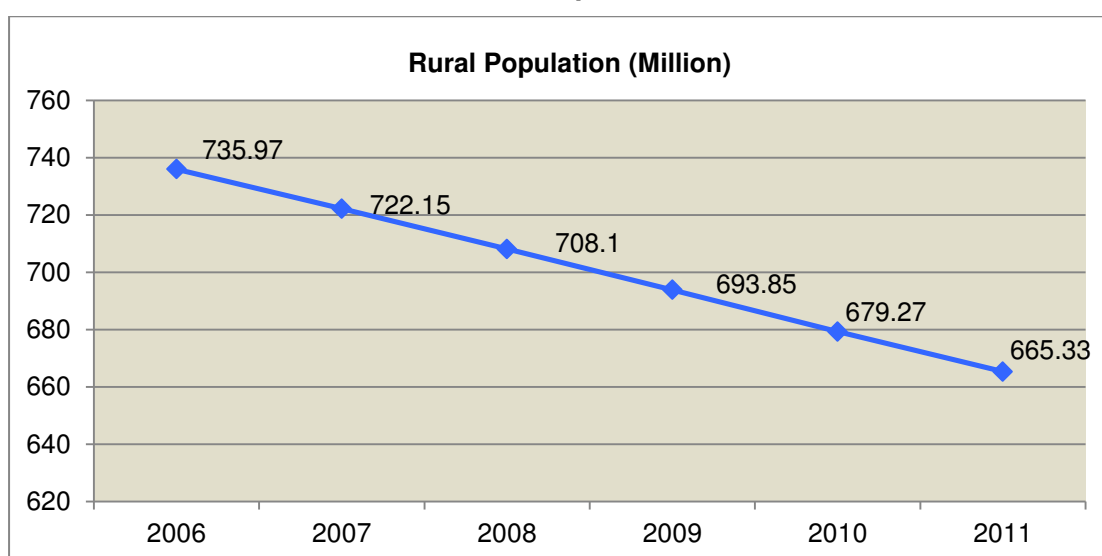
49. While the trend of population aging is inevitable and may even be accelerated by further declines in mortality and fertility rates, stemming the epidemic of chronic disease is one promising way to reduce the overall impact of aging on PRC's social and economic development.
50. Investing in a formal long-term care system with qualified human resources to complement the informal care currently provided primarily by family members could also encourage their continued participation in the provision of care. Addressing these elder care challenges will be crucial to PRC's continued social and economic development and stability.

## **B. URBANIZATION**

51. PRC is undergoing a massive urbanization process. According to the 12<sup>th</sup> Five Year Plan (2011-2015), around 8 million rural residents will move into cities per year. There is then an urgent need to develop the education and training sector and especially the TVET sub-sector in PRC. TVET is the only viable provider to equip the rural working age population skills needed for better life and work in cities.
52. Recently, PRC's regional economic disparities began to level off due to numerous programs and efforts by the government. This includes the introduction of new tax reforms in 1994. One of its aims was to increase the central government's redistributive capacity and the massive "Western Development Program", which was enacted in 1999. It consisted of large investments in infrastructure and introduction of fiscal policies more favorable to the West region from which GZAR benefits significantly.
53. Another driving force is the social benefits and health insurance reform that now covers the majority of the migrant workers so that the hukou system (see migration), is less impedimental to narrow rural-urban and inland-coastal inequalities. This reduced regional disparities across provinces and removed hurdles for internal migration, within province migration. It tended to increase attractiveness to migrating to the previously less appealing geographic destinations.
54. Although PRC maintains some division between the urban and rural sectors, by making rural-urban migration more problematic than it may exist in other countries, PRC's demography (as stated elsewhere in this report) is changing rapidly from rural to urban population. A dominating factor is a greater labor market integration and rural-urban migration. This has a direct impact on income. The ratio of urban to rural income was 1 to 3.3 2008. This could be interpreted that (i) productivity in agriculture is low due to under-investment in the agriculture sector and low land allocation per agricultural worker and (ii) there is as higher productivity in secondary and tertiary industry sector usually located urban areas.

55. The urbanization rate has grown from 20% in 1980 to 27% in 1990, to 36% in 2000 and 45% in 2010<sup>16</sup>. In 2011, this amounted to 51.3%, which means PRC's urban population exceeded for the first time the rural<sup>17</sup>.
56. PRC's annual urban population growth rate, at about 3.5% p.a. is less than the 5-6% typically experienced by other developing countries during their periods of rapid economic growth. Also, PRC's level of urbanization of 49.5 % in 2011 is below the 55% level typical for a country with PRC's level of real income per capita, and far below the 70-85% for developed economies.
57. To reiterate, over the last six years the rural population has continuously decreased from 735.97 million in 2006 to 665.33 million in 2011 (see Chart 9 below). Urban population accounted for 43.86% of total population in 2006 and 50.5% in 2011.

**Chart 9: PRC Rural Population 2006 – 2011**



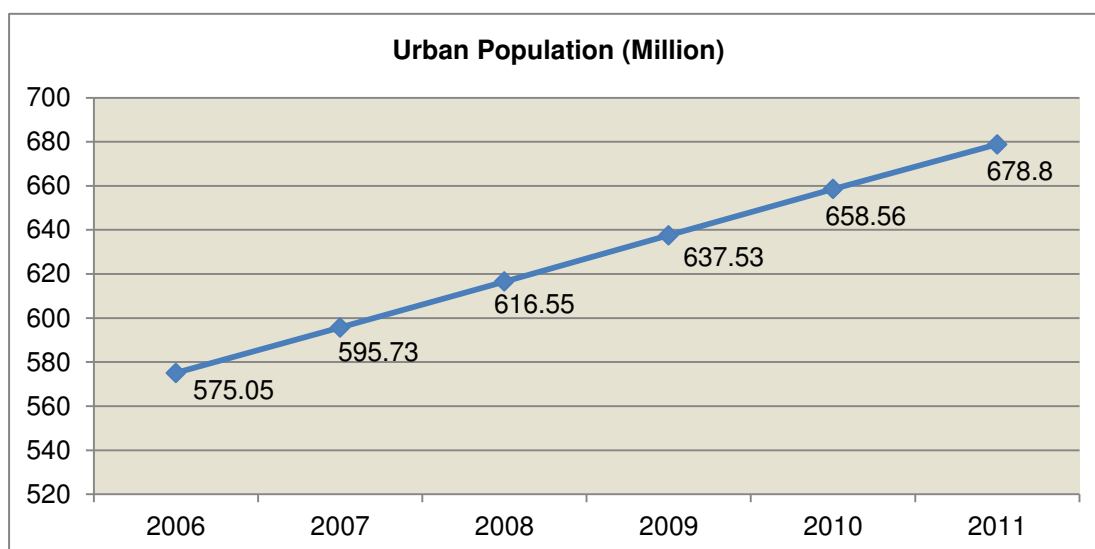
Source: CHN Country Meta-Data

58. At the same time the urban population has grown from 575.05 million in 2006 to 679.8 million in 2011. This is an increase from 43.86% in 2006, to 45.2% in 2007, 46.54% in 2008, 47.89% in 2009, 49.22% in 2010 and 50.5% in 2011. (See Chart 10 below)

<sup>16</sup> UN, World Urbanization Prospects, 2012

<sup>17</sup> Statistics Yearbook PRC 2011

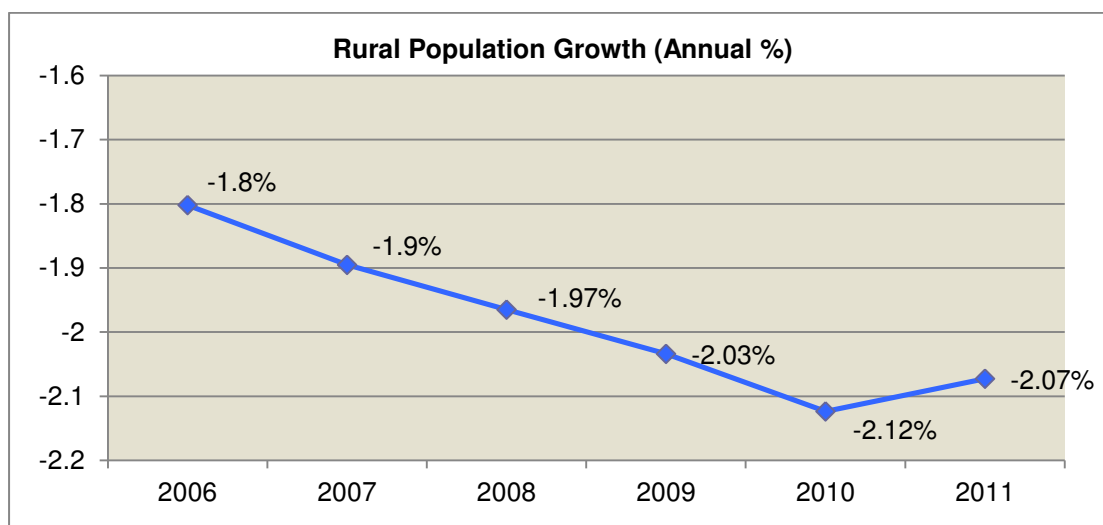
**Chart 10: PRC Urban Population 2006 – 2011**



Source: CHN Country Meta-Data

59. In end effect there is a marked **negative growth** of 1.8% in 2006, 2.12% in 2010 and 2.07% in 2011. Expressed as percentage of total population that is a decline of rural population from 56.14% in 2006 and 49.5 % in 2011. (See Chart 11)

**Chart 11: PRC Rural Population Growth 2006 – 2011**



Source: CHN Country Meta-Data

60. Considering the negative rural population growth, together with the migration trends from rural to urban areas, and the economic shift from previously dominant primary industry to value added secondary and tertiary industries, there is compelling argument to be made for significant labor market change and responding human resource development for secondary and tertiary industry demands. This will require strengthening of the TVET sub-sector generally, which is a major training provider. From this perspective there will be an increased pressure on social services such as a provision of childcare and



kindergarten provision, to cater for the needs of increased urban working population.

### C. ECONOMY

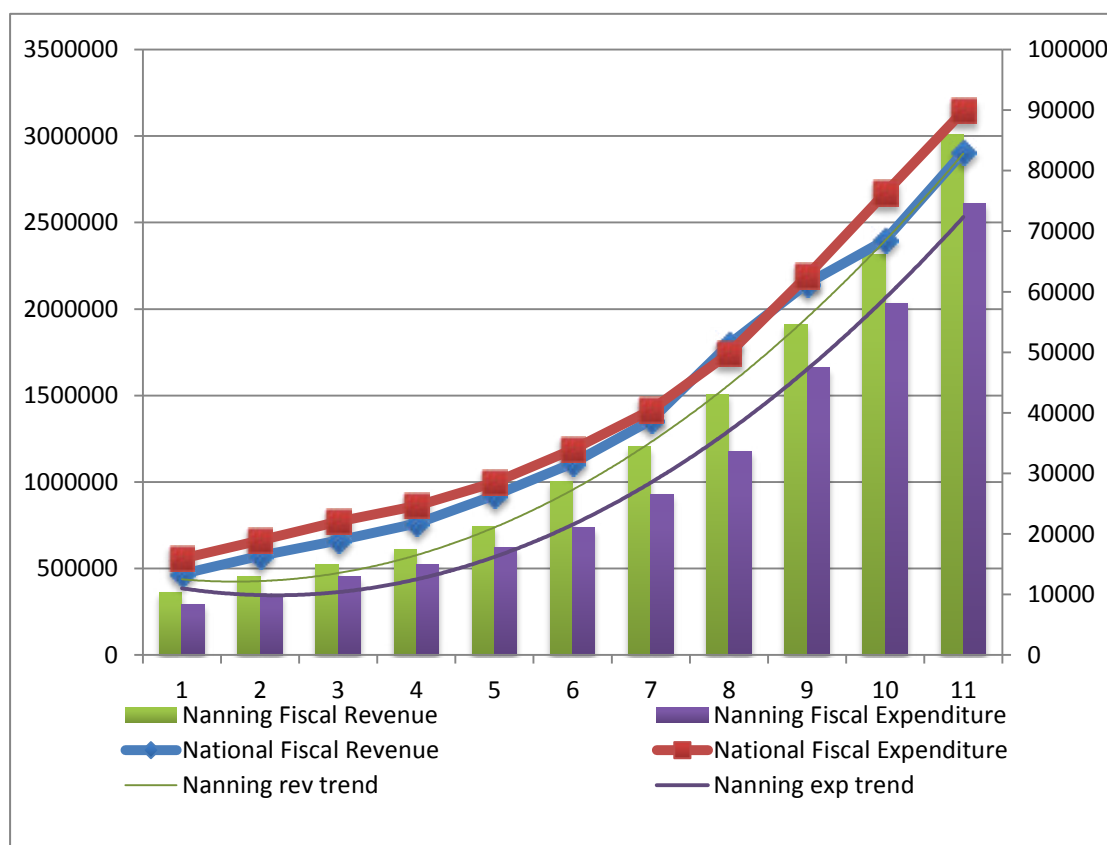
61. PRC launched economic reforms in 1978, producing three decades of sustained growth. Gross domestic product (GDP) grew at an average annual rate of over 9% during this period, sufficient to lift more than 500 million out of poverty.
62. PRC has not only one of the fastest growing economies, but also the second largest economy in the world. That is, in 2011 PRC surpassed Japan and is only second to the USA economy. Although over the last three decades, the average annual growth rate was over 9.0%, the national government's **12th Five-Year Plan** has set an annual gross domestic product (GDP) growth target for 2011–2015 period at 7.5%.
63. However, in the second quarter 2013, there are questions arising if this growth is sustainable in short to medium term. PRC initiated a credit squeeze when the People's Bank of PRC (PBOC) ignored a sharp rate spike on the interbank market. This is move against runaway credit growth aiming to avoid a systemic crisis. In short, PRC has to tame its largely unregulated shadow banking system whose activities are seen as causing a credit bubble. Thus the aforesaid GDP target growth of 7.5% for the 2011 to 2015 period may need to be a down-wards readjustment, which in turn may have short to medium term impact on the social sector.
64. According to IMF, PRC's economy faces important challenges. Concerns must be raised about the rapid growth in total social financing, seen as a broad measure of credit. This refers to the quality of investment and its impact on repayment capacity, especially since a fast-growing share of credit is channeled through less-well controlled parts of the financial system. While PRC has made good progress with external rebalancing, growth has become too reliant on the ongoing expansion of investment, especially by the property sector and local governments whose financial position is being affected as a result. Excessive income inequality and environmental problems are further signs that the current growth model needs to change<sup>18</sup>.
65. In comparison to other countries, in 2011 PRC's GDP was USD 7,318,499 million. That is about 51% lower than GDP of the USA being USD 14,991,300 million and some 20 percent higher than Japan's GDP of USD 5,867,154 million and nearly double that of Germany with GDP of USD 3,600,833 million<sup>19</sup>.
66. From 2000 to 2010, both national government fiscal revenue and expenditures kept rising, expenditures were lower than revenue in 2008 and the situation was maintained to 2010 (see Chart 12 below).

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<sup>18</sup> International Monetary Fund, IMF Mission Completes the 2013 Article IV Consultation Discussions with China, May 28, 2013

<sup>19</sup> World Bank data

**Chart 12: PRC and Nanning's Fiscal Revenue and Expenditures 2000-2010**



Source: Nanning Statistical Yearbook, various years

67. However in the first half of 2013 PRC's fiscal revenue growth decelerated to 7.5%. This was mainly due to a continuous economic slowdown and the country's structural tax reforms. Total fiscal revenue stood at 6.86 trillion CNY (1.12 trillion U.S. dollars) in the first six months of 2013. The pace was 4.7 percentage points lower than in the same period of last year, and slightly lower than the country's economic growth in the first half 2012.
68. PRC's fiscal revenue for the first six months of 2013 rose by only 1.5% over the same period last year to 3.23 trillion CNY. Thus it will be difficult for the government to achieve the full-year fiscal revenue growth target of 7 percent. Revenue from value-added tax, consumption tax and tariffs have either declined sharply or registered slower growth during this period, contributing to the slower growth in central fiscal revenue. The government stated that the growth rate of fiscal revenue will not be high in the second half of the year, due to weak economic expansion, tax-cutting policies and stabilized property transactions<sup>20</sup>.
69. Furthermore, revenue from value-added tax, consumption tax and tariffs have either declined sharply or registered slower growth during this period, contributing to the slower growth in central fiscal revenue.

<sup>20</sup> PRC National Bureau of Statistics

70. With reference to expenditure, government spending for the first six months 2013 rose 10.8% to 5.97 trillion CNY, with central government spending increasing 8.1% and local governments' spending rising 11.3% during this period<sup>21</sup>.
71. In 2013, the PRC government will be spending more on improving people's livelihood, with expenditure on education rising 10.7%, medical and health services up 22.3%, and energy-saving and environmental protection up 14.1%<sup>22</sup>.
72. Economists predict that PRC will be the largest economy in the world by 2016. Recent OECD simulations suggest that PRC could maintain high, though gradually easing, growth during the current decade and the expansion may reach 8.5% in 2013 and 8.9% in 2014<sup>23</sup>.
73. Notwithstanding these forecasts, the reality is somewhat somber. Recent data reported by Reuters<sup>24</sup> shows that PRC's USD 8.4-trillion economy had its worst slowdown in 13 years in 2012 when weak exports and interest rate hikes from the year before dragged annual growth to 7.8%. This is still impressive by world standards but the lowest for PRC since 1999.
74. According to PRC's National Bureau of Statistics, GDP growth in PRC was 7.90% in the fourth quarter of 2012. This is a decline of about 1.5% over the same quarter of the previous year, and as documented above, there was further decline 2013, mainly due to PRC's government fiscal policies.
75. At local government levels fiscal revenue during this period expanded 13.5% from a year earlier to CNY 3.63 trillion. This was mainly due to increased income from sharp upsurges in real estate and housing transactions. In June 2013 alone, fiscal revenue reached CNY 1.24 trillion, a significant increase of 12.1% from a year earlier.
76. Historically, from 1989 until 2012, PRC's GDP annual growth rate averaged 9.23% reaching an all-time high of 14.20% in December 1992 and a record low of 3.80% in December of 1990. There was a sharp decline 2008/2009 mainly due to the GFC and a subsequent sharp increase in 2009/2010 due to post-GFC upturn with a steady decline from 2010/2012 as shown in Chart 13 below.

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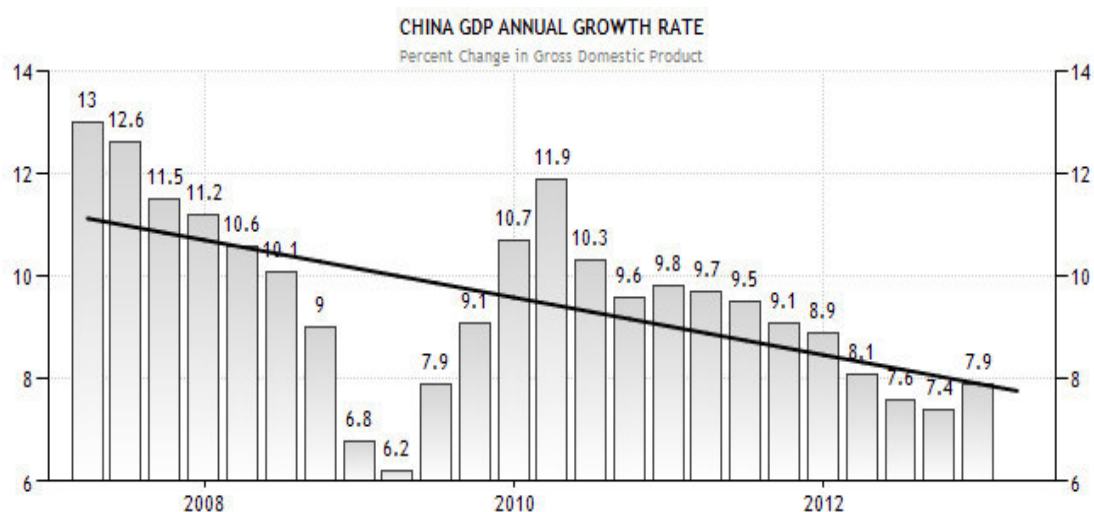
<sup>21</sup> China News, [http://news.xinhuanet.com/english/business/2013-07/15/c\\_132543469.htm](http://news.xinhuanet.com/english/business/2013-07/15/c_132543469.htm)

<sup>22</sup> *ibid.*

<sup>23</sup> Bloomberg Business Week, 22 March 2013: OECD China Economic Growth to Accelerate to 8.5% in 2013,

<sup>24</sup> Reuters, 24<sup>th</sup> March 2013: China Vice Premier says economy faces headwinds, urges broad reforms

**Chart 13: PRC GDP Annual growth rate 2008 - 2012**



Source: [www.Tradingeconomics.com](http://www.Tradingeconomics.com) / National Bureau of Statistics of China

77. Despite the down-wards trend in PRC's GDP growth rate there is a consistent upward trend PRC's GDP per capita. Historically, from 1960 until 2012, PRC GDP per capita averaged USD 601.7 reaching an all-time high of USD 2634.7 in December of 2012 and a record low of USD 72.3 USD in December of 1962.

**Chart 14: PRC GDP per capita 2008 - 2012**

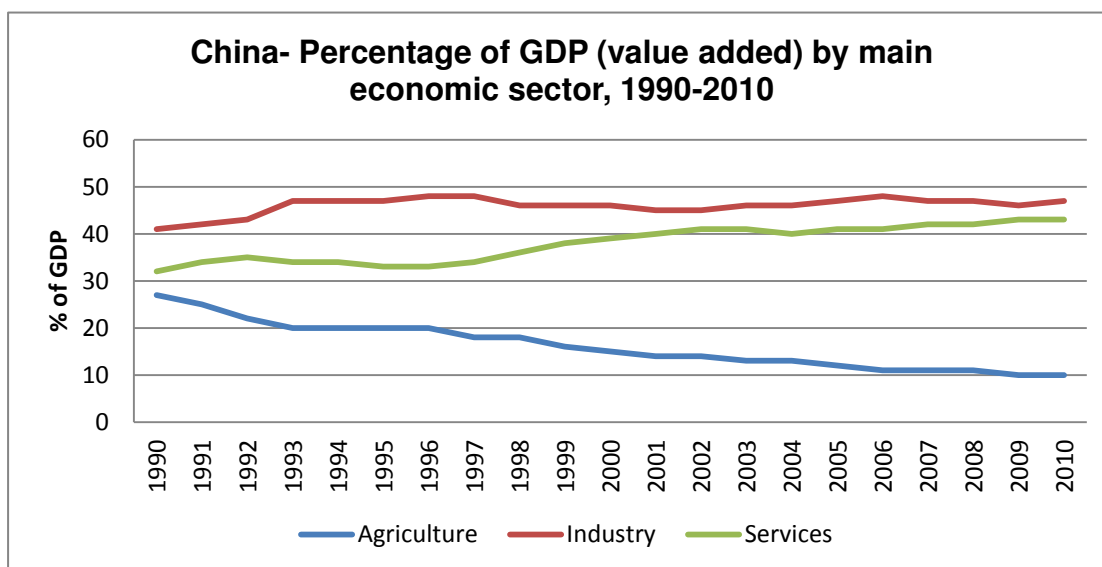


Source: [www.Tradingeconomics.com](http://www.Tradingeconomics.com) / National Bureau of Statistics of China

78. Despite impressive GDP and GDP per capita annual growth inequalities between well-developed coastal areas and inland regions, as well as among social groups have also increased. Addressing imbalances in the PRC's growth to promote greater social harmony has become the main driver of the policy agenda as reflected in the government's Twelfth Five-Year Plan (2011-2015).
79. One of the contributing factors was the shift from primary to secondary and tertiary industries. The relative contribution of agriculture dropped

substantially between 1990 and 2010, from 27% of GDP to just 10%. Industry increased six percentage points from 41% to 47%. The service sector gained the most, from 32% in 1990 to 43% in 2010. These trends are expected to continue, underlining the importance of industry and services for future value added enterprises.

**Chart 15: GDP by Economic Sectors**

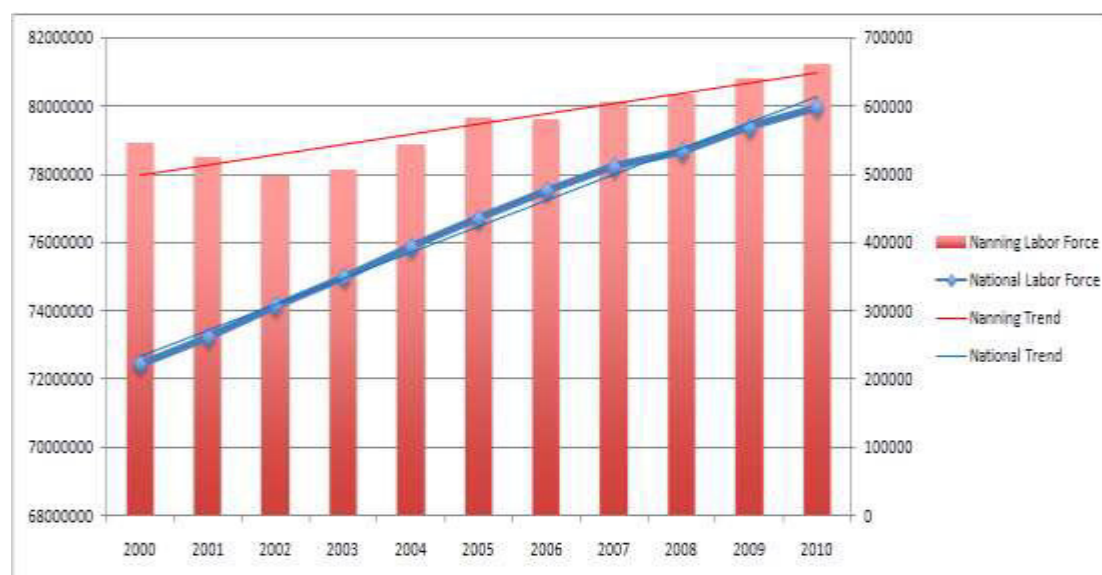


Source: World Bank, World Development Indicators from national accounts data.

#### **D. LABOR FORCE, EMPLOYMENT AND WAGES**

80. PRC has the largest labor force in the world, adding about 7 million people to the labor force each year. The following chart shows the long-term growth of the labor force. The abundant supply of cheap labor is one of the major contributing factors to the economic growth that is taking place in PRC over the last 30 years.

**Chart 16: PRC and Nanning labor force trends 2000 - 2010**



Source: Derived from World Bank data and Nanning Statistical Yearbooks

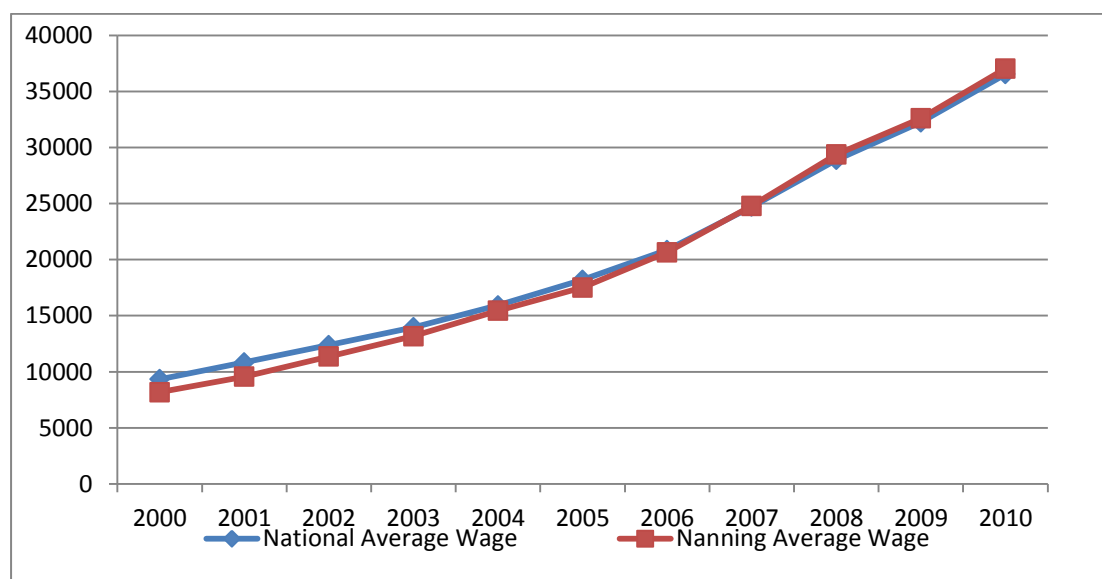
81. As noted above PRC's demographic transition has reached the point at which the increase in the working age population is shrinking, working-age population fell for the first time in 2012. The 15-59 years old population was about 94 million, and this age group's proportion of the total population was 69.2%. The number was nearly 3 million less than the previous year, and the proportion dropped 0.60 percentage points over the previous year.
82. According to the above demographic data, PRC's "demographic dividend" (i.e. the availability of a large number of young workers), which helped fuel its growth, will begin to shrink. This could trigger a sharp economic slowdown. PRC has recently become familiar with the "Lewis turning point", named after a 20th-century economist from St Lucia, Arthur Lewis, who said that industrial wages start to rise quickly when a country's rural labor surplus dries up.
83. Wage rate increased substantially during the last decade, compared to the decade before where urban migrant workers' wage rate was stagnant. A serious urban labor shortage occurred in the coastal areas in 2003 and subsequently became widespread throughout the country. As can be expected, the wages of migrant workers increased during the 2003 – 2009 period substantially with an annual growth rate of 10.2%. In addition, wage rates of hired workers in agricultural sectors have also increased, indicating a decline of surplus labor in the agricultural sector, and a shortage of unskilled workers in urban areas, which has caused wages to rise in all sectors<sup>25</sup>.
84. There are however, gender based inequalities in respect of wage rates. In a previous empirical study using China National Statistics Data (CNSD) 2004 and 2006<sup>26</sup>, it is shown that in PRC, males with a professional school degree earn 82.38% more, and females with a professional school degree earn 69.79% more compared to holders of other qualifications. Females with a TVET qualification earn 43.15% more, and males with a TVET qualification earn 34.25% more.

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<sup>25</sup> Wang, Meiyun (2010). The rise of labor cost and the fall of labor input: Has China reached Lewis turning point? *China Economic Journal*, 3(2), 139–155.

<sup>26</sup> Chen, G. and S. Hamori (2009), Economic returns to schooling in urban China: OLS and instrumental approach, *China Economic Review*, 20: 143-152

**Chart 17: PRC and Nanning's Average Wage for Urban Employees 2000 - 2010**



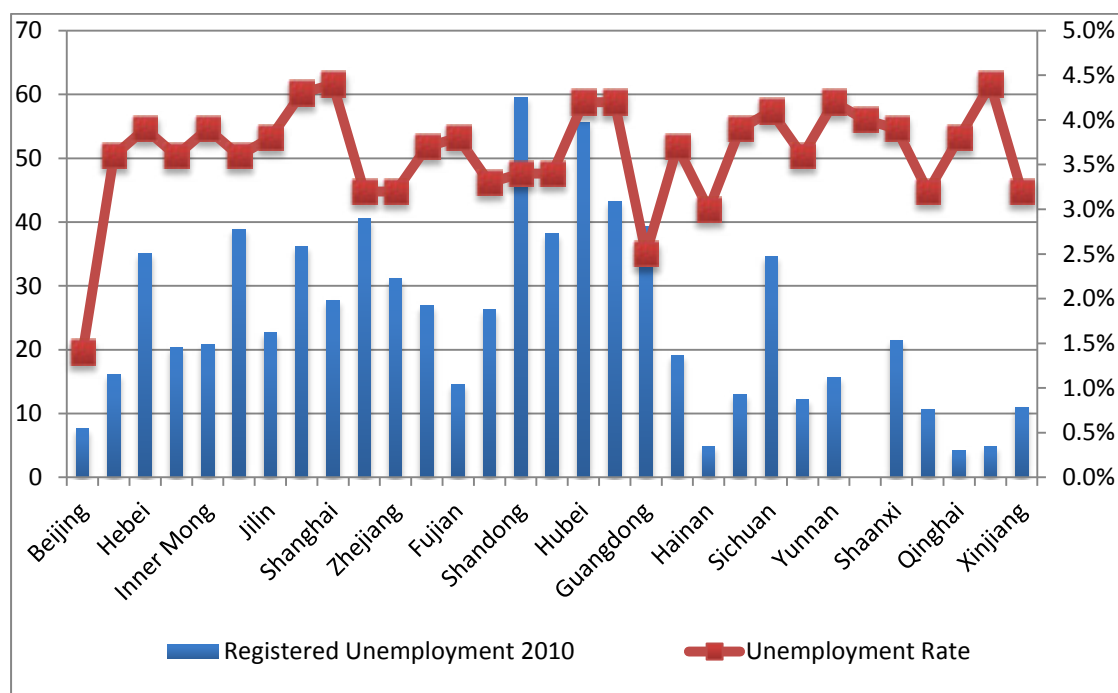
Source: China Statistical Yearbook and Nanning Statistical Yearbook

85. The employment rate of graduates from secondary VET schools was 95.8% in 2008, down by only 0.6% over the previous year but still 10% higher than that of college graduates. In summary, the high employability of their graduates may make TVET schools more attractive to prospective students and their parents in future.
86. The continued fast economic growth and resulting expansion of employment created a strong demand for labor. Recently, there has been a concern both in the academics and popular media on whether PRC has already passed the aforesaid Lewis turning point. Indeed, there have been a number of empirical studies already addressing this issue<sup>27</sup>. If this stands to reason according to Lewis (1972)<sup>28</sup>, PRC has reached expansion of labor market demand to such an extent that it exceeds labor supply and the wages of ordinary workers will continue to rise.
87. The increased demand for and decreased supply of labor has kept the registered unemployment rate low compared to international standards. However the persistent weakness in the manufacturing sector will have a bigger impact on jobs. As China spends less on stimulus and tolerates even less over-spending at the municipal level, the era of full-employment in the country may be coming to an end. But, PRC's unemployment figures are hard to assess, the government claims that they are around 4% (2012 figures). But unemployment varies according to sectors. For example the healthcare sector is poised to hire more staff in the third quarter 2013.

<sup>27</sup> Minami, Ryoshi, & Ma, Xinxin (2010), The turning point of Chinese economy: Comparison with Japanese experience. *China Economic Journal*, 3(2), 163–179.

<sup>28</sup> Lewis, A., (1972), Reflections on unlimited labour. In L. Di Marco (Ed.), *International economics and development* (pp. 75–96). New York: Academic Press.

**Chart 18: Registered Unemployment Number and Rate in PRC 2010**



Source: China Statistical Yearbook 2011

88. According to WB data PRC's unemployment rate for 2011 and 2012 is 4.1%. However, PRC's official unemployment rate is based on urban residents registering for unemployment benefits. That measure leaves out important sections of the workforce—notably migrant workers, who go uncounted because they are, as noted above, not readily eligible to register for such benefits in the cities where they work. On the upside, for younger workers, with higher skills, PRC's unemployment rate remains low—4.1% for those with a vocational qualification.
89. PRC's labor market still appears to have weathered 2012's growth slowdown relatively well. A loss of around 4.5 million jobs for China's migrant workers in the past year has taken their unemployment level to 10 million, still well below the 23 million out of work in 2009<sup>29</sup>.
90. Given the continuously increasing demand for qualified labor in tertiary servicing sector and the decline of working age population (or population aging problem), it can be expected that the growth of labor demand in the tertiary industries will exceed the growth of labor supply. Such labor shortage may become a constraint to tertiary industry enterprises. This will begin to play a significant role in determining wages.

## **E. SKILLS SUPPLY AND DEMAND**

91. Generally persons, both skilled and semi-skilled with technical competencies enjoy strong demand in the labor market. This applies mainly to the manufacturing and services sectors. Graduates from skill training schemes reportedly encounter few problems in finding

<sup>29</sup> The Wall Street Journal December 8, 2012



employment. Workers' salaries increase with higher skills level. Employers even contract for, or "order" graduates from skills training programs before completion of studies to secure supplies of workforce skills. However, reliable survey data on labor market supply and demand is not readily available.

92. Based on various sources the average level of knowledge and skills of PRC's labor force is relatively low. According to MORSS data in 2008 about 50% of PRC's 140 million employees in urban enterprises were classified as skilled. The break down was as follows: 60% had junior certificates, 35% intermediate certificates and 3.5% senior certificates. This skills distribution differs substantially from that of developed countries, where the respective figures according to OECD stand at 15%, 50% and 35%, respectively. Thus it is not surprising that given the change from primary to secondary industries there is a growing demand for qualified technicians and skilled workers, particularly in the secondary industry sector.
93. PRC's economy lacks qualified and skilled personnel including persons with technical skills, competencies and craftsmanship. Labor market statistics based on data from 91 cities in 2012<sup>30</sup> showed that demand exceeded supply in almost all technical, occupational and skilled categories. In 2008 job opening to applicant ratios were 2.2:1 for senior technicians; 2.3:1 for technicians; 1.3:1 for skilled workers; 1.2:1 for intermediate skilled workers; and 1:1 for junior skilled workers. The situation is becoming increasingly critical, as the number of senior skilled workers is being reduced quickly due to retirement. More recent statistics show continued excess demand for technical and skilled workers. The ratio of vacancies to applicants for senior technicians, technicians was 2.2 and 2.3, respectively, in 2012.

## F. NANNING SOCIO-ECONOMIC BACKGROUND

94. Nanning is the capital of GZAR, which is one of the 12 less developed provinces and autonomous regions in the western part of the PRC and a gateway to the Pan-Beibu Gulf and ASEAN regions.
95. Nanning Municipality had at year-end 2011 a population of 7.12 million (3.40 million female and 3.72 million male). Projection is that population growth will be around 12.4 % per year. In comparison to national trends the percentage of GZAR's urban population in 2011 was 41.8%. The urbanization rate brought about by migration from rural to urban areas will require suitable education structure including preschool and kindergarten facilities.
96. The birth rate in **Nanning** is 9.8/1000 persons and death rate is 4.29/1000 persons. The projection is that population growth be around 12.4 % per year. Birth rate in **GZAR** is 13.32/ 1000 population and its death rate 6.12/1000 population. This is higher than the PRC average.
97. **Nanning** fiscal revenue and expenditures also kept rising during the 2000-2010 period. Not only the revenue was and remains higher than

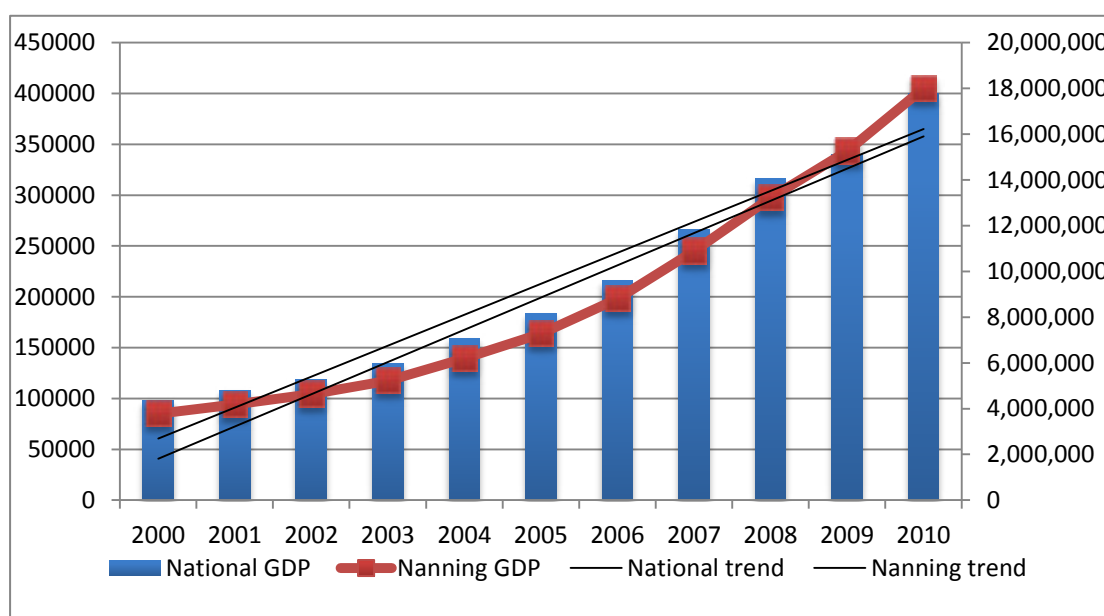
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<sup>30</sup> [http://www.chinajob.gov.cn/DataAnalysis/content/2012-04/16/content\\_706285.htm](http://www.chinajob.gov.cn/DataAnalysis/content/2012-04/16/content_706285.htm)

expenditures but also, revenue's growing trend is higher than expenditures. This means there is much space for **Nanning** and **GZAR** to make rational resource allocations and funds for public expenditures, especially for education system, health and medical treatment, social welfare, infrastructure, etc.

98. During the 2000-2010 period, **Nanning's** GDP grew from CNY 37,793 million to CNY 180,026 million, a five-fold increase and thus outperforming that of PRC nationally in the same period. PRC's GDP grew from CNY 9.921 trillion to CNY 39.798 trillion as four-fold increase between 2000 and 2010. The trend between national and Nanning GDP figures has narrowed over the 2000 – 2010 period, and the forecast is that this will continue.

**Chart 19: GDP of PRC and Nanning 2000 – 2010**

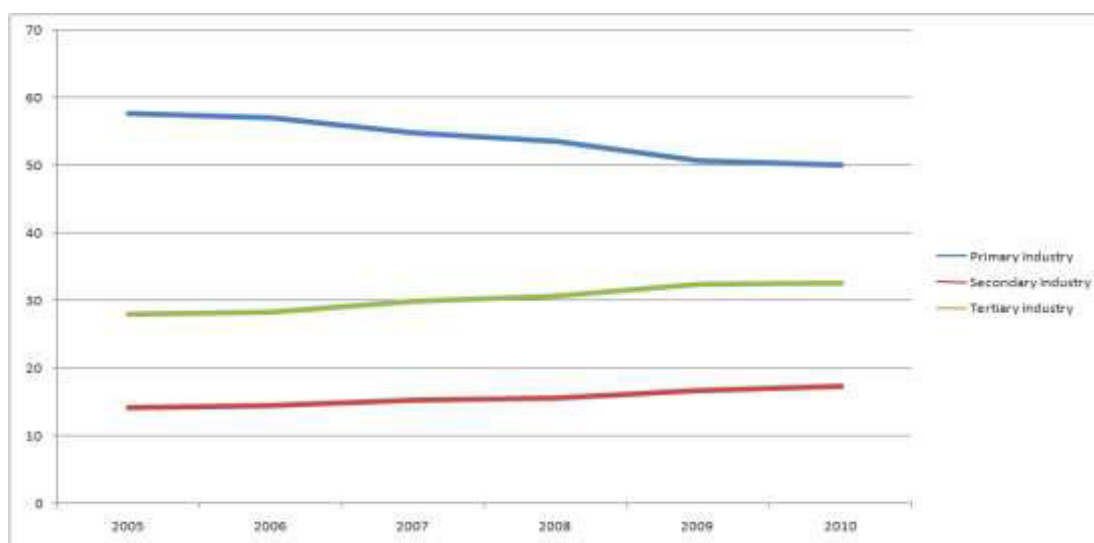


Source: China Statistical Yearbook and Nanning Statistical Yearbook

Note: unit: 100 million CNY for national account; million CNY for Nanning account.

99. On a sector basis figures (see Chart 20 below) the ratio of service sector is rising. However the percentage of service sector in Nanning, i.e., 32.6% in 2010, is much lower than the national average of 43%. On the other hand, the ratio of the primary industry (agriculture) in Nanning in 2010 was 50.1% or five times higher than the national average of 10%. This implies that Nanning has a huge potential for economic development and structural change in the secondary and tertiary sectors. However, the value-added output of the service industry accounted for 50.16% of the municipality's total output.

**Chart 20: Sector performance Nanning 2005 - 2010**



Source: Nanning Statistical Yearbook, various years

100. In comparison to national trends the percentage of urban population in **GZAR** was 41.8% in 2011, being lower than the average in PRC. There is no doubt that urbanization rate in **GZAR** will keep growing. Therefore, it is important to build suitable education structure for those rural migrants to adapt to future work.
101. In 2012 **Nanning** had a total of 914 industrial enterprises, with a gross industrial output of CNY 172.529 trillion. Light industry accounted for CNY 84.367 trillion and heavy industry, CNY 88.162 trillion (large enterprises contributing CNY 2.99 trillion, medium enterprises CNY 5.0222 trillion, small enterprises CNY 9,2445 trillion, domestic funds enterprises CNY 14.6399 trillion, enterprises with funds from Hong Kong and Macao CNY 1.0503 trillion, foreign funded enterprises CNY 1.5628 trillion. Total asset of industrial enterprises in 2012 was CNY 124.289 trillion with a total liability of CNY 64.966 trillion.
102. Labor force data shows that in 2011 there were 4,090,000 persons employed in Nanning. This included 2,048,000 in primary industry, 709,000 in secondary industry and 1,334,000 in tertiary industry. Number of persons employed in urban units was 780,000 including 468,000 in state owned enterprise and 16,000 in urban collective enterprise. 688,000 persons were employed in urban private enterprises. It is evident that employment in Nanning is mainly in the primary industry sector (50.05%), followed by 32.62% in the tertiary industry sector and lowest in the secondary industry sector (17.33%). Taking into consideration the national shift from primary industry to secondary and tertiary industry, Nanning is well placed to develop employment opportunities in the social service and other service industries.
103. The average wage structure in Nanning's urban enterprise in 2012 was CNY 40,120, whereas the average wage for employed person in urban collective enterprise was CNY 47,418. The per capita annual net income of rural households was CNY 5,848, whereas per capita annual disposable income of urban households was CNY 20,000. The urban registered unemployment rate was 3.48%.

104. **Nanning** municipality ranks first among the 14 GZAR municipalities in GDP terms which was CNY 221,151 million (at current prices 2011) accounting for 19.09% of GZAR GDP registering a 14% annual growth rate over the 2006 -2011 period. In 2012 Nanning's primary industry contributed CNY 30,631 million or 13.85%, secondary industry CNY 84,634 million or 38.27% and tertiary industry CNY 105,885 million or 47.88% to GZAR's GDP.
105. Although national economic growth in PRC fell below 8% in 2012, at the same time PRC's poorest provinces have experienced stronger growth. **GZAR** recorded GDP growth of 11.3% in 2012 being in the lower 50-percentile. Beijing recorded 7.7% and Shanghai 7.5% economic growth.
106. The development of **Nanning** as a regional urban center has led to rapid urbanization and an annual growth rate of 15.5%. Industrialization has created a rising demand for skilled workers and extension of social services to provide balanced access and social development in rural and urban areas.
107. Given the above socio-economic changes it is evident that there will be growing social and economic pressure to intensify efforts in advancing TVET provisions especially in the light of demographic changes, urbanization, industrialization and labor market demands. Thus there is a need for the relevant authorities to take action to achieve sustainable development of the TVET sector to strengthen the skill base and to meet demands for qualified human resources in accordance with the priorities in the government's 12th Five-Year Plan.

#### **G. NANNING EDUCATION AND HEALTH SECTOR BACKGROUND**

108. In 2011 **Nanning** had 1080 kindergartens with a total enrolment of 198,000 pupils. There were 1504 primary schools with 94,000 new student enrolments in regular primary schools, and total enrolment of 531,000 pupils. The annual primary schools graduation number in 2012 was 88,000. The number of fulltime teachers in regular primary schools was 28,419. This gives a pupil to teacher ratio of 18.68 to 1.
109. There were 346 regular secondary schools with 128,000 new enrolments and a total of 378,000 enrolments. There were 22,759 full time teachers, giving a student to teacher ratio of 16.61 to 1. There were 121,000 pupils graduating from regular secondary schools.
110. In 2011 **Nanning** had 2,324 health institutions of which 201 were hospitals. Totally there were 28,821 beds available including 26,945 hospital beds. The health industry employed 53,175 persons. This includes 40,696 medical and technical personnel 15,398 certified physicians and certified assistant physicians 15,945 senior nurses.

#### **H. CONCLUSION: SOCIO-ECONOMIC BACKGROUND**

111. PRC is confronted by the challenge of upgrading its workforce skills of. PRC's fast-growing industries and sectors, especially in coastal areas are experiencing skill and labor shortages. In such an environment wages of unskilled labor are rising proportionally. By some estimates,

wages of unskilled labor in coastal areas have already increased to a level sufficient to reduce competitiveness in the labor-intensive industries. Relocating or locating industries to the central and western regions, where there is a population with low wages expectations may allow PRC to remain competitive in some industries for years to come. However, in the coastal areas, employers are already facing the need to switch to more skill-intensive production and services. It is anticipated that a growing rural-to-urban migration will cause wages in PRC's poorer areas to rise over time, as well. PRC's comparative advantage in purely unskilled labor-intensive products will therefore decline eventually, making skills development an essential priority for economic growth and social services and welfare provisions<sup>31</sup>.

112. Due to demographic factors PRC's labor force growth is limited. Economically, the main choice for PRC is to raise the value added production and social services. Economic policies also call for more balanced development among provinces, expanding the productive and servicing capacity in less developed provinces such as GZAR. These policies, in turn, require better skilled workers and technicians. Pre- and in-service TVET will play an increasing important role in achieving higher productivity.
113. To respond to the aging population rural health care and pre-school education demand Nanning Municipality will 2022 need to achieve (i) a net enrolment rate of 70% for 3-year preschools and 90% for 1-year preschool. Currently, the corresponding figures (2011) are 54% for 3-year preschool and 74% 1-year preschool, and a ration of rural doctors / 1,000 people will be 2.10 and the ratio of licensed nurses / 1,000 people will be 3.14. Corresponding figures for 2011 are 1.74 rural doctors and 1.39 licensed nurses.

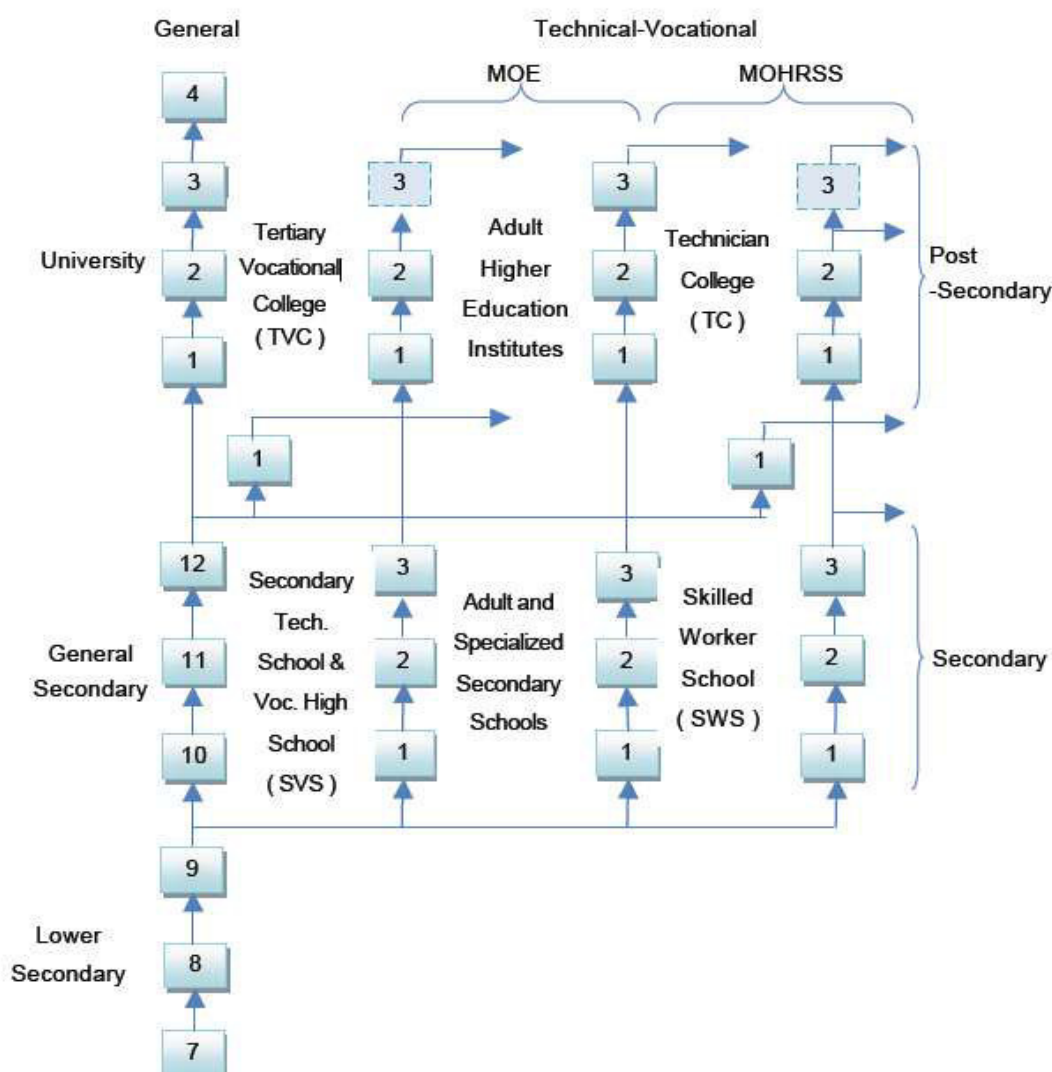
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<sup>31</sup> World Bank 2007

### III. TVET SYSTEM ANALYSIS

114. For a better understanding of the TVET system in PRC it seems important to put it in a context of the overall education sector. The diagram shows the TVET structure and governance and sharing of responsibilities between MOE and MOHRSS. It shows the pathways within the technical – vocational streams at secondary and post-secondary levels.

**Figure 1: The Post-primary education sector in PRC**



115. As seen from the above diagram, PRC has a varied school system. Vocational schools exist in parallel with middle schools, high schools and colleges, but students cannot transfer from vocational schools to general schools.
116. TVET in PRC has played and is playing a traditional role in (a) providing skill sets that are needed by enterprises and across its national economy: (b) supporting pathways into employment for young people and (c) strengthening mobility between occupations for experienced workers. PRC's technical and vocational schools recruit

11 million students annually, with close to 32 million enrolled in 2012, accounting for half of China's secondary and higher education student population. However the PRC government intends to make the system a flexible one that can include different types of education by the year 2020. It is drawing up a plan to build a modern vocational education system, including a mechanism to connect vocational and general education.

117. PRC, like other countries, is facing the same problem: Technology and economic development are very dynamic and moving very fast. That means the TVET sub-sector needs to be adjustable enough to develop the relevant skills.
118. Paper presented by the MOE at the UNESCO 2012 conference on TVET education<sup>32</sup> identified several strategic goals including the enrollments in secondary TVET institutions, which will increase from 21.79 million in 2009 to 22.50 million in 2015 and 23.50 million in 2020. With reference to the targets for the skilled professionals, the total number of highly skilled workers will increase from 26.30 million in 2009 to 39 million in 2020, being a 2% increase in terms of share of highly skilled workers in all skilled capacities. And the share of skilled workers in total labor force is expected to increase from 33% in 2009 to 50% in 2015 and 70% in 2020. The plan also encourages international cooperation, stating: "bilateral and multilateral cooperation should be strengthened so that the nation's TVET system, standards and policies will be aligned with the international level."

#### **A. TVET SYSTEM: OPPORTUNITIES AND CHALLENGES**

119. PRC's development remains unbalanced, uncoordinated and unsustainable, and faces numerous challenges. In PRC's modernization efforts, the TVET sub-sector has an important role to play, and will therefore embrace greater opportunities for development.
120. With an urbanization rate of 50 percent, 8 million rural workers are expected to transfer to cities every year through 2015. As a result, there is an urgent need to develop rural-oriented training in China so rural residents can enjoy the social and welfare benefits of urban population as well as to have the job and life skills they need before moving to an urban area<sup>33</sup>.
121. The recent expansion of higher education has a mixed impact on the TVET sector. On the one hand, TVET at the tertiary level has been boosted considerably as the number of tertiary TVET institutions increases and total enrolment grows. For example, the number of polytechnics and tertiary vocational institutes increased 2.6 times from 442 in 2000 to 1,147 in 2006. On the other hand, TVET at the secondary level is growing relatively slowly as an increased number of junior high school graduates opt for general senior high schools as this leads to better opportunity to pursue university studies. From 2000 to

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<sup>32</sup> Ministry of Education (2012), Towards a modern TVET system with Chinese characteristics: new experience, new level and new strategies, UNESCO

<sup>33</sup> Ministry of Education Report on TVET Development in China (2012)

2006, for example, the total enrolment of general senior high schools increased 2.1 times from 12 million to 25.1 million, while that of vocational high schools increased 1.5 times from 12.1 million to 18.1 million.

122. The higher education expansion policy has some negative impacts. Falling teaching standards and rising unemployment among college graduates are the two most frequently mentioned side effects. The employment rate of college students was 86% in 2008, down by 2% over the previous year. 27.7% of the graduates ended up working in areas that are poor matches of their professional training. To cope with the deterioration of these indicators, the MOE decided to cap the growth of new higher education enrolment at 4% in 2009 and 3% in 2010. Once the enrolment of higher educational institutions is capped, it follows, that general senior high schools whose graduates are focusing on university entrance exams may not expand as in previous years. Thus TVET becomes a realistic alternative. To promote and support TVET is a potential catalyst for the government to achieve its education and training goals<sup>34</sup>.
123. While TVET has a direct role in supporting the skill needs of industry and employment and career needs and opportunities of workers, it is also located within wider national education and training system that has social and civic as well as economic purposes. TVET, by contributing to the general knowledge and skills of individuals, makes an important contribution to these needs.
124. Within the context of the changes and expansion of skills needed by industry and employers, as well as growing mobility of workers and the expansion of TVET graduate markets such as within the ASEAN region a number of issues need to be highlighted, such as investment in bilateral mechanisms for improving international and regional cooperation, and skilled labour migration.
125. PRC and other ASEAN member countries have been investing in bilateral mechanisms to improve the cooperation of their TVET provision with the aim of supporting regional economic integration. This includes cross-border investment and the mobility of skilled labour. Although, the processes of expanding the links and ensuring sustainability have to a large extent focussed on national systems there are signs of intensification of regional cooperation and strengthening multilateral mechanisms for improving international collaboration, especially in the area of occupational standards and qualifications.
126. This intensification of international TVET cooperation is especially important as TVET systems are linked to national economies, labor markets and national professional organizations. The globalization of economies and the international flow of labor force are now putting increased priorities on the effectiveness, quality, skills recognition and employability of TVET graduates across economic regions. For those and other reasons TVET is an important part of PRC's whole education

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<sup>34</sup> National Guidelines of Education Reform and Development 2011



system. It is an important channel to improve advancement of economy, society and employment in PRC.

127. In 2010, the PRC Government identified TVET as the principal target for educational expansion to develop a skilled workforce, and approved the National Long Term Strategy on Education (2010-2020). Strengthening TVET will help to address a significant shortage of skilled workers in the PRC. It is estimated that between one-quarter and one-third of tertiary graduates and several million secondary school graduates cannot find jobs upon graduation each year. Making the TVET system more responsive to the labor market needs, and strengthening links between TVET and the private sector are essential measures to mitigate this mismatch.

## **B. TVET POLICIES, PLANS AND STRATEGIES**

128. To reiterate, socio-economic changes have necessitated expansion of the TVET system. The aim at political level was to ensure that sufficient skilled workforce is available for the growing economy especially in the secondary and tertiary industry sectors. In order to achieve this there was a follow on strategy to enhance the image of TVET, which from a cultural perspective has been seen as inferior to general education. Even today, there is sufficient research showing that parents prefer general education to TVET, which they perceive as being inferior.
129. The core policy reform over the last two decades can be summarized as follows:
- i. *Vocational training and employment requirement.* The Labor Law in Article 68 and the Vocational Training Law in Article 20 stipulate that completion of vocational training is a prerequisite for employment in technical occupations.
  - ii. *Expansion of TVET.* Initially the expansion was focusing on the senior secondary level. The aim was to achieve a 50:50 ratio in general secondary and TVET enrollments<sup>35</sup>. During the 1978 and 2011 period, upper secondary students enrolled in TVET increased from 5% to 51%. Currently the focus is on increasing the supply of TVET at higher education level.
  - iii. *Access and equity in TVET.* Concurrently with the expansion the government focused on increasing access and equity strategies in TVET. In line with its economic targets the government targeted especially rural areas and disadvantaged groups including women, ethnic minorities, impaired and disabled, socially and economically disadvantaged groups. The focus was on gainful employment and successful participation in the labor market.
  - iv. *Decentralization.* Providing local governments and TVET institutions with autonomy in school management and decision-making on courses and selection of trainees.

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<sup>35</sup>The decision of the CPC Central Committee on reform of educational system, 1985

- v. *Diversification of TVET providers.* Although central and local governments continue to be the main providers of TVET, the Government has encouraged private providers to deliver training.
  - vi. *Integrated public-private TVET delivery approach.* The Vocational Education Law of 1996 explicitly addresses a wide range of formal and non-formal TVET schemes provided by public and private training institutions.
  - vii. *Administrative reforms.* The administrative system of TVET is subject to reform in line with the National Guidelines of Education Reform and Development. The inter-ministerial liaison meeting mechanism is responsible for formulating major TVET strategies and policies and provincial governments are responsible for planning, resource allocation and supervision.
  - viii. *Modernization of curricula and teaching methods.* Increasingly, emphasis is put on modernizing and modularizing curricula and promoting and developing the use of modern teaching methods and educational technologies.
130. Policies, vocational education and regulations. Important TVET reforms include:
- i. The policy statement of the Communist Party “Vigorously promoting vocational and technical education” from 1985,
  - ii. The State Council’s “Outline for reform of education and suggestion on implementation of reform” of 1993/94
  - iii. The Ministry of Education’s “Action Scheme for Invigorating Education towards the 21st Century” of 1998.
  - iv. The State Council’s 2002 Decision on Vigorously Promoting the Reform and Development of TVET.
  - v. The State Council’s 12<sup>th</sup> five year plan (2011-2015)
131. Laws. Important laws governing the TVET system are enshrined in
- i. Labor Law of 1994
  - ii. Education Law of 1995
  - iii. Vocational Education Law of 1996<sup>36</sup>
132. Government plans. Important TVET related plans include
- i. **PRC Government’s Twelfth Five-Year Plan.** Strengthening TVET is a priority under the PRC Government’s Twelfth Five-Year Plan. The plan outlines measures to establish ‘*a sound and sustainable basic public service system*’, with a focus on improvement of public education and medical care.
  - ii. **The National Medium- and Long-term Education Reform and Development Plan (2010–2020)** calls for pre-school education to be developed so that by 2020, one-year preschool will become the norm, two-years universalized, and three-years popularized.<sup>37</sup> The priorities in the National Health Care Reform include strengthening primary health

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<sup>36</sup> The Vocational Education Law is under review and a new law is expected to be enacted in 2013.

<sup>37</sup> Overall, preschool students in the PRC will increase from 26.58 million in 2009 to 40 million by 2020.

care services and the grassroots health workforce. Thus, development of TVET for preschool education and health is urgently needed to meet these goals<sup>38</sup>. This plan also emphasizes (i) enhanced development of TVET; (ii) quality improvement; (iii) school–industry partnerships; (iv) accelerated development of TVET in rural areas; (v) improved attractiveness of TVET. This plan supports: (i) the construction of vocational education training bases to enhance the level of practice training; (ii) employing a large number of part-time teachers with practical experience and skills and providing training for a large number of "double qualified teachers"; (iii) establishment of reform model schools and quality characteristic schools; (iv) construction of tertiary demonstration colleges; and (v) demonstration of the industry/vocational education groups and the sharing of high quality teaching resource by E-learning.

- iii. **Three-Year Action Plan (2010-2012).** This Action Plan focuses on quality improvement. According to the Plan, quality improvement is to be accomplished through (i) graduates employment and employability capacity, (ii) life-long learning capacity; and (iii) skills transferability. Concurrently, schools will (i) enhance economic growth and industrial development, and (ii) improve societal development and individual's livelihood advancement. It advocates:
  - a. **Governance reforms.** TVET should be government oriented, industry guided, enterprise involved and school delivered. This defines the responsibilities of the various stakeholders. The Government's responsibility is to orient the whole system through policies and plans. Industry's role is to help guide training provision by indicating requirements and helping to set standards. Enterprise involvement and school delivery continue to be emphasized.
  - b. **Training delivery reforms.** This focuses on a shift from traditional school based delivery to a broader delivery platforms like work-based delivery, enterprise guided delivery and workshops, including life-long learning in multiple stages.
  - c. **Teaching–learning methods reforms.** The emphases is on a shift from teacher-centered to learner- centered teaching learning methods, like problem based, project based, group learning, peer learning, etc. and an integration of theory and practice.
  - d. **Assessment and evaluation reforms.** This is a change from existing internal assessment, which was closed to outside interests to development and implementation of both internal and external, especially employers based student assessment.
133. In order to achieve the *Three-Year Action Plan (2010-2012)* reforms the following strategies for quality improvement are advanced: (i) learning environment improvement (combination of school and enterprise based learning), (ii) up-to-date teaching-learning materials, aids and textbooks; (iii) learner-centered teaching - learning; (iv) scheme for teachers industrial experience and periodic work practice; (v) development of new programs,<sup>39</sup> and (vi) greater autonomy for schools.

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<sup>38</sup> ADB TAs in TVET and health underline the need to improve training and curriculum development, develop continuing learning, and industry partnerships (TA 4868-PRC: Technical and Vocational Education Development and TA 4931-PRC: Rural Health Service System.

<sup>39</sup> Industry-University Cooperation Model in China tertiary vocational colleges, 2011.

134. To ensure the implementation of the *Three-Year Action Plan (2010-2012)*, the MOE will provide support on policies, measures and funding, advice and information support, and special supervision for the formulation and implementation of detailed provincial action plans. The MOE will carry out a full range of monitoring and evaluation on progress and quality of implementation of action plans.

### **C. TVET GOVERNANCE**

135. TVET in PRC consists of vocational school education and vocational training, whereby the administrative arrangements and responsibilities for TVET in PRC are, for historical reasons, divided between the MOR and the MHRSS (formerly the Ministry of Labor). The former pays more attention to occupational and technical education while the latter pays more attention to trade skills training.
136. At the national level, the two ministries have similar tasks with reference to TVET administration, including strategic planning and policy making, cross-region coordination, setting TVET standards and curriculum framework development. At the local level, the respective education departments and labor departments are responsible for the daily routines of VET administration, including budget allocation and personnel management of state-run TVET institutions.

#### **1. Ministry of Education (MOE)**

137. Department of Vocational and Adult Education (DVAE) within the Ministry of Education are responsible for TVET. In 2010 responsibility for post-secondary TVET was transferred from the Department of Higher Education in the MOE to DVAE, combining secondary and post-secondary TVET. At the Provincial Level TVET is managed by Department of Education and its Vocational and Adult Education Division. At municipal local level (municipal and county) TVET is administered by the Bureau of Education.
138. The responsibility of TVET administration at MOE is further divided between the Department of Higher Education and the Department of Vocational and Adult Education. The former is in charge of TVET colleges and institutes, including polytechnic colleges, specialized junior colleges and adult higher educational institutes, while the latter is in charge of TVET schools, including specialized high schools, vocational high schools and adult specialized high schools.

#### **2. Ministry of Human Resources and Social Security (MOHRSS)**

139. At the MHRSS, the Department of Occupational Capacity Building is responsible for the administration of VET programs in technician colleges and skills worker schools. The department is well positioned for the task because it is also in charge of formulating occupational skills standards, assessing skills qualifications and issuing occupational/professional licenses. In cooperation with the Department of Employment Promotion, the department overlooks short-term skills training programs conducted by human resources service centers (job centers) and is organized into the following units: (i) training division,

(ii) school division and (iii) qualification division.<sup>40</sup> At the provincial level the Office of Skill Development administers skills training within the Department of Human Resources.

140. Within MOHRSS the Department of Occupational Capacity Building is responsible for the administration of VET programs in technician colleges and skills worker schools.

### **3. TVET Coordination**

141. MOE and MOHRSS execute their responsibilities independent of each other due to the target demarcation lines. There have been arguments put by various stakeholders that the TVET system would benefit from cooperation. This is also underpinned by The Vocational Education Law of the People's Republic of PRC, which states

*“The education administrative department of the State Council shall be responsible for the overall planning, comprehensive coordination of and macro control of vocational education. The education administrative department, the labor administrative department and other relevant departments of the State Council shall, within the scope of their functions and duties prescribed by the State Council, be respectively responsible for relevant work of vocational education”*

142. As a temporary measure, the State Council approved in 2004, the establishment of an inter-ministerial liaison meeting mechanism to coordinate activities of the seven (now six) ministries related to VET: the Ministry of Education, the National Development and Reform Commission, the Ministry of Finance, the Ministry of Labor, the Ministry of Personnel, the Ministry of Agriculture and the Poverty Alleviation Office. However, the committee rarely meets. Coordination reportedly is easier and much better at the local level.

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<sup>40</sup> MOHRSS, 2010

**Table 1- Main responsibilities governed by MOE**

National	State-level	Provincial-level	Local level	Institutional level
Policy and strategy formulation	Policy implementation	Communicates national policy & stipulates provincial implementation plan; sets policies SVS promotion	Communicate national and provincial policies	None
Establish public and schools and colleges	Sets macro plan, taking into account population and economic conditions; keeps official record of tertiary vocational colleges	Authority to establish tertiary vocational colleges	Authority to establish secondary vocational schools and keep records in municipal government	None
Establish private and schools and colleges	Publishes state-level guidance and policy	Approves establishment of tertiary vocational colleges	Approves secondary vocational schools	None
Personnel management	Establishes guidance & policy	Administered jointly by HED&HRSS in accordance with provincial criteria	Organizes licensing and recruitment of teachers.	Recruits recruitment
Criteria and curriculum	Issues catalog of specializations (MOE and MOHRSS), and 12 general course standards (MOE)	Issues more than 20 specialized basic courses standards	Selects teaching materials, sets up specialized courses standards	Develops new course & existing course adjustment
Student management	Allocates intakes quotas for tertiary colleges to provinces	Allocates intake quotas to each tertiary college	Sets enrollment parameters for SVS	Selects and enrolls students
Financial transfers	Makes policy; allocates special funds (a small portion of total input) to provinces	Allocates funds to provincial schools and colleges. Special funds to others	Allocates funds to local SVSs	Charges and uses tuition by separate channel of income and expenditure
Issue certificate of graduation	Issues diplomas for tertiary vocational college graduates	Issues diplomas for SVS graduates	None	None

National	State-level	Provincial-level	Local level	Institutional level
Supervision of administrations and schools	Supervises provincial education department and provincial colleges	Supervises municipal and county-level education administration and colleges	Supervises secondary vocational schools	None

#### 4. Type of TVET institutions

143. There are four types of non-university institutes that provide TVET courses at tertiary level: (i) Vocational-technical colleges or polytechnic colleges, which provide 2- to 3-year occupational and technical training diploma level courses. Polytechnic colleges now play a leading role in PRC's tertiary level VET. (ii) Specialized junior colleges that provide 2 to 3-year diploma courses mainly for capacity building rather than technical training. Currently, only a small number of normal colleges belong to this category. (iii) Technician colleges that provide 2 to 3-year certificate courses specially designed for the state occupational license qualification of technicians; and (iv) Adult higher educational institutes, that provide full time and part-time certificate courses to people who want to pursue higher education for capacity building, knowledge enrichment, or self-improvement.
144. Four types of TVET schools provide higher secondary level TVET courses. These are: (i) Specialized high schools, that provide 3-year certificate courses being arguably the most popular form of TVET in PRC. After graduation, students are more likely to enter the labor market directly. (ii) Vocational high schools are TVET schools transformed only recently from general senior high schools. After graduation, students either enter the labor market or progress further to polytechnic colleges. (iii) Skilled worker schools provide 3-year certificate courses specially designed for the state occupational license qualification of skilled workers. (iv) Adult specialized high schools provide full-time and part-time courses for those who want to pursue senior high school education. Most short-term courses of occupational and technical training can be grouped into this category as well, since prospective applicants must complete junior high schools.

#### D. TVET AND INDUSTRY PARTNERSHIP

145. National Plan for Medium and Long-term Education Reform and Development (2010-2020), recognizes the importance of TVET and industry partnerships. It states' ... *to advance and institutionalize cooperation between vocational schools and enterprises ... Incentives shall be granted to enterprises to invest more in vocational education, accept students for fieldwork or in-service training, and accommodate teachers to practice what they teach in the classroom*'.
146. Employers and industry contribute to TVET mostly through: (i) development of vocational standards at the national level, (ii) development of curricula, syllabus and course content at the provincial

and institutional levels, and (ii) providing training places for internships for vocational institutions.

147. At the national level, apart from standards development, industry and employers contribute little to TVET. Industry and employer organizations participation is particularly low in other areas, such as governance and management, financial and material contributions, and assessment of students. Industry and employer organizations involvement seems to be increasing in provision of advice when requested by government on TVET policies and periodic assessment of labor market needs.
148. However, there is no verifiable data on the quality of and incentives for TVET and industry partnerships provision available. Effective quality assurance based around quality standards as part of an overarching framework for TVET institution-enterprise partnerships is required to assure consistent internship experiences.
149. Stronger engagement of enterprises in skills development requires strengthening enterprise-school partnerships. While diverse initiatives in enterprise-school partnerships are emerging, a legal and regulatory framework within the governance structure of TVET to guide practices in this area is lacking. There is a need for policies to encourage school-enterprise cooperation as well as a set of policy frameworks and operational guidelines to ensure consistent development of school-enterprise partnerships and student internship programs at the local level.
150. TVET institutions themselves more often than not do not have their own enterprise or training base to manage and to use for industry related practical learning. In many cases where the cooperation between enterprises and TVET institutions exists there is often a lack of an overall plan. Generally, in PRC there are too many companies, which have the training qualifications and skilled personnel demand but keep themselves out of the cooperation. Many necessary enterprise education resources haven't been fully mobilized during the school-enterprise cooperation. Thus in order to establish industry 'authentic' training, TVET institutions need to have more than just a token input from industry and employers.
151. There are however some exceptions to the above. There are examples of partnerships between TVET institutions and employers at various mainly institutional levels. They range from TVET Groups level to individual partnerships between an employer and an institution. There are also some examples of national associations having partnerships with institutions either directly or via the TVET Groups. There are no government policies that would ensure sustainable TVET-industry partnerships. In some cases, schools and colleges operate their own companies, which are also used for internships, e.g. Yue Yang Vocational Technical College. Some industries manage their own colleges and schools.
152. Industries and enterprises within more competitive environments require workers who can readily acquire and demonstrate skills needed for new technologies, processes, products and quality standards.



Workers need to have both general and more defined skill sets and the capacity to adapt these skill sets in the view of new social and industrial demands. There is a lack of 'soft skills' within TVET curricular.

153. The desk survey shows that although a large number of TVET institutions claim that they seek industry input through occupational surveys and included occupational and other technical experts to comment on curriculum; it is difficult to ascertain precisely to what extent the curriculum really reflects work practices and the competencies applied to work tasks. There is little evidence that TVET institutions use industry surveys to identify job functions and that these are used as benchmarks for curriculum and standards development.

## **E. TVET GUANGXI AND NANNING TVET STUDENT DATA**

154. It is important to note that TVET in Nanning is to a large extent dependent on the governance, economics, demographics and social impact prevailing in GZAR. This affects the TVET sector and its development, enrolments, employment and other education and training factors.

### **1. Guangxi student enrolment and graduates.**

155. The total enrolment of TVET students in Guangxi province increased from about 450,000 in 2005 to about 809,000 in 2010. Total new student admission in 2010 was about 381,000. During the same year, the ratio of TVET admissions versus senior high school admissions was estimated at 1.2 to 1. The annual growth rate of TVET admissions was at 18%, much higher than the growth rate of ordinary senior high school admissions, which was 0.6%. The total enrolment of TVET schools as a ratio of total enrolment of all high schools, increased from 33% in 2005 to over 50% in 2010.
156. The total number of Guangxi TVET graduates in 2010 was at 163,557, with 108,486 graduates earning professional qualification certificates. The total number of graduates in 2011 was about 88% of the total number of students expecting to graduate, estimated at 204,167 students, in 2010. In 2011, total graduates increased to 180,013 students an increase of about 10% over that of 2010. Total enrolment for the year was at 809,508 students, increasing to 841,953 students in 2011 or about 4% increase. Even with the increase in student body enrolment, Guangxi's per capita TVET enrolment still ranks within the medium range among all provinces.
157. Enrolment by field indicates that processing and manufacturing accounts for the largest number of students; new admissions accounting for 65,946 students and 38,935 graduates in 2010. This is followed by information technology, with 58,190 new admissions and 44,510 graduates. Medical and health care recorded a total of 22,811 new students and 18,214 graduates.
158. Given that Guangxi's health care sector is still understaffed, it is expected that a significant gap between demand and supply will remain in the short-term. In the education sector there was a significant

increase in new admissions (9,501 students) and 5,522 graduates (i.e., 2,159 graduates and 3,363 expecting to graduate in 2010), the number is likewise deemed too small to meet demand. The high demand for TVET graduates is demonstrated by their high employment rate of over 95%. TVET graduates are able to find their jobs within 6 months of graduation.

**Table 2: Guangxi Student Information by field of study**

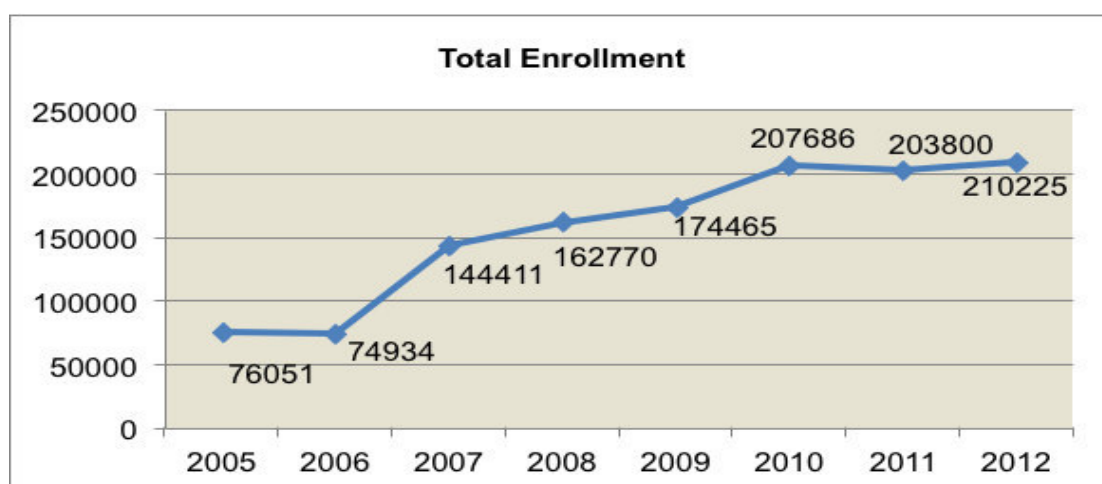
Major Field	Graduates	Proportion of Total Graduates	Newly Admitted Students	Proportion of Total Newly Admitted Students	Total Student Body Enrolment	Proportion of Total Student Body	Numbers of Students Graduating Following Year	Proportion of Total Students Graduating Following Year
Processing and Manufacturing	38,935	21.80%	65,946	20.80%	184,405	21.90%	51,071	21.90%
Information Technique	35,422	19.70%	58,190	18.40%	164,899	19.60%	44,510	19.10%
Finance and Business	25,768	14.30%	36,334	11.50%	96,975	11.50%	27,888	12.00%
Medical and Healthcare	18,214	10.10%	22,811	7.20%	65,724	7.80%	21,498	9.20%
Transportation	17,056	9.50%	36,298	11.40%	90,827	10.80%	22,332	9.60%
Farming, Forestry, Animal Husbandry, & Fishery	15,738	8.70%	38,117	12.00%	91,053	10.80%	24,564	10.60%
Culture and Art	7,277	4.00%	14,113	4.50%	36,857	4.40%	10,097	4.30%
Tourism Services	6,694	3.70%	14,236	4.50%	39,399	4.70%	11,509	4.90%
Construction and Water Conservancy	4,296	2.40%	5,880	1.80%	14,035	1.70%	3,443	1.50%
Textile and Food	2,966	1.60%	5,991	1.90%	11,808	1.40%	4,423	1.90%
Public Administration and Services	2,563	1.40%	3,604	1.10%	11,566	1.40%	3,035	1.30%
Education	2,159	1.20%	9,501	3.00%	16,977	2.30%	3,363	1.40%
Other Fields	1,360	0.80%	1,992	0.60%	7,455	0.90%	2,205	0.90%
Jurisdiction Services	458	0.30%	678	0.20%	1,679	0.20%	614	0.30%
Energy and New Energy	434	0.20%	1,161	0.40%	2,040	0.20%	490	0.20%
Leisure and Health Keeping	216	0.10%	1,355	0.40%	2,522	0.30%	1190	0.50%
Sports and Body Building	214	0.10%	154	0.00%	411	0.00%	134	0.10%
Petrochemical Engineering	151	0.10%	456	0.10%	581	0.10%	38	0.00%
Resources and Environment	92	0.10%	280	0.10%	740	0.10%	359	0.20%
Total	180,013	100.00%	317,077	100.00%	841,953	100.00%	232,763	100.00%

Source: Guangxi Statistical Yearbook 2011

## 2. Nanning TVET student enrolment, graduates and schools

159. Nanning TVET enrolments, graduate and schools numbers fluctuated significantly between 2006 and 2012 and is a-typical when compared with Guangxi TVET system.
160. The number of TVET schools increased drastically from 32 schools in 200 to 103 in 2008 and then declining to 68 in 2012. This is shown in Chart 21 below. Interestingly although the number of school roughly doubled between 2005 and 2012 the student numbers approximately tripled. In the same period the number of teachers doubled from 2606 in 2005 to 5339 in 2011. Data for 2012 was not available. It was not possible to ascertain what the driving factors for these fluctuations may have been.
161. Total enrolment in TVET schools has increased from 76,051 students in 2005 to 210,225 students in 2012. That is an increase of 276.43%. There was a steady increase during the 2005 and 2010 period, when the student numbers levelled out. The year-on-year enrolments increase from 2005 as baseline by -1.4% (2006), 92.72% (2007), 12.71% (2008) 7.18% (2009), 19.04 (2010), -1.87% (2011) and 3.14% (2012), (see Chart 21below).

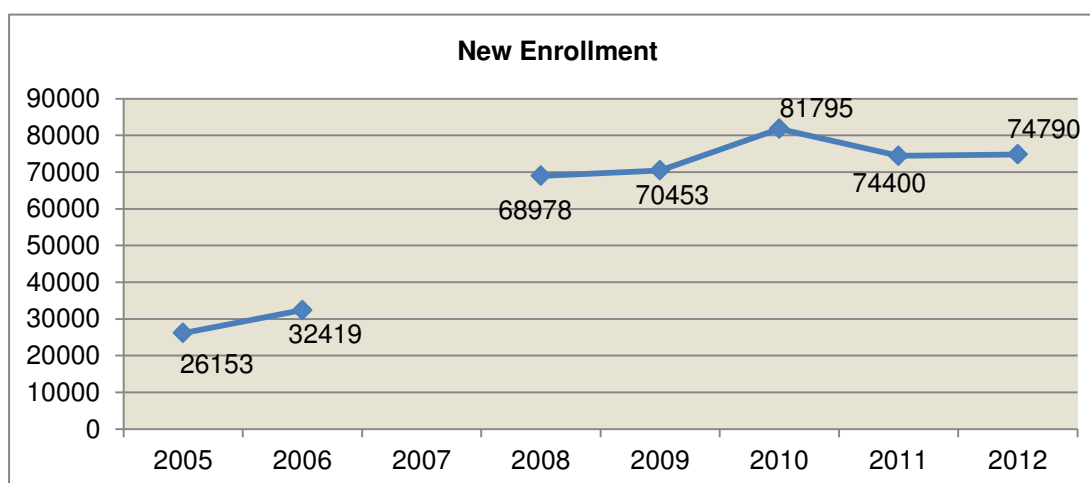
**Chart 21: TVET enrolments 2005 - 2012**



Source: Nanning Statistical Yearbook

162. In the same period new enrolments in TVET schools increased from 26,153 students in 2005 to 74,790 in 2012, an increase of 285.97%. The year-on-year increase was from 2005 as baseline 23.96% (2006), 2.14% (2009), 16.10% (2010), -9.04% (2011) and 0.52% (2012). See Chart 22.

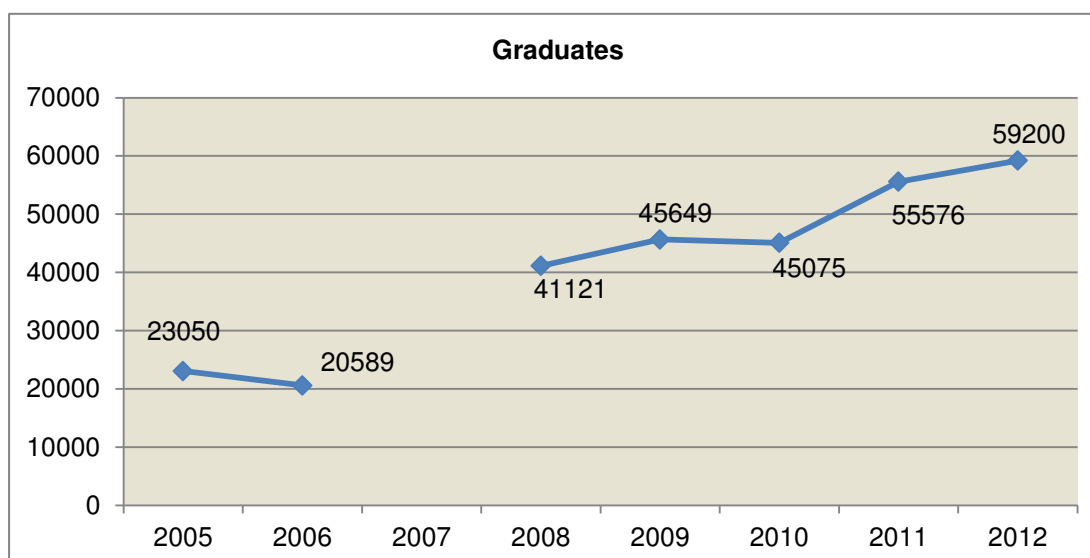
**Chart 22: TVET new enrolments 2005 - 2012**



Source: Nanning Statistical Yearbooks (Data for 2007 not available)

163. The graduation rate for the same period in TVET schools increased from 23,050 students in 2005 to 59,200 in 2012, an increase of 256.83%. The year-on-year increase was from 2005 as baseline by -10.68% (2006), 2.14% (2009), 16.10% (2010), -9.04% (2011) and 0.52% (2012). (See Chart 23 below).

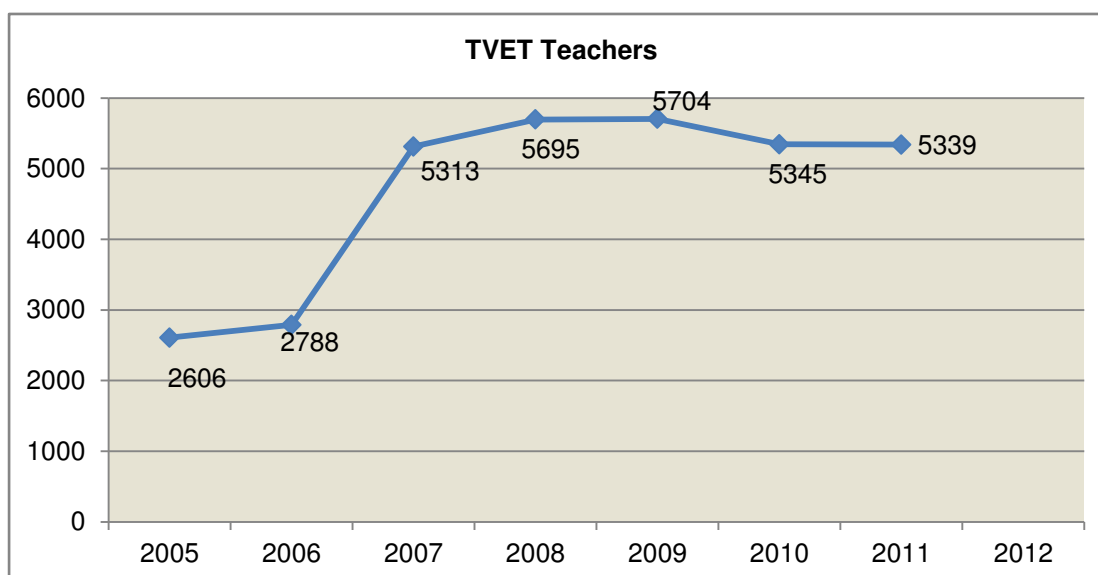
**Chart 23: TVET graduates 2005 -2012**



Source: Nanning Statistical Yearbook (Data for 2007 not available)

164. TVET teacher numbers increase significantly from 2,606 teachers in 2006 to 5,695 in 2008 and then remaining relatively stable until 2011. Data for 2012 is not available. The year-on-year increases with 2005 as baseline, were 6.89% (2006), 90.57% (2007), 7.19% (2008), 0.16% (2009), -6.29% (2010), -0.11% (2011). For details. (See Chart 24 below).

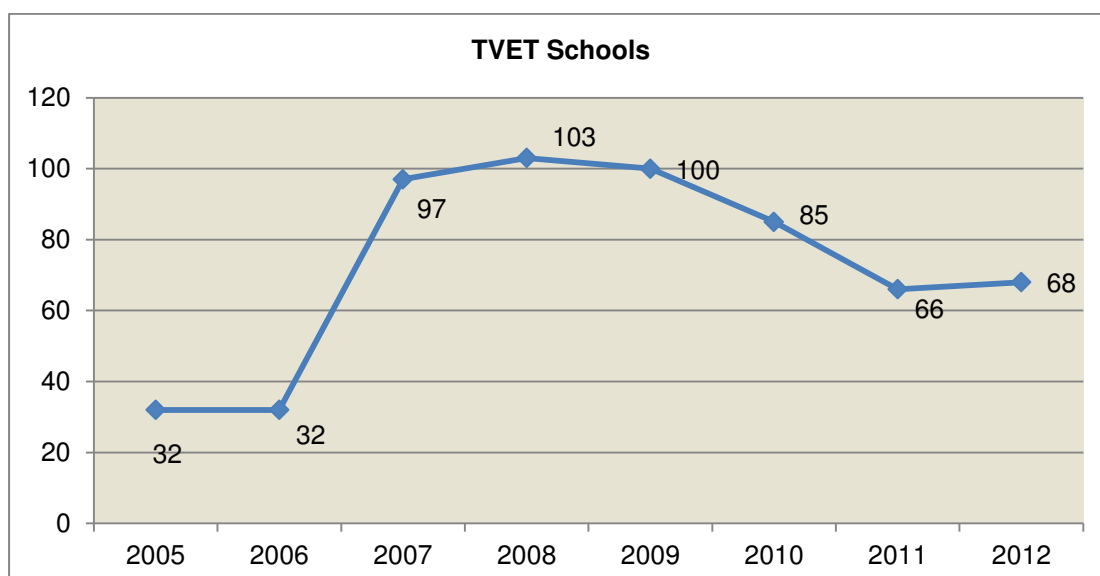
**Chart 24: TVET teachers 2005 -2012**



Source: Nanning Statistical Yearbook

165. The number of TVET schools fluctuated roughly in line with enrolments, recording a sharp spike from 2006 to 2007, recorded a slight increase during the 2007-2009 period and a shows a leveling out from 2010 to 2011. (See Chart 25 below).

**Chart 25: TVET Schools 2005 -2012**



Source: Nanning Statistical Yearbook

166. **Student - Teacher ratios.** TVET is one education sub-sector, which is more teacher/students ratio intensive than other sub-sectors such as primary, general secondary and higher education. In Nanning's TVET schools the student/teacher ratio is by international standards very high. It fluctuated from 29.18 students per teacher in 2005 to 38.17 students per teacher in 2011. In 2011 when there were 5339 teachers and 203,800 students enrolled in TVET institutions the students/teacher ratio was 1:38.17. In developed countries the ration ranges between 1:18 and 1:10 depending on specializations.

#### **F. EMPLOYMENT PROSPECTS OF TVET GRADUATES**

167. As stated above, TVET graduates in GZAR and Nanning are able to find suitable employment within 6 months of graduation. This is evidence for high demand for their services. Employment rate of TVET graduates in Nanning is over 95%.
168. Guangxi's recent economic boom is led by the rapid development within the Beibu Gulf area, including Nanning, Beihai, Qinzhou, and Fangchenggang municipalities. These municipalities account for about 26% of GZAR's total population and 31% of its GDP. In 2008, during the global financial crisis, Beibu Gulf was able to achieve an average annual growth rate of 15.5%, about 2.7% higher than the average annual growth rate of GZAR. Fiscal revenue increased annually by 28.8%, about 9% higher than GZAR average. This economic environment contributed to the demand for skilled labor and high employment rates.
169. According to Human Resource Development Plan (2008-2015) for the GZAR Beibu Gulf Economic Zone, the demand for labor in nine major sectors will increase significantly. In 2010, total skilled labor requirement/employed in Beibu Gulf was estimated at about 1.15 million. By 2015, total skilled labor requirement was estimated to

increase to about 1.68 million, implying a 0.53 million gap or an increase in skilled labor demand of about 46%.

170. This is in stark contrast to the employment prospects of university graduates, where employment rates have dropped by about 2% in highly developed municipalities, such as Shanghai.

### 1. Nanning's education and health sectors

171. The Nanning two target sectors have seen a steady increase of employment and correspondingly wages as Table 3 below shows.

**Table 3: Nanning Education and Health Sector – employment and wages**

Item	Total Employment by Sector						
	2006	2007	2008	2009	2010	2011	
	(persons)	(persons)	(persons)	(persons)	(persons)	(persons)	
Education Sector Employment	92,195	92,936	94,998	96,808	97,689	104,219	
Health Sector Employment	33,693	38,185	37,510	41,693	44,299	47,219	
	Employment by Sector Annual Growth Rate						Average
Education Sector Employment		0.80%	2.22%	1.91%	0.91%	6.68%	2.50%
Health Sector Employment		13.33%	-1.77%	11.15%	6.25%	6.59%	7.11%
	Average Annual Wage by Sector						
Education Sector Average Annual Wage	21,332	26,193	28,953	32,527	43,228	42,829	
Health Sector Average Annual Wage	27,202	30,460	34,475	36,604	41,993	49,048	
	Annual Wage by Sector Annual Growth Rate						
Education Sector Average Annual Wage		22.79%	10.54%	12.34%	32.90%	-0.92%	15.53%
Health Sector Average Annual Wage		11.98%	13.18%	6.18%	14.72%	16.80%	12.57%
Note: Health Sector Also Includes Social Security and Social Welfare.							
Source: Nanning Statistical Yearbooks							

172. The demand for skilled labor in these two sectors is expected to increase significantly. In Nanning alone, annual employment in health and education sectors increased by almost 7% from 2010 to 2011 while, on the average covering the period 2006-2011, wages increased by as much as 15.53% and 12.57% for the education and health sectors, respectively. The relatively faster annual growth rate in wages compared with the rate of growth in employment reflects the increasing demand for skilled labor in these two sectors.

## G. TVET FUNDING

173. PRC government financing for education and training in PRC has increased during the 2009 – 2011 period. However it has remained low by international standards at 3.1% - 3.5% of GDP. This is lower than the expenditure for education in OECD member countries, which is about 5.8%.

174. As stated above, in 2010 the PRC government identified TVET as the main target for educational expansion to develop a skilled workforce, and approved the National Long-Term Strategy on Education (2010–2020). In 2012, the PRC government announced that fiscal expenditure on education would reach 4% of GDP. This shows the government's commitment increased to increasing investment in education thus transform the country's growth pattern with the aim to boost consumption.
175. In the PRC, TVET is the responsibility of local governments. Local governments cover more than 80% of total public spending on education. The central government contributes 20%, which is primarily targeted at the 9-year basic education and special projects.
176. Central government funding for TVET is limited and is only available for special projects and for selected major institutions. For most TVET institutions, financing has been inadequate to cover improvements in faculty, curriculum, pedagogy, equipment, and facilities. Based on international experience, TVET tends to be more expensive than general education on a per student basis due to higher demand for equipment and other facilities. However, in the PRC expenditure per TVET student is lower than that for universities and general senior secondary schools, indicating a lower investment in equipment and facilities.
177. Since the 2007 fall semester, the Chinese government has offered financial aid to first and second-year students from rural regions to study at secondary vocational schools. In 2009, the government exempted vocational school tuition for full-time poor rural students, along with students who have agriculture-related majors. By 2011, the number of technical and vocational students receiving government financial aid reached 3.95 million.

# **1. Education Funding Guangxi Zhuang Autonomous Region (GZAR).**

178. TVET schools in GZAR are financed largely by both public and private funds through government budgetary resources and school-generated incomes from tuition fees, donations, and income generation. Public funds from central and local government budgetary funds are the largest source of financing for public TVET institutions at secondary and tertiary levels.
179. TVET institutions receive funding from government ranging from CNY6,000 to CNY7,000 per student depending on the type of course and institution. A few institutions are able to augment their funds through commercial loans, grants and subsidies from government for capital development and other requirements.
180. Government budgetary resources are provided to TVET colleges and secondary schools through: (i) grants (operational, civil works, and research); (ii) proceeds from educational surtax; (iii) grants and investments from private sector; and (iv) social grants. Based on 2010 data, tertiary level TVET institutions rely more on school-generated funds, whereas at secondary level, government budgets are the primary source of funds. Regular sources of financing for education



are augmented by education surtax (1.0%),<sup>41</sup> as specified in the Education Law.<sup>42</sup>

181. GZAR's expenditure on education as a percentage of its GDP has remained stable at 3.1% over the 2010 - 2012 period, slightly lower than the PRC average of 4% and significantly lower than OECD's average of 5.8%. As a percentage of total government expenditures, education spending has decreased from 15.5% to 13.3% during 2009 - 2012. GZAR's education expenditure for TVET has been very low, about 10%, on average, of its total annual education expenditure or about 1.4% of the province's total education expenditure. For local governments, it pays to invest in economic projects rather than education. Thus they would regard 4% of GDP for education a too high goal. However, the government can afford this. And it must do so, as it has a direct bearing on the sustainability of the national economy and the nation's competitiveness in science and technology. But merely increasing funding for TVET will not ensure improvements. There is a need to raise the efficacy of public spending on TVET.

**Table 4: Trends of Financing Education in Guangxi Province**

Guangxi	2009	2010	2011
Guangxi Total GDP ( CNY billion )	775.9	957	1,172.10
GDP Annual Growth Rate	10.50%	23.30%	22.50%
Guangxi Government Total Expenditure ( CNY billion )	162.3	200.8	254.5
Government Total Expenditure as % of GDP	20.90%	21.00%	21.70%
Guangxi Government Education Expenditure ( CNY billion )	25.1	29.7	36.7
Education Expenditure as % of GDP	3.20%	3.10%	3.10%
Education Expenditure as % of Guangxi Government Total Expenditure	15.50%	14.80%	14.40%
Guangxi Government Expenditure for TVET ( CNY billion )	2.3	3.3	3.5
Expenditure for TVET as % of Total Guangxi Government Expenditure	1.40%	1.70%	1.40%
Expenditure for TVET as % of Total Guangxi Government Education Expenditure	9.00%	11.30%	9.50%
Source: Guangxi Statistical Yearbooks			

182. During the period 2008-2010, TVET students in GZAR were granted with governmental financial assistance amounting to CNY 1.91 billion, of which about CNY 1.36 billion was provided by the central government and about CNY 0.55 billion was sourced from the financial resources of the GZAR. The assistance benefited a total of about 1.03 million TVET students or about 90% of the total TVET student body. Further, during the latter part of 2009, the GZAR Government initiated a tuition fee waiver policy for students from financially stressed rural families and for TVET students majoring in agriculture. The total tuition

<sup>41</sup> The education surtax is an additional fee imposed on enterprises that pay value-added tax, consumption tax, and business tax; and also on individual income tax.

<sup>42</sup> The 2005 China Development Committee report states: The Education Fund, introduced in 1987, is raised through a surcharge of 1.5% to 2.0% of the per capita net income of farmers in rural areas; and of 3.0% of the value-added tax, business tax, and consumption tax in urban areas.



paid under this policy by the central and GZAR governments was about CNY 0.42 billion<sup>43</sup>.

## **2. Education Funding Nanning Municipality**

183. Nanning's expenditure on education increased from CNY 4.4 billion in 2009 to CNY 6.9 billion in 2011 and decreased to CNY 6.6 billion in 2012. Expenditure on education, as a percentage of Nanning's GDP, was estimated at an average of 3.1% over the period 2010-2012, approximately the same level as the PRC average of 3.1% but significantly lower than OECD's average of 5.8%.
184. As a percentage of total municipal government expenditures, education spending increased from 21.4% in 2009 to 22.5% in 2010, decreased to 19.1% in 2011 and further to 17.0% in 2012.
185. During the 2009-2012 period, total expenditure of Nanning Municipality on education increased from CNY 4,363 million to CNY 8,059 million, an increase of 84.7%, mainly due to significant increases in capital (184.7%) and recurrent (61.0%) expenditures during the period. A breakdown of 2012 recurrent costs, by level of education, indicated that average recurrent expenditures on: (i) primary and secondary education accounted for 84.5%; (ii) pre-schools accounted for about 6.7%; and (iii) TVET, about 6.2%. Financing of TVET, historically, has been heavily dependent on budgetary allocations from the Nanning Municipal Government, accounting for 80-85% of total TVET financing. As of 2012, Nanning's TVET schools have been financed largely by municipal budgetary allocations (about 80.4%) while the balance is derived from tuition fees (7.6%), proceeds from education surtax<sup>44</sup> (7.9%), and other sources (4.1%).

## **3. TVET Funding in Nanning.**

186. Nanning's expenditure for TVET exhibited an increasing trend over the 2009-2012 period. However, it has been very low and averaging only about CNY 0.6 billion/year. This is on average about 2.0% of NNMG's annual total expenditure and about 10.1% of the municipality's total education expenditure on TVET. Total funding of TVET in Nanning increased from CNY 4,425 million in 2009 to CNY 8,725 million in 2012.
187. Financing of TVET, historically, has been heavily dependent on financial support from NNMG, comprising of 80-85% of total TVET financing. As of 2012, Nanning's TVET schools have been financed largely by municipal subsidies and budgetary allocations (about 80.4%)

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<sup>43</sup> <http://www.chinanews.com/edu/2011/06-15/3113924.shtml>

<sup>44</sup> Financing for education is augmented by an education surtax (1.0%), as specified in the Education Law. In order to accelerate the growth of TVET, the State Council issued a guideline for TVET development during the 11th Five-Year period (2006–2010) which stated that 30% of the education surtax should be used for TVET development. The education surtax is an additional fee imposed on enterprises that pay value-added tax, consumption tax, and business tax. It is also imposed on those who pay individual income tax. As specified in the Education Law, the 2005 China Development Committee report states: The Education Fund, introduced in 1987, is raised through a surcharge of 1.5% to 2.0% of the per capita net income of farmers in rural areas; and of 3.0% of the value-added tax, business tax, and consumption tax in urban areas.

while the balance is derived from other sources, (4.1%), proceeds from the education surtax<sup>45</sup> (7.9%) and tuition fees (7.6%). Tuition fee is estimated at about CNY 2,080/student/year, of which the municipal government subsidizes 90% and individual students shoulder the remaining 10%. The student likewise bears the cost of room and board (approx. CNY 400/student/year) and cost of books (CNY600/student/year).

#### **IV. TVET SUB-SECTOR RELEVANCE AND DELIVERY ANALYSIS**

188. The analysis of the TVET system was undertaken in line with relevance factors:

- i. Economic relevance, including (a) availability of a highly skilled labor force, (b) labor market information and analysis, (c) employer participation in TVET, (e) flexible skills development and supply;
- ii. Access and equity, including (a) gender, (b) income level equity, (c) schooling level inequality, (d) impact of urbanization on access and equity, (e) Inclusive education and training;
- iii. Education quality, including (a) education quality impact Issues, (b) Curriculum, (c) teaching-learning methods, (c) assessment, (d) employer satisfaction, (e) systemic and institutional management, (f) resourcing, (g) resource utilization, (h) quality, resourcing and institutional partnership.

##### **A. TVET ECONOMIC RELEVANCE AND QUALITY DELIVERY**

189. The political economy analysis shows that the government recognizes TVET system as a critical factor for economic development. This is evident from the above stated government policies, plans and strategies at various levels which have been put in place to strengthen TVET system. It is also evident from the discussions with major stakeholders and observations at institutional levels. Accordingly the TVET system in PCR is becoming increasingly responsive to economic and social needs, including industry and employer demands and delivery quality improvements. This is further evidenced by the strong employment figures of TVET graduates.

190. To a large extent there was and still is a focus on needs analyses as a tool to determine the TVET system relevance. This is a one-sided view as there are differences, as international experience has shown, that learners' needs are only part of the full story. There is a need to take into consideration the demand side, i.e. the technical and employability skills, competencies and knowledge required by employers.

191. A 'needs-demands' responsive TVET system is required in PRC if it wishes to become regionally and internationally economically relevant. This has to be supported by: (i) the availability of a highly skilled labor force, where individuals have the necessary capacity to contribute to economic well-being of enterprises; (ii) a strong and reliable labor market information available to employers and employees alike; (iii)

employer participation in TVET at all levels ranging from national TVET policy formulation to provincial level policy interpretation, to municipal level policy implementation, to institutional level curriculum development, delivery modes, assessment and management; (iv) flexible skills development and skills supply.

### **1. Availability of a highly skilled labor force**

192. At national level occupational standards tend to be outdated and do not reflect quality norms expected in developed countries. Thus it follows that much of the occupational testing is equally outdated and the reliability and validity of competency tests and assessments has to be questioned. This in turn leads to reduced productivity. With reference to validity and reliability of competency tests and assessments it is interesting to observe that the pass rates such as 95% and above in NNVS and NNHS, as in many other TVET schools and occupations are prevailing. This from an international perspective raises questions about the standards for success. Due to absence of needs-demands established occupational standards it is difficult to ascertain how well qualified the labor force is in comparison to labor market demands and international benchmarks.

### **2. Labor market information and analysis**

193. From an international perspective labor market information and analysis refers to an examination of the 'best' information available regarding the state of the labor market. This includes status of skills relevance and validity and indicators for future developments, needs and demands. This means that labor market information and analysis can be used to identify signals about labor market and skills trends based on real industry based data.
194. The rapid economic development in PRC has a significant impact on the growth of social requirements and services such as education and health. One of the important factors to be considered is the labor market structure of supply and demand of the labor market. In order to meet this, there is: (i) a need for the education sector, especially TVET and other tertiary sub-sectors to meet increased requirement of education and training for employment, and (ii) the need for labor market information, so that the TVET sub-sector providers can meet the employment demands.
195. MOHRSS and Departments of Human Resources are the main suppliers of labor market information. The available data shows a strong demand for vocational secondary graduates of all types. The reliability of data however is inconclusive as it is generated mainly from operations of the Employment Service and excludes individuals and enterprises that do not participate. Training institutions tend not to use these official reports because the information is not sufficiently specific. Instead, training institutions rely on their direct consultations with enterprises to determine the likely scale and type of jobs available. However, as international experience has shown, enterprises are not the best judges of future skills requirements. Industry representative bodies, employer organizations and professional bodies have usually a better understanding of future demands.

196. Labor market data analysis, although generally aligned with the broader national socio-economic policies, are in their current form vague. Labor market information analysis must become one of the priorities for the TVET sub-sector providers. There is a lack capacity within TVET institutions to develop and undertake labor market analysis and to develop and implement strategies for translating labor market information as to guide them in course development and/or modification.
197. More specifically, although basic labour market information and analysis has been acknowledged by the project schools as a necessary precondition for the early identification of skill needs, there is little evidence that the NNVS and NNHS use labour market information to modify curriculum and teaching-learning methods as to meet the labour market demands or to plan for future. One of the reasons is that as early identification of skill needs becomes more complex due to economic development, labour market information becomes equally more multifaceted and must rely not only on traditional quantitative but also qualitative labour market information.

### **3. Employer participation in TVET**

198. As stated above employer participation in TVET focuses on: (i) developing standards at the national level, (ii) advising on curricula and course content at the provincial and institutional levels, and (iii) providing places for student internships. However employer cooperation varies from industry to industry. Beyond these contributions, employer involvement is limited and seldom includes governance, financing and student assessment<sup>46</sup>. Understandably that small and medium enterprises need time and resources to collaborate with training institutions and to accommodate interns for in-training and/or post-training practice. However there are international examples of employer participation in TVET, such bringing project work to schools, enabling students to become skilled in operating up to date plant and/or equipment which is essential, but not readily available in training institutions, development of 'authentic' assessment, and industry related mentoring of students and teachers.
199. Notwithstanding the above, enterprise participation appears to be increasing in SVS. At the national level there are reportedly some 46 industrial advisory committees. There is however little data and information available as to their contribution to and participation in TVET policies, national curriculum framework and standards development. Anecdotal evidence suggests that employers often complain that their views are disregarded when they participate in meetings.
200. Industrial enterprise groups provide advice on TVET policies, but only if initiated by the government. Quite often enterprises have difficulty in articulating mutually cohesive demand for skills. One of the reasons is that they lack the tools in establishing future demands. Another reason

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<sup>46</sup> Some large enterprises conduct their own independent assessment of training institutions to identify the best ones for recruitment of new employees.

is the capacity of enterprise representatives, which may not be of the same or similar caliber as may be typically found in more advanced economies, e.g. chambers of commerce and industry or sector-specific manufacturer's associations.

201. In PRC, the PRC Enterprise Confederation and PRC Enterprise Directors' Association operate at sectoral level to represent employers. One of their objectives is the development of human resources. Whilst they may play an important role due to their membership size, SME find it difficult to collaborate with training institutions because of lack of time and inability to accommodate interns for in-training and post-training practice. In short, employer participation has been mainly limited to standards at the national level and in collaboration arranged at the level of training institutions (including training orders for graduates; cooperative training, as well as placement of interns for work experience).

#### **4. Flexible skills development and supply**

202. Within the national framework and recognized disciplines and occupations TVET schools have the flexibility to develop and adapt curriculum to local requirements and needs. The flexibility can apply to introduction or discontinuation of specific course and programs, in line with the school's assessment of labor market demands. There is also flexibility in engagement of teaching staff, including part time teachers with industrial experiences.
203. Despite this flexibility there are also impediments: (i) the three-year average length of secondary vocational and tertiary vocational militates against quick changes in outputs. Short vocational training programs, including CPD for horizontal and/or vertical skills development can change outputs more quickly. However, there is no evident incentive for SVS to offer such courses to external clients or individuals, beyond their own staff. (ii) Supply of number of graduates is constrained by physical, financial and human resources available to the providers. It is difficult to (i) increase the number of teachers to meet the demand; (ii) obtain up-to-date plant and equipment for teaching new and industry oriented courses; (iii) secure adequate funding for consumables, partnership development with industry and other national and international provides; (iv) release staff to undertake industrial practice under a 'release to industry' scheme.
204. Teaching and management staff cannot be substituted swiftly in public SVS or other TVET institutions. This militates against engaging quickly and efficiently staff with new and up-to-date teaching expertise, as to meet the new and emerging industry demands. In addition to the benefits of having new teachers with relevant up-to-date industrial skills, this would also allow for existing teaching staff to be released for industry practice as to improve their industry relevant skills. With reference to financial constraints SVS receive their funding partially on the number of teachers employed. Thus there are no incentives to reduce or eliminate courses that are not viable or outdated, as this may mean that the corresponding number of teachers would need to be redeployed or required to undergo retraining.

## B. ACCESS AND EQUITY

205. Issues relating to access and equity in TVET sub-system address the question of widening participation and strengthening inclusiveness in TVET systemically and institutionally. In this analysis the focus is on gender, income level equity, schooling level inequality, impact of urbanization on access and equity, and inclusive education and training.

### 1. Gender

206. There appears to be an equitable access by gender. Enrollments by gender are about equal in SVS generally, i.e. 51% of enrollments are female. Most institutions have a policy of admitting females for half the total new student intake each year. Students are free to choose their programs of study. Male and female students are present in all major programs. However, many programs tend to be skewed by gender. Males overwhelmingly prefer manufacturing, transport and information technologies. Females form a majority in medicine and health, trade and tourism, finance and economics and culture, arts and physical education.
207. **Gender - Project Schools: NNHS and NNVS.** An important gender aspect of the TVET in Nanning generally and the two target schools is that it provides significant education, career opportunities and employment for women. An overwhelming majority of the students are female and come from rural areas. However for poor and rural population, migratory work has mainly been available for men whilst the opportunities for women have been limited. By strengthening TVET, there are not only employment opportunities, but also possibilities for a professional career. However, the female dominance and the lack of men in the preschool and nursing professions constitute a problem. Firstly there is a need for male nurses, which may be able to undertake tasks that are potentially difficult for female nurses to undertake and also for male kindergarten teachers who can be seen as role models, especially for male kindergarten children.
208. *Demand for male pre-school teachers.* Survey data shows that 95.8% of kindergarten directors required more male teachers. They explained that male teachers would provide a balanced role model for children thus giving children different guidance and equally important a role model guide to balance the female teachers as role models. Many kindergarten directors thought they needed at least one or two male teachers to conduct the physical education, and male to female gender ratio of about 1:5 would be reasonable. But they also realized the difficulties to recruit male teachers. Many boys do not want to be pre-school teachers mainly because (i) it is thought in the society and family as a female area and thus there is little potential family support and recognition; (ii) the salary and social status is not perceived to be desirable comparing with other male dominated occupations. According to the teachers in the NNVS, since there is a shortage of male teachers, some male graduates were shared by several kindergartens in teaching PE and thus had higher salary than female graduates.

209. *Demand for male nurses.* 82.3% of hospital or clinic directors surveyed stated that there is a need for more male nurses especially for Intensive Care Unit, emergency room and operating room because they are usually physically stronger than female and can provide services that require physical strenuous work. The survey also shows that the demand for male nurses is limited.
210. Research findings from this project shows that men are generally reluctant to become nurses for the following reasons: (i) low social status of nurse; (ii) same salary with female nurses although male nurses might have more hard work; (iii) opposition from families, especially many rural families cannot accept their sons to be nurses; (iv) potential opposition from patients, who think female nurses are more considerate and careful than male nurses.
211. In the preschool education, 99% of the students are female, and in the nursing and rural health program, the proportion of females is 97% and 40% respectively. In the recent dynamic growth and development in PRC, substantial amount of work opportunities have been created, but it has mainly been for men. The two schools provide good career opportunities and employment for, both men and women, the latter at present being the larger group.

## **2. Income level equity**

212. PRC has an extensive system of compensatory financing that allows disadvantaged and low-income groups to participate in TVET. These include free tuition, annual study payments, use of 5% of tuition revenue to support low-income students and part-time employment. As a result authorities and schools claimed that few if any low-income persons are prevented from accessing TVET because of lack of financial means. On the contrary, 80% - 90% of students in SVS were reported to come from rural households, who have completed their educational at institutions located in urban areas<sup>47</sup>. As tertiary vocational education expands continued attention will be needed to ensure that lack of funds is not an obstacle for students from low-income families.
213. Three levels of national, provincial and state subsidies are available as scholarships to cover the costs of TVET college study fees, textbooks and living costs. The tuition fee is CNY 1,040 per semester and less than 20% of the students pay fees. However students may be charged approximately CNY 500 per semester for textbooks and boarding.
214. In the project schools (NNHS and NNVS) almost 100% of TVET students from poor socio-economic backgrounds including rural areas benefit currently from financial support according to their poverty status. Students who are certified as bona fide belonging to families with low incomes are able, with this financial support from the government, to access education at TVET institutions with the expectation of increasing their chances for improved livelihoods. This

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<sup>47</sup> This reflects urban students' preferences of students to attend general secondary education.

enables individuals to escape from the trans-generational poverty cycle.

**Table 5: TVET Financial Assistance - Student Beneficiaries at NNHS and NNVS**

Institution name	Students from rural area (%)	Poor students (%)	Financially aided students (%)
Nanning Vocational School No 4, pre-school students	92	28	100
Nanning Health School	98	38	97

Data Source – Poverty and Social Assessment - 2013

215. At the NNVS 99.8% of the students are exempt from tuition fee, the corresponding figure for the NNHS is 96.6%. There are various funding sources, for example about 20% of the students obtain scholarships from GZAR; schools provide some scholarships, reaching some 20% students. All students, irrespective of their socio-economic status receive a national subsidy, amounting to CNY 1,500.

### **3. Schooling level inequality**

216. Reliable statistical data regarding school level inequality is lacking at national, provincial and municipal levels. However it appears that governments spend more per student in general upper secondary schools than on secondary vocational schools<sup>48</sup>. Vocational schools (all types) receive 37% of total spending the upper-secondary level, yet they enroll 43% of all the students at upper secondary level. Correspondingly, general upper secondary schools enroll 57% of the total and receive 63% of the public funding. This imbalance is particularly concerning since vocational education costs more per student than general education owing to requirements for more equipment and smaller class sizes in workshop practice. Internationally, secondary vocational education may cost 50% to three times more per student than comparable levels of general education.

### **4. Inclusive education and training**

217. Inclusive education and mainstreaming is gaining more prominence in the global development agenda. Policymakers and other stakeholders in many developed and developing countries have started to understand the importance of inclusive education and mainstreaming as an enabler of economic growth and development. Many countries have made commitments to improve access to mainstream education for physically disabled children, students and teachers. There is no data available that inclusivity and mainstreaming is being considered as an important component in SVS at policy, systemic or institutional levels. This being the case it may be opportune to address this issue through a policy dialogue.
218. Internationally, widening participation and strengthening inclusiveness in the TVET sub-sector, is reiterated by governments and their

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<sup>48</sup> See ADB review of TVET financing in 2006.



agencies with equitable access being the ultimate goal. There is little evidence that either the GZAR or the Nanning Municipality has developed, articulated or implemented any cohesive policy or strategy to address inclusive education and training. GZAR government, the Nanning Municipality, the TVET subsector and the project schools are facing challenges regarding inclusive education, which is paramount for enhancing access equity and participation for disadvantaged.

219. There are a number of immediate issues that can be addressed with reference to inclusive education and training for this and future similar projects, such as incorporating inclusive education training into the kindergarten teacher training curriculum and the kindergarten training bases.
220. At policy level there is a need to address the challenges of inclusive education. Dismissing inclusive education and mainstreaming has a tendency to erode employment value, and leads to a decline in the quality of education and training. It also adds to public cost of education and training. International 'best' practice' policies focus on: (i) mainstreaming access to TVET and provide incentives for wider participation as a step towards equal access; (ii) pursuing affirmative action approach for certain traditionally disadvantaged groups and providing alternative avenues for entry; (iii) articulating a pragmatic and doable balance between expansion of access and quality of inclusive instruction; (iv) developing and implementing funding models that support wider access to quality TVET for inclusive education and mainstreaming.

## **5. Impact of urbanization on access and equity**

221. There is an imbalance of resource allocations between TVET institutions in urban and rural areas. For example in context of funding for teachers, facilities and equipment, large and more affluent cities are able to finance TVET at full standards, but rural counties often cannot follow suit. TVET resource inequalities are the consequence of dependence on local government financial allocations, particularly for secondary vocational school. Rural counties tend to have less revenue to share. This lead to lower numbers of teachers, lower quality of facilities, equipment, consumables and maintenance. This is a major issue that requires additional funding from higher-level authorities, thus ensuring that per student spending is equivalent to required standards regardless of location of TVET institution.

## **C. EDUCATION QUALITY**

222. Quality is defined as 'fitness for purpose'<sup>49</sup>. Thus, for example the quality of graduates in TVET is determined how well they fit the employment demands, and quality of a curriculum or teaching and learning is measured how well these prepare students for the world of work and members of the society.

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<sup>49</sup> European University Association

223. A range of indicators is generally applied for determining TVET quality. These include industry and employers participation and acceptance of curriculum and standards, up to date curriculum teaching-learning and assessment, entry levels for students, qualifications and industrial experiences of teaching staff, suitable and relevant plant and equipment, supporting educational leadership, and monitoring and evaluation procedures at classroom, institutional and systemic levels.
224. It has been acknowledged by stakeholders that there is a need to improve the quality of education and training including outcomes.

### **1. Education quality impact Issues**

225. The weakness of the current approach in determining quality in TVET is an outdated 'input-output-outcome' model. The limitation of this approach is that it does not provide a measure of effectiveness. Impact assessment is a significant tool in determining the qualitative and quantitative influence of an education and training system on stakeholders. In TVET this means qualitative and quantitative influence on (i) teachers' performance, (ii) curriculum, (iii) assessment, (iv) teaching-learning methods, (v) school management and (vi) educational leadership on students and employers satisfaction with delivery and training outcomes.
226. There is little evidence that economic and social changes in PRC are being taken into consideration sufficiently in relation to increasingly complex demands on the TVET system and its impact on stakeholder. TVET institutions show an inadequate commitment to effectiveness of education and training provisions within a framework of a culturally and socially heterogeneous environment. There is evidence that their response is insufficient to meet the needs of disadvantaged pupils and pupils with learning or behavioural problems. Further their commitment and access to new technologies and opportunities to keep pace with rapidly developing fields of knowledge and approaches to student assessment are weak.
227. In order to establish a measure of quality, TVET system in PRC would need to develop a national, provincial as well as institutional M&E and impact assessment system. This impact assessment mechanism needs to be rigorous and be '...based on identification of valid comparison groups (counterfactuals), large sample surveys and application of appropriate quantitative analytical methods, supplemented by qualitative analyses'<sup>50</sup>.
228. It is currently difficult if not impossible to determine if and to which extent any systemic and/or institutional interventions, such as the various above-cited laws, guidelines, curriculum innovations and other factors had any impact on the quality of TVET provisions. There is little documented systematic evidence whether these TVET interventions had a socially and economically benefitting effect on individuals,

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<sup>50</sup> Asian Development Bank, (2010) Evaluation Resources <http://www.adb.org/evaluation/resources.asp>

households, and communities, and whether this effect can be attributed to the concerned intervention<sup>51</sup>.

## **2. Curriculum**

229. The afore mentioned The National Medium and Long-term Education Reform and Development Plan (2010–2020), states that PRC's curriculum at primary, secondary and TVET level is mostly outdated. One of the weaknesses of TVET curriculum in PRC is its characteristic, namely a lack of a historic perspective. New concepts are 'solemnly' proclaimed when in fact they represent minor modifications of early approaches, and conversely, an anachronistic dogmas and doctrines maintain a currency and uncritical acceptance of their present educational merits, that lagging far beyond international 'best practice'.
230. There is to a significant extent a lack of inclusion of 'soft skills' within the existing TVET curriculum. Employers acknowledged that soft skills are becoming increasingly important and significant in TVET sub-sector. Like in many other countries, employers in PRC prefer employees who have a variety of skills, personal attributes, as well as technical skills. Thus industry considers employability skills as an essential requirement for recruitment. International experience shows that 'hard skills' contribute to only 15% of one's success while the remaining 85% is made by 'soft skills'. This is the era when employers want to hire, retain and promote persons who are self-directed, dependable, ethical, having effective communication skills, willing to work and learn and having positive attitude.
231. Whilst, TVET institutions in PRC are trying to improve their curriculum as to match international standards, the understanding and perhaps the political will to implement changes is not readily evident. There are internationally generally acceptable standards in TVET such as CBC practices and principles, which have been pioneered and implemented in Australian and German TVET systems. These are being adopted and used in many developing countries in Asia such as Vietnam, Cambodia, Laos and Indonesia, and more recently in African developing countries.
232. TVET Curriculum reform approaches in the two project schools (NNHS and NNVS) are to a large extend inward looking. There is little evidence that either the leadership or those responsible for curriculum development and implementation have been exposed to or have embraced international or even national 'best practice'. An ADB staff consultant observed during the initial project evaluation that TVET in Nanning is 'insular' and that the very notion of an integrated curriculum, incorporating theory and praxis, the dual learner centred teaching-learning process, such as the German dual TVET system, is to a large extent non-existent.
233. Given the above-cited situation, the prospect for developing, institutionalizing and implementing an integrated CBC at systemic and

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<sup>51</sup> Asian Development Bank (2006) Impact Evaluation: methodological and operational issues , Manila: ADB

institutional levels does not seem too encouraging. However, research in the area of TVET integrated CBC as well as in learner-centered active based teaching-learning methods based on contemporary cognitive science suggests that some form of an integrated TVET curriculum is likely to emerge. This being true, the topic of integrated CBC may be destined to receive much attention in TVET.

### **3. Teaching–Learning methods**

234. Teaching-learning methods in TVET sub-sector are generally lacking quality. One of the reasons is that the teaching-learning methods remain couched in ‘teacher centered’ teaching and in rote learning. This is to some extent governed by the curriculum and by assessment methods. An analysis of teaching-learning methods in secondary TVET schools reinforced the claims that ‘... the relative traditional teaching methods lead to an adverse impact on teaching-learning effectiveness. The project schools (NNHS and NNVS) have also acknowledged that ‘the training of teaching method is insufficient’.
235. Currently, in TVET there appears to be insufficient emphases on the need for a paradigm shift in teaching-learning methods. TVET teachers appear to be reluctant to change their belief system from one that is primarily teacher centered to one that is learner centered. One of the problems is that there is a lack of extensive amount of professional development including institutionalized CPD for teachers and educational leaders in the field of contemporary learner centered teaching-learning methods. This includes a lack of significant intervention of knowledge development in curriculum areas.
236. In order to overcome these weaknesses TVET teachers need to become members of learning communities. At one level this means working with one's peers in the school to improve educational attainments of learners at another level this requires an outward looking working relations with others in provincial, national, regional and international arenas.
237. Introduction of contemporary teaching-learning methods, which allow for student-centered, open, flexible and independent learning is imperative, if the quality of TVET graduates is to improve, is important.

### **4. Assessment**

238. Students undertaking courses leading to occupational licenses in TVET institutions under the control MOE are required take relevant national tests administered by the MHRSS. Students are required to pass examinations leading to certification attesting to a successfully completion of the school's or college's course requirements of the school or college and that they passed the relevant national occupational qualification administered by MOHRSS. In effect they gain a ‘double certification’ one being the academic and the other the professional licensing qualification. It should be note that about 90% of the MOE students pass the MOHRSS occupational tests. By international standards this is a very high success rate and raises question about the validity and reliability of the administered tests and examinations.

239. To reiterate, TVET academic qualifications in secondary vocational schools and colleges are obtained on basis of successful completion of all course requirements. This includes all relevant tests and examination. In absence of MOE test and examination standards each school or college sets their own assessment methods including tests and examination criteria. More often than not, teachers set their own tests and examinations. The exception to this, are tests set at national or provincial levels for 'core' subjects like mathematics, language, moral education and physical education. There is no evidence of moderation or comparison of results between schools or colleges at municipal, provincial or national levels. This in itself is not a problem, the issue is the, by international standards, unusually high pass rate, which seems to be accepted without questions.
240. Given an absence of national standards and a TVET curriculum framework, similar to Australia, Germany, the European Union and many developed and developing countries, question of quality must be raised. If every school or college can 'invent' its own tests and examinations to determine students' achievements, there is no common quality basis for determining students' performance and their level of competency.

## **5. Employer satisfaction**

241. There is little evidence of systematic surveys to ascertain how far employers are satisfied with the performance of graduates from TVET institutions. Without such data and feedback there is little, if any strategy and mechanism in place to ensure relevance of courses vis-à-vis industry demands. Notwithstanding this phenomenon, it seems that there is no deep-seated employer dissatisfaction with the skills and competencies that graduates from the project target schools bring into the employment environment. The main criticism is the aforesaid lack of 'soft skills' and personal traits. Industry and employers are cognizant of the fact and accept it as a given that new graduates cannot be trained fully for the world of work, but need further on-job training in 'hard skills' areas, when entering employment.

## **6. Systemic and institutional management**

242. In 2001, the State Council issued a resolution on Basic Education Reform and Development. This resolution stated that under the leadership of the State Council, the 9-year compulsory basic education system in rural areas should apply an administration structure whereby (i) the responsibility rests with local governments, (ii) the management is divided between provincial, county and township authorities and (iii) the county government is playing a major role. This administration system has directed the governments to be in authority for funding of basic education and repositioned the focal point of educational funding from lower-level township level to country level, which has greater capacity of mustering resources.
243. TVET sub-system has a management system of "over-all leadership by the State Council, administration at different levels, major decision-making by local authority, coordination by governments and participation by social sectors". Employer organisations,

business/industrial enterprises, occupational organizations and civil society institutions should increasingly participate in macro-management within employment-oriented TVET institutions.

244. There is however a strong demarcation between levels of education and training and school or college management. Thus there is little management structure to accommodate flexibility such as for example RPL allowing learners to progress from one stream to another. These managerial decisions or lack thereof militate against a flexible TVET management system. To overcome this problem and to make TVET more industry demands responsive it is necessary to review the management structure as to provide for a seamless progression from all secondary level TVET to all post-secondary level TVET courses to higher education courses. This would contribute to the flexibility and enhancement of skill development at horizontal and vertical qualification attainment levels.
245. The institutional management has been strengthened but significant weaknesses still exist as shown in Table 6.

**Table 6: Strengths and Weaknesses in Institutional Management**

STRENGTHS	WEAKNESSES
<b>ORGANISATION AND MANAGEMENT</b>	<b>ORGANISATION AND MANAGEMENT</b>
Industry specific consolidation of TVET under MOE and MHRSS	TVET institutions managed by bodies outside the MOE and MOHRSS
Administrative consolidation of SVS and TVC at MOE	Insufficient feedback on sustainability and impact on SVS/TVC consolidation
Coordination between secondary and tertiary TVET	Transparency about offerings and performance of TVET providers is lacking
<b>POLICY DEVELOPMENT</b>	<b>POLICY DEVELOPMENT</b>
TVET policy focus on economic development and employment	TVET policies are not supported sufficiently by financial allocations
<b>POLICY IMPLEMENTATION</b>	<b>POLICY IMPLEMENTATION</b>
Good coordination of policy implementation at provincial levels	Possible overlaps and duplications between MOE and MOHRSS courses
Good resource sharing at municipal and county levels between SVS	Insufficient funding for 'state-of -the art' plant and equipment
<b>DECENTRALIZATION</b>	<b>DECENTRALIZATION</b>
SVS may choose specialisation to be delivered	Limited labour market analyses for establishing long term specialization need
SVS have autonomy to develop curriculum and courses	Limited input from industry on curriculum
SVS have freedom to hire teaching and management staff	SVS salaries for teachers are inflexible
<b>STAFF DEVELOPMENT</b>	<b>STAFF DEVELOPMENT</b>
In-service management training is provided on annual basis	Inadequate industry related CPD for teaching and management staff

## **7. Resourcing**

246. TVET and SVS are characterized by insufficient funding for plant and equipment, maintenance and human resources. Although minimum national guidelines exist, they are not necessarily implemented where there are deficient resources. SVS reported prevalent shortages of equipment due to the inability of local governments and municipalities to provide TVET funding at levels required.
247. To mitigate the problem of adequate allocation of resources at least partially, the government implemented a strategy for quality improvement, administered by MOE. This includes a variety of elements. One of the most important features is an incentive for quality improvement based on the selection or designation of a TVET institution as 'exemplary school'. The scheme works as follows: (i) a TVET school undertakes a self-assessment and develops a program for improvement; (ii) if selected on basis of its self-assessment plan the institution implements the improvement strategies over a three-year period during which it is monitored by the government; (iii) if the institution meets the targets it will receive funding and gain prestige that follows from being selected 'exemplary school'.
248. Given the funding deficit, there is a case to be made for public TVET institution to provide fee-for-service courses for 'external clients' such as industry and employers. This would create additional income and supplement the government funding. In order to achieve this would require a 'cultural change' that many teaching staff and leadership personnel in TVET institutions are reluctant to pursue.
249. Notwithstanding that historically TVET institutions were and still are underfunded by the government, there are in addition stark disparities between public funding for TVET institutions. TVET institutions in non-urban counties have lower funding and limited capacity to receive financial support when compared to urban and financially more prosperous counties. Limited financing capabilities of some municipal governments lead to insufficient allocation of public resources for TVET including teachers and other human resources, plant and equipment, maintenance and consumables.
250. Employers' financial contributions and contributions in kind to TVET institutions are reportedly minimal. This is inconsistent with benefits employers gain from the skills development and training provided by TVET institutions. There appears to be a lack of policies and incentives for employers to contribute financially and/or in kind for enhancing physical, financial and human resources in TVET institutions.

## **8. Resource utilization**

251. On face value resources in TVET institutions appear to utilize their resources efficiently and effectively, when measured against the indicators such as student progress, including high pass and graduation rates, employment rates and employability prospects, and employer satisfaction feedback. There is also evidence of efficiency based on limited funding and the high student-teacher ratios.

252. Notwithstanding the above indicators, there are others, which are either not apparent or provide a negative picture on effectiveness and efficiency of resource utilization. For example there is no efficiency measure on relation between allocation of funds and performance (effectiveness) including innovation in curriculum, delivery, industry relationships and others. The issue is that government funding is allocated irrespectively of performance.
253. Further, public TVET institutions lack information about the recurrent costs per student or per graduate. Without this information ascertaining cost efficiencies remains elusive. Thus there is a need for establishing systemic and institutionally sustainable mechanisms, which provide reliable empirical data and information of efficiencies per student and graduate. This in turn will provide valuable information on resource utilization.
254. There were some suggestions by TVET staff from the two project schools that it may be possible to achieve greater efficiencies of resource allocations by increasing student-teacher ratios and/or increasing instruction hours and thus greater resource utilization. The former may lead to efficiency due to potential economies of scale that may be achieved. The latter may lead to effectiveness due to potential economies of scope. International experience has shown that neither the increase or even decrease of instruction hours nor the increase or even decrease of student-teachers ration guarantee a better resource utilization. International experience shows that there is a need to balance resource allocations from both the economies of scale and economies of scope perspective.

## **9. Quality, resourcing and institutional partnership**

255. Institutional partnership at national and international is a contributing factor for enhancement of educational quality and resource sharing. PRC's tertiary TVET and higher education institutions have a track record of successful collaboration and institutional partnership.
256. However SVS did not follow the same path. Overall the SVS are inward looking and they lack the political will and capacity for developing significant national and international partnerships with similar institutions. This militates against a more comprehensive development of quality curriculum, establishing new and student centered teaching leaning methods, and exchange of staff and students, which would broaden the institutional and individual capacity, skills and knowledge.
257. In addition, joint development and sharing of curriculum, learning materials, and teaching aids through institutional partnership will contribute to efficiencies and effectiveness. It is imperative that in order to achieve further efficiency and effectiveness gains, SVS should focus on institutional partnership, nationally, regionally like ASEAN countries and internationally with developed countries.
258. At the same time, it is necessary to note that SVS have in some disciplines potential problems to form partnership with institutions in foreign countries. One of the reasons may well be that equivalent level



of courses do not exist in other countries. Thus different strategies need to be developed. For example there are potential opportunities for staff exchange irrespective of the level of institutions, articulation arrangements, scholarships and joint applied research, etc.

## V. CONCLUSION AND RECOMMENDATIONS

259. Looking through a political economy analysis lens, the TVET sub-sector in PRC appears as a kaleidoscopic picture. At **macro level** the PRC government has shown a willingness to enhance the TVET sub-sector with the aim to advance the nations' economic and social development. This is evident by the policies the central government developed and enacted. At **maso level** (i.e. systemic level) the picture is one of advancement through implementation of the government policies. This is evident by the policy implementation strategies at provincial level. However the problem arises at **micro level** (i.e. institutional level). The general picture, with some notable exceptions, is that individual TVET institutions such as the two project schools lack the ability or willingness to implement the central government policies and provincial government strategies to their full advantage. TVET institutions are generally speaking inward looking. Their teaching staff are at times ill equipped to meet the challenges of flexible, student oriented teaching and learning methods, and industry and employment oriented curriculum such as the internationally successfully used CBC.
260. TVET teacher training is generally weak. Setting academic qualification aside, industry based skills updating and upgrading is wanting. Teachers, once appointed, often have little if any exposure to industry demands, practices in the field and/or CPD leading to horizontal and vertical skill enhancement.
261. Institutional management and leadership is often in its effectiveness and efficiency limited. Educational leaders in TVET institutions receive limited training and have difficulties in articulation institutional visions, missions and strategies. For example the NNHS had difficulties to articulate the vision, mission and thus strategies for the establishment of a model kindergarten. This should not be construed as a criticism of the leadership staff at the school, but as a hallmark of systemic failure to provide appropriate leadership training.
262. Expansion of the TVET sector is at times limited by available human, financial and physical resources. For example and despite the proposed civil works program at the two project schools, the number of students will not increase to any significant extent. It is envisaged that the quality of graduate will be improved, who will deliver a more effective and efficient social service in form of pre-school and health services. One of the reasons for the failure expand is inflexibility of TVET institutions to adopt a more flexible delivery, using a range of teaching learning modes, such as self-directed, flexible and open learning, and appropriate use and application of education technology. This would increase the number of much needed graduates, and make access to courses more equitable. Some good examples of flexible delivery in the TVET sector can be found in Australian TAFE sector or the German dual training system.
263. Course contents are mainly focused on technical or 'hard' skills and to a much lesser extend on employability or 'soft' skills. However Industry demands both. Technical skills are of course important, but how to use them effectively and efficiently requires 'employability skills'. There is much evidence that at times employers consider the 'soft, at least as if

not more important than 'hard skills' The former may be summarized as creativity, problem solving, entrepreneurial wisdom, team working, cross-disciplinary and inter-disciplinary knowledge, desirable personal traits, an understanding of national and international 'best practices' and life-long learning abilities.

264. Access and equity within the TVET sub-sector courses is generally satisfactory. There are however discrepancies between traditionally male and female dominated occupational courses. One of the mute points, however are clearly articulated admission requirements. Setting aside the general academic course entry requirements, there seems to be a lack of rules governing admissions where the application for exceeds availability of places. There is also uncertainty about allocation of places and entry requirements for disadvantaged groups and ethnic minorities.
265. PRC governments at all levels acknowledge and are working towards increased expansion of TVET at upper secondary level. There is a general acceptance at all levels that TVET is an important and effective way to develop human resources and highly qualified workforce, and to enhance social services like education and health. The PRC government through its policies are acknowledging the fact that without an effective, efficient, flexible, diverse TVET system PRC will not be able to meet its future economic and social goals.

#### **A. RECOMMENDATIONS**

266. In response to the above concluding findings, recommendations are as follows:
267. **TVET Policies Orientation.** Reemphasis of the central government policies requiring TVET institutions to develop sustainable strategic plans which will ensure a diversified flexible and open TVET sub-sector, which integrates courses with student needs and employer demands, focussing on practice oriented CBC, student centred active teaching-learning modes and authentic assessment. This should include the strengthening industry involvement at macro, maso and micro levels, with clearly determined roles, authority and responsibilities.
268. **Quality Improvement.** Improving the quality of courses through introduction of industry relevant and educationally sound CBC and appropriate learner-centred and integrated teaching - learning, and authentic assessment methods. This requires a thorough understanding of the principles of CBC, how to develop and implement CBC, and how to sustain it at institutional and classroom levels. Thus training of staff and leadership in CBC development and implementation is one of the major issues that need to be addressed.
269. **National qualification and curriculum framework for TVET teacher training.** Establishing a national qualification and curriculum framework for TVET teacher training, including pre-service, in-service and CPD requirements is important for ensuring quality of TVET. This framework should be linked to promotion and salary bands for TVET teachers.

270. **TVET staffing.** In order to establish a sustainable TVET teacher pool with up-to date industry relevant capacity, there is a need to find a balance between permanent and sessional TVET teacher cohorts. In addition to the permanent and sessional TVET teacher cohorts, there is a need to establish a coherent policy and procedures for engagement of industry based tutors. These will be able to bring industry based work examples into the school as much as to take students to the relevant work places.
271. **Educational leadership training.** Educational leadership needs to be strengthened through training. There is a need for educational leaders at systemic and institutional levels to become pro-active in policy implementation in a creative, sustainable, efficient and effective manner. This includes implementing and sustaining training for: (i) curriculum development and implementation leadership, including a cyclic revision and updating; (ii) teaching-learning methods leadership; (iii) assessment modes and methods leadership; (iv) leadership in mentoring and monitoring of staff and students; (iv) community liaison leadership; (v) leadership in financial management; (vi) leadership in resource development and management (HRD, plant and equipment); (vii) industry liaison and participation leadership; (viii) entrepreneurial leadership; (ix) leadership in practice oriented classroom research; (x) class room management leadership; (xi) institutional QA leadership; (xi) monitoring and evaluation leadership. This does not mean that leadership staff will become experts in any or all of the above areas, but it simply means that they will have the ability and skills to lead educational, technical and other experts.
272. In order to achieve this, leadership development needs to be institutionalised at relevant provincial department level as well as the school level. CPD leadership development courses should be made compulsory for all those in leadership positions in the schools and on a voluntary basis for school staff aspiring to leadership positions.
273. **TVET expansion.** Expansion of the TVET sub-sector should not be based on availability of staff and facilities. These are of course important factors, but equally important is the flexibility of delivery. Thus, TVET institution should develop open and flexible delivery and move away from the traditional roles of teachers, requiring students to take more responsibilities for their own learning. This will require a focused change of the role of the teachers (to become facilitators of learning) and their ability to use educational technology as a learning tool. Such approaches have proven to be very effective in the TVET sub-sector by providing more students with quality learning environment and without necessarily significant increase of number of classroom or teaching staff.
274. **Re-orientation of course content.** Re-orientation of course content from mainly technical to a combination of technical or 'hard skills' and 'soft skills' is a major contributor to employability of graduates. Industry demands that graduates and employees have generic 'soft skills'. In order to achieve this existing curriculum and syllabus need to be expanded as to include generic competencies. This should not be seen as two separate 'streams' within a curriculum, but as an integration of 'hard skills' and soft skills. International experience

shows that 'soft skills' are best learned in a context of relevant technical or occupational context. Thus in many cases a re-orientation of existing, rather than development of new curriculum and subjects is required.

275. **Access and equity.** Access and equity policies need to be institutionalized to avoid arbitrary decision-making. This needs to be strengthened at national policy level in form of an overall framework, operationalized at provincial level and institutionalized at school levels. Access and equity principles must be made transparent and must be supported by relevant processes and procedure for participation of main and disadvantaged groups in TVET. Emphasis shall be on equitable allocation of places and cultural and gender sensitivity, including diversified entry provisions and requirements, articulation of expected learning outcomes, and provision of academic and personal support mechanisms.
276. **Inclusive education and mainstreaming.** Inclusive education and mainstreaming within the TVET sub-sector needs to be addressed. Given the absence of policies and procedures at systemic and institutional levels there is a prima facie case for a **policy dialogue** between the donor and recipient agencies under the overall access, equity and participation. Teacher trainers, teachers and educational leaders need to be trained in implementing inclusive education and mainstreaming principles and practices. Generally there are some overarching recommendations such as
277. **Industry Partnership.** The need to strengthen cooperation with business and industry in its various forms, reaching from internship, teachers release to industry activities, work-place learning opportunities for students and staff, industry oriented practical research and development, and flexible delivery.
278. **Market orientation.** Market orientation of TVET courses shall focus on (i) a continuing expansion of scope of services including both economies of scale and economies of scope, (ii) providing education and training of rural-urban migrant workers, (iii) labour market needs and demands and employment, in-service training of the work force and (iv) continuing skills development opportunities for the work force.
279. **Labor market information and analysis.** There is a compelling argument to be made for TVET institutions in cooperation with employers to utilize labour market information for modification of existing courses and development of new courses as to meet labour market needs and demands.
280. **TVET program development and implementation.** TVET programme shall be developed and implemented on basis of education and training needed and demands and within a contemporary context of demographics, economic parameters, and labour market situational analysis and forecast, and human resources needs. There is a necessity to establish processes and procedures, which will insure viability and sustainability of a course, its contribution to and importance for national, regional and/or local social-economic agenda.

281. **Incentives schemes.** In order to improve the quality and industrial relevance of TVET institutions and courses there is a need to enter into **policy dialogue** with the aim to develop incentives for employers to contribute financially and/or in kind to TVET institutions. Concessions to industry donors need to be institutionalised through municipal or provincial regulations. If enacted, such incentive scheme will strengthen institutional level physical, financial and human resources, and potentially lessening the government burden.
282. **Institutional Partnership.** SVS TVET institutions including NNVS and NNHS to develop and enact strategies for institutional partnership building with the aim to achieve greater effectiveness of educational development and deliver and efficiencies in resource utilization through institutional cooperation.
283. **M&E and Impact Assessment.** There is a need to develop, implement and sustain at systemic and institutional levels M&E and Impact Assessment mechanisms. It is important to note that M&E and impact assessment are two integrated mechanisms used to evaluate and assess the performance of an institution, including course implementation, quality of graduates, quality and efficiency of teaching, resource utilisation, leadership performance, etc. Currently there is a need for M&E and Impact Assessment practices and procedures to be institutionalised and operationalized at national, provincial and institutional levels. Without these mechanisms in place it is difficult, if not impossible for government, employers, communities and individuals to make informed decisions about the efficiency and effectiveness of TVET.

## **B. POLICY DIALOGUE: SUMMARY RECOMMENDATION**

284. Based on the above there are two areas where policy dialogue is recommended. These are:
- Inclusive education and mainstreaming.
  - Incentives schemes for employer contribution to TVET institutions

## **C. CONCLUDING NOTE**

285. Nanning TVET has a record of achievements that can be used as a basis for future developments and for realizing, equitable, efficient and effective service delivery for the future. The three paramount challenges for TVET in Nanning are to (i) enhance industry and employer participation in curriculum development, teaching-learning modes and assessment, CPD of teaching and leadership staff in project based TVET schools; cyclical review of curriculum on a tri-annual basis; (ii) develop flexible and open delivery of courses as to provide greater access and participation; (iii) develop and implement an entrepreneurial culture to secure non-government funding sources as to insure sustainability of TVET schools an courses.

## ANNEXES

### Annex 1: Stakeholder Consultation

#### List of persons met and consulted

Name	Organization	Position
Wendy Walker	ADB	Project Manager
Peter Jaques	ADB	Staff Consultant
Huang Fulai	Nanning DRC / Project Director	Deputy Director
Huang Liling	Nanning DRC	Section Chief,
Wu Chan	Nanning DRC	Staff Member
Jiang Tingyu	Nanning DRC	Staff Member
Yao Hong	Nanning finance bureau	Section Chief
Li Dong	Nanning finance bureau	Vice Section Chief
Sun Guinan	Nanning education bureau	Deputy Investigator
Tan Yinguang	Nanning health bureau	Deputy Director
Zheng Changsheng	Nanning health school	Principal
Chen Yunying	Nanning health school	Vice-Principal
Yang Lixing	Nanning health school	Vice-Principal
Zheng Changsheng	Nanning health school	Director of school PMO
Li Shaoming,	Nanning health school	Head of Teaching Division
Yang Xiaoling	Nanning No.4 vocational technology school	Principal
Chen Jianzi	Nanning No.4 vocational technology school	Vice-Principal
Zhong Yongqiang	Nanning No.4 vocational technology school	Director of school PMO
Yu Lian	Nanning No.4 vocational technology school	Director school kindergarten
Yang Zhen	Xiangsi lake investment company	Chief Engineer
Li Jinpeng	Xiangsi lake investment company	Divisional Manager

#### List of institutions visited

- Nanning Development and Reform Commission
- Nanning Health School
- Nanning No. 4 Vocational Technology School
- Shuangqiao Central Township Hospital
- Pinglu Village Clinic
- Wuming County Hospital
- Jai Li Yi Yuan Xin Kang Nursing Home

TA 8158-PRC: Project Preparatory Technical Assistance

## **HUMAN RESOURCES, PARTNERSHIPS AND CAREER DEVELOPMENT**

Author: DR VERONICA VOLKOFF



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## LIST OF ACRONYMS

ADB	Asian Development Bank
AFTA	ASEAN Free Trade Area
ASEAN	Association of Southeast Asian Nations
BOE	Bureau of Education
BOH	Bureau of Health
CIVTE	Central Institute for Vocational Training and Education, Beijing
CPD	Continuing Professional Development
DMF	Design and Monitoring Framework
ERDP	Education Reform and Development Plan (2010–2020)
ETF	European Training Foundation
GAP	Gender Action Plan
GZAR	Guangxi Zhuang Autonomous Region
HRD	Human Resource Development
IAG-TVET	Inter-Agency Working Group on TVET Indicators
ILO	International Labour Organization
M&E	Monitoring and Evaluation
MHRSS	Ministry of Human Resources and Social Security
MOU	Memorandum of Understanding
NEB	Nanning Education Bureau
NHB	Nanning Health Bureau
NMG	Nanning Municipal Government
NNDRC	Nanning Municipal Government Development and Reform Committee
OECD	Organization for Economic Co-operation and Development
OST	Overseas Study Tours
PAM	Project Administration Manual
PMO	Project Management Office
PPP	Public Private Partnership
PPTA	Project Preparatory Technical Assistance
PRC	People's Republic of China
SEAMEO	Southeast Asian Ministers of Education Organization
SES	Socio-economic Status
SVS	Secondary Vocational Schools
TFYP	Twelfth Five-Year Plan (2011–2015)
TVC	Tertiary Vocational Colleges
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Educational, Scientific and Cultural Organization
WB	World Bank

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## EXECUTIVE SUMMARY

1. This Project has been designed to help improve the capacity and effectiveness of technical and vocational education and training (TVET) focussed on social services in Nanning. The Project will support improvement of Nanning No.4 Vocational Secondary School and Nanning Health School, to create a cadre of qualified kindergarten teachers and nurses to address current skilled worker shortages in these occupations and inadequate extension of social services in this fast growing region. The proposed project will be only the second<sup>52</sup> Asian Development Bank (ADB)-financed TVET investment project in the People's Republic of China (PRC), and will play a demonstration role for the sector and provinces seeking to provide quality public social services.
2. Strengthening TVET is a priority under the PRC Government's Twelfth Five-Year Plan. The Plan outlines measures to establish '*a sound and sustainable basic public service system*', with a focus on improvement of public education and medical care. The National Medium- and Long-term Education Reform and Development Plan (2010–2020) calls for pre-school education to be developed so that by 2020, one-year preschool will become the norm, two-years universalized, and three-years popularized.<sup>53</sup> The priorities in the National Health Care Reform include strengthening primary health care services and the grassroots health workforce. Thus, development of TVET for preschool education and health is urgently needed to meet these goals.<sup>54</sup>
3. Nanning is the capital city of Guangxi Zhuang Autonomous Region (GZAR), one of the 12 less-developed provinces and autonomous regions in the western part of the PRC and a gateway to the Pan-Beibu Gulf and Association of Southeast Asian Nations (ASEAN) regions. The development of Nanning as a regional urban centre has led to rapid urbanization<sup>55</sup> and an annual growth rate of 15.5 per cent. Industrialization has created a rising demand for skilled workers and extension of social services to provide balanced access to such services and promote social development in rural and urban areas. Nanning Municipal Government Objectives for the TVET sector through this Project respond to the National Plan's directions and seek to develop nationally and internationally competitive facilities and programs at both schools to support economic and social development in Nanning and GZAR.
4. The Three-Year Action Plan for Preschool Education Development in Guangxi Zhuang Autonomous Region (2011–2013) proposed to build,

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<sup>52</sup> The first project is TA 7978-PRC: Technical and Vocational Education and Training Demonstration Project (Hunan), approved in December 2011.

<sup>53</sup> Overall, preschool students in the PRC will increase from 26.58 million in 2009 to 40 million by 2020.

<sup>54</sup> ADB TAs in TVET and health underline the need to improve training and curriculum development, develop continuing learning, and industry partnerships (TA 4868-PRC: Technical and Vocational Education Development and TA 4931-PRC: Rural Health Service System).

<sup>55</sup> The urbanization rate was 48% in 2010 (close to national rate of 49.7%) and is expected to reach 58% by 2015.

renovate, or expand 6,628 kindergarten schools to increase enrolment to 1.33 million children and will need to employ an additional 21,000 new teachers.<sup>56</sup> Currently, there is a severe shortage of qualified teachers, kindergartens, and medical personnel.<sup>57</sup> In 2011, there were only 600 new pre-school teachers graduated in the province. Increasing the numbers and providing assessment, retraining, and certification to existing pre-school teachers are all urgent needs. The Nanning Municipal Government (NMG) must build up the public social service system, particularly in health services provision, to respond to increased demand.<sup>58</sup> In 2010, the PRC national average was 7.6 health personnel per 1,000 urban residents but GZAR's average is only 3.6 health personnel per 1,000 residents.<sup>59</sup> The Twelfth Five-Year Plan also responds to the challenge of an aging society by aiming to create improved elderly care and qualified personnel.<sup>60</sup> There is an urgent need to expand the health services with well trained personnel, including in nursing rural health care and elderly care nursing.

5. The project supports the PRC's Twelfth Five-Year Plan (2011–2015) goals of reform of TVET and expansion of public services. The project will contribute to creation of a qualified labour force and improved access to social services. Over 90 per cent of the students in the two Project TVET schools are female and a high proportion from rural areas. The project aligns with the PRC's country partnership strategy of ADB<sup>61</sup> and conforms to ADB's Education Policy and sector operations plan.
6. This sub component focuses on three closely interlinked key areas for improvement in the two TVET Project schools: partnerships, career and human resource development. These three areas of focus address common challenges faced by the two Project TVET schools.
7. Currently, within these two Project TVET schools, TVET school-industry partnerships are relatively weak and limited to public sector enterprises. Limited industry involvement in the development, validation, implementation and evaluation of training programs result in a lack of industry relevant standards to guide curriculum, teaching, learning and assessment. The result is relatively poor quality courses with inadequate industry relevance and inadequate focus on occupational requirements, resulting in not only a lack of specific technical skills but also more generic employability skills. There is a critical need to increase TVET responsiveness to labour market needs and occupational requirements. This includes addressing the current lack of systematic processes for sourcing relevant and accurate labour market information for identifying training needs.

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<sup>56</sup> People's Government of Guangxi Zhuang Autonomic Region. 2011. Action Plan for 3-year Preschool Education in Guangxi, September 2011, Nanning.

<sup>57</sup> In 2010, GZAR had a total of 5,349 kindergarten schools, 1.18 million students, and 37,000 kindergarten teachers.

<sup>58</sup> This is especially important for rural women who have been left out job opportunities created by industrialization.

<sup>59</sup> Nanning has an average of 5.35 health personnel/1,000 urban and only 0.76 personnel/1,000 for rural residents. Nanning has 23,518

<sup>60</sup> PRC. 2010. The State Medium and Long-term Guideline for Education Reform and Development (2010-2020). Beijing. Chapter 36.

<sup>61</sup> ADB. 2012. Country Partnership Strategy: People's Republic of China, 2011–2015. Manila.

8. With increased autonomy and greater competition for students and internship opportunities, the schools will need to place greater focus on (i) developing sustainable and effective school-enterprise partnerships to maximize training program quality and enhance student and staff career development; (ii) increase cooperation with other TVET providers within Nanning, GZAR, PRC, regionally with ASEAN countries and internationally more widely to promote innovation, facilitate knowledge and curriculum sharing, teacher exchanges and research collaboration; and (iii) develop graduate tracer study capacity to inform training program improvement and capacity to undertake a program of TVET research to inform policy, including analysis of the accessibility and social inclusivity of these TVET programs for different groups of eligible young people. Achievement of these developments will require considerable professional development of staff and strengthening and documentation of a framework and standards for continuing professional development (CPD) of staff.
9. The Project will support Nanning No.4 Vocational School, the Nanning BOE, Nanning Health School and Nanning BOH to strengthen partnerships with employers to promote improvement in system quality and responsiveness. The Project will (i) strengthen industry advisory groups including two Industry Reference Groups, one for pre-school teaching and another for nursing training; (ii) establish partnership agreements and reference materials for establishing, managing and monitoring School-enterprise partnerships and strengthen management committees at the project TVET institutions to include industry participation; (iii) develop guidelines and capacity for the two Schools to conduct regular graduate tracer studies; and (iv) enhance TVET policy research by conducting relevant studies in strategic areas, including in partnership with local, national ASEAN and wider international partner education and training institutions.
10. The Project will assist in the strengthening and optimization of the functions of the two Industry Reference Groups, comprising qualified experts from industries and the industry advisory groups, experts from relevant bureau and experts from the TVET institution, to forge stronger partnerships with both public and private sector enterprises in the kindergarten and health care industries. An institutional framework will be developed, including terms of reference for the two Industry Reference Groups, articulation of the responsibilities of and benefits for all key stakeholders, and guidelines for negotiating, establishing, monitoring and evaluating partnership effectiveness.
11. The Project will focus on strengthening sharing of TVET knowledge and experience through increased cooperation with other TVET providers within Nanning, GZAR, PRC, regionally in ASEAN countries and internationally more widely. It will foster institutional partnerships between Nanning No.4 Vocational School and exemplary pre-school teacher training institutions and Nanning Health School with exemplary nursing, rural health care and elderly care training institutions in the PRC. It also will foster development of institutional partnerships between Nanning No.4 Vocational School and Nanning Health School with relevant overseas education and training institutions in the ASEAN region and internationally more widely, providing pre-school teacher training and nursing and health care programs. The Project will support

development of international partnerships with relevant vocational colleges to provide opportunities for international benchmarking of the programs, teacher and student exchanges, collaborative curriculum evaluation and renewal and joint research activities as well as fostering a learning culture through twinning arrangements. Emphasis will be placed on potential partnerships with ASEAN providers in addition to other international partners.

12. The Project will introduce market-oriented program planning. It will train staff of Nanning No.4 Vocational School and Nanning Health School as well as staff of relevant Bureau to assess the quality and relevance of their training programs by measuring graduate employment and employability, primarily through regular graduate tracer studies.
13. In addition to convening provincial TVET workshops to disseminate, learning through Project activities, the Project will support the development of broader learning dissemination strategies for Nanning No 4. School and Nanning Health School staff to share their project experiences in Nanning, GZAR, the PRC and internationally including through seminars and workshops, conference presentations and publications of relevant journal and newsletter articles, including in the ASEAN region and more widely internationally.
14. Specific short term training activities will be developed following comprehensive human resource development needs and demands analyses at and consultations with both TVET institutions, inputs from enterprise partners and consultants. Training will take various forms including information sharing sessions and discussions, seminars and workshops, short courses, networking visits to education and training institutions in the PRC and overseas study tours (OST). Where appropriate, training will be provided jointly for staff from both Project TVET institutions. Wherever feasible, training activities should involve participation of relevant Nanning and GZAR Education and Health Bureau staff, partner enterprise staff, and staff from partner TVET institutions. Training will primarily focus on:
  - i. Development and management of a coherent framework for continuing professional development (CPD) of staff including supported development of reference materials for quality human resource development practice at the two TVET institutions;
  - ii. Development and strengthening of evidence-based practice in teaching and action research skills towards implementation of ongoing teaching quality improvement processes at both TVET institutions; and development of case study research and reporting skills to support dissemination of learning, including through national networking visits and overseas study tours;
  - iii. Strengthening of student career development practice at all stages of the training program, from recruitment to job placement, incorporating industry input on needs and occupational requirements and considerations of equity and inclusiveness including development of reference materials;
  - iv. Market oriented public-private-partnership planning and cooperation, including development of reference materials for identifying, planning, establishing, managing, monitoring and evaluating TVET institution-enterprise partnerships;

- v. Development of a Project learning dissemination strategy including conducting seminars and workshops, developing conference presentations and writing journal and newsletter articles for publication locally, provincially, nationally and internationally;
  - vi. Development of research skills for graduate tracer study design, development and implementation including data analysis and interpretation;
  - vii. Development of research capacity for analysis of labour market data and tracer study findings and how national, provincial and municipal policies and guidelines for TVET institution-enterprise and TVET institution-education and training provider partnerships can be implemented to improve the quality of provision.
15. This Report outlines the scope of this sub-component and provides a situational analysis of human resources, partnerships and career development in both Project TVET Schools. It analyses the strengths and weaknesses of current practice in these areas and reviews relevant international good practice. The Report recommends intervention strategies, activities and resources for implementation of this sub-component.



## I. INTRODUCTION

### A. BACKGROUND OF SUB COMPONENT

#### 1. Project and Sub Component Rationale

16. As documented in the Concept Paper for this Project, it is designed to help improve the capacity and effectiveness of technical and vocational education and training (TVET) focussed on social services in Nanning. The Project will support improvement of Nanning No. 4 Vocational Secondary School and Nanning Health School, to create a cadre of qualified kindergarten teachers and nurses to address current skilled worker shortages in these occupations and inadequate extension of social services in this fast growing region. The proposed project will be only the second<sup>62</sup> Asian Development Bank (ADB)-financed TVET investment project in the People's Republic of China (PRC), and will play a demonstration role for the sector and provinces seeking to provide quality public social services.
17. Strengthening TVET is a priority under the PRC Government's Twelfth Five-Year Plan. The Plan outlines measures to establish '*a sound and sustainable basic public service system*', with a focus on improvement of public education and medical care. The National Medium- and Long-term Education Reform and Development Plan (2010–2020) calls for pre-school education to be developed so that by 2020, one-year preschool will become the norm, two-years universalized, and three-years popularized.<sup>63</sup> The priorities in the National Health Care Reform include strengthening primary health care services and the grassroots health workforce. Thus, development of TVET for preschool education and health is urgently needed to meet these goals.<sup>64</sup>
18. Nanning is the capital city of Guangxi Zhuang Autonomous Region (GZAR), one of the 12 less-developed provinces and autonomous regions in the western part of the PRC and a gateway to the Pan-Beibu Gulf and Association of Southeast Asian Nations (ASEAN) regions. The development of Nanning as a regional urban centre has led to rapid urbanization<sup>65</sup> and an annual growth rate of 15.5%. Industrialization has created a rising demand for skilled workers and extension of social services to provide balanced access to such services and promote social development in rural and urban areas.
19. The Three-Year Action Plan for Preschool Education Development in Guangxi Zhuang Autonomous Region (2011–2013) proposed to build, renovate, or expand 6,628 kindergarten schools to increase enrolment to 1.33 million children and will need to employ an additional 21,000

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<sup>62</sup> The first project is TA 7978-PRC: Technical and Vocational Education and Training Demonstration Project (Hunan), approved in December 2011.

<sup>63</sup> Overall, preschool students in the PRC will increase from 26.58 million in 2009 to 40 million by 2020.

<sup>64</sup> ADB TAs in TVET and health underline the need to improve training and curriculum development, develop continuing learning, and industry partnerships (TA 4868-PRC: Technical and Vocational Education Development and TA 4931-PRC: Rural Health Service System).

<sup>65</sup> The urbanization rate was 48% in 2010 (close to national rate of 49.7%) and is expected to reach 58% by 2015.

new teachers.<sup>66</sup> Currently, there is a severe shortage of qualified teachers, kindergartens, and medical personnel.<sup>67</sup> In 2011, there were only 600 new pre-school teachers graduated in the province. Increasing the numbers and providing assessment, retraining, and certification to existing pre-school teachers are all urgent needs. The Nanning Municipal Government (NMG) must build up the public social service system, particularly in health services provision, to respond to increased demand.<sup>68</sup> In 2010, the PRC national average was 7.6 health personnel per 1,000 urban residents but GZAR's average is only 3.6 health personnel per 1,000 residents.<sup>69</sup> The Twelfth Five-Year Plan also responds to the challenge of an aging society by aiming to create improved elderly care and qualified personnel.<sup>70</sup> There is an urgent need to expand the health services with well trained personnel, including in nursing rural health care and elderly care nursing.

20. **Strategic fit.** The project supports the PRC's Twelfth Five-Year Plan (2011–2015) goals of reform of TVET and expansion of public services. The project will contribute to creation of a qualified labour force and improved access to social services. Over 90 per cent of the students in the two Project TVET schools are female and a high proportion from rural areas. The project aligns with the PRC's country partnership strategy of ADB<sup>71</sup> and conforms to ADB's Education Policy and sector operations plan.
21. **Special features.** The project has the following demonstration features: (i) a model school for pre-school teacher training that will support teacher development, student training, and curriculum improvement; (ii) development of rural health training centres to make the training curriculum for nurses and rural doctors more relevant to rural requirements. The centres will train students during their internship or refresher courses; and (iii) development of a curriculum for elderly care. To anticipate the growing elderly care industry and the need for nurses with specific skills, the project will assist in developing an elderly care curriculum in the Health TVET School.

## B. SCOPE OF SUB COMPONENT

22. This sub component focuses on three closely interlinked key areas for improvement in the two TVET Project schools: partnerships, career and human resource development. These three areas of focus address common challenges faced by the two Project TVET schools.

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<sup>66</sup> People's Government of Guangxi Zhuang Autonomic Region. 2011. Action Plan for 3-year Preschool Education in Guangxi, September 2011, Nanning.

<sup>67</sup> In 2010, GZAR had a total of 5,349 kindergarten schools, 1.18 million students, and 37,000 kindergarten teachers.

<sup>68</sup> This is especially important for rural women who have been left out job opportunities created by industrialization.

<sup>69</sup> Nanning has an average of 5.35 health personnel/1,000 urban and only 0.76 personnel/1,000 for rural residents. Nanning has 23,518

<sup>70</sup> PRC. 2010. The State Medium and Long-term Guideline for Education Reform and Development (2010-2020). Beijing. Chapter 36.

<sup>71</sup> ADB. 2012. Country Partnership Strategy: People's Republic of China, 2011–2015. Manila.

23. The *Outline of China's National Plan for Medium and Long-term Education Reform and Development (2010-2020)*<sup>72</sup> (The National Plan) strongly encourages collaboration between technical and vocational education and training (TVET) institutions and enterprises to facilitate integration of practice with theory, inform curriculum development, maximize the learning resources and opportunities available to students, contribute to evaluation of teaching quality and teachers' development of up-to-date practical skills, and provide internships and fieldwork opportunities for TVET students. The Plan emphasises the development outcomes that integration of theory and practice through student workplace-based learning can bring. It also promotes strengthening of the '*cultivation of a teaching force, which is proficient in both theories and skills and the construction of training bases*' (p.17) to improve TVET provision, including through teacher quality evaluation by enterprise staff.
24. The Nanning Municipal Government's objectives for the TVET sector through this Project with a focus on pre-school teacher training at Nanning No.4 Vocational School and nurse and rural health care training at Nanning Health School respond to the National Plan's directions and seek to develop nationally and internationally competitive facilities and programs at both schools to support economic and social development in Nanning and GZAR.
25. Currently, within these two Project TVET schools, TVET school-industry partnerships are relatively weak and limited to public sector enterprises. Limited industry involvement in the development, validation, implementation and evaluation of training programs result in a lack of industry relevant standards to guide curriculum, teaching, learning and assessment. The result is relatively poor quality courses with inadequate industry relevance and inadequate focus on occupational requirements, resulting in not only a lack of specific technical skills but also more generic employability skills. There is a critical need to increase TVET responsiveness to labour market needs and occupational requirements. This includes addressing the current lack of systematic processes for sourcing relevant and accurate labour market information for identifying training needs. The Project will strengthen industry advisory groups and develop frameworks and mechanisms for optimizing industry expert and enterprise advice and input at all stages of the training program cycle.
26. The National Plan also strongly promotes international exchanges and cooperation in education, including by vocational schools, to assimilate '*advanced concepts and experience in education*' drawn from international contexts (p.34). In particular, it highlights cooperation with international institutions to: build research capacity and facilitate engagement in joint research projects; facilitate student and teacher exchanges; enable collaborative teaching and research projects including 'demonstration schools'; and develop mutual recognition of academic credits and joint degrees.

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<sup>72</sup> *Outline of China's National Plan for Medium and Long-term Education Reform and Development (2010-2020)*,  
<http://www.moe.edu.cn/publicfiles/business/htmlfiles/moe/s3501/index.html>

27. Nanning No.4 Vocational and Nanning Health School's partnerships with other relevant education and training providers also need strengthening, provincially, nationally within the ASEAN region and more widely internationally to facilitate knowledge and curriculum sharing, teacher and student exchanges, training program benchmarking and alignment with national and international good practice and development of joint research activities. This Project will facilitate the broadening and strengthening of partnerships with PRC national TVET schools/tertiary colleges and establishment of a partnership program with international vocational colleges and institutes, with specific focus on the ASEAN region.
28. In particular, the Project will support the two Project TVET Schools in working with identified international good practice TVET and other education and training institutions to: establish mutually beneficial goals of each partnership; identify priority capacity institutional challenges to address and outcomes to work towards together; implement the collaborative activities, evaluate outcomes and disseminate the learning from these activities provincially, nationally and internationally.
29. The importance of career development and employability skills in secondary TVET is highlighted in the Outline of China's National Plan for Medium and Long-term Education Reform and Development (2010-2020)<sup>73</sup> including in the statement. 'Vocational education should ... cultivate work ethics, occupational skills, employability and career-starting abilities in students' (p.17). The critical importance of incorporating employability skills in young people's training to promote career development is highlighted also by the International Labour Organisation (ILO) which describes employability as encompassing '... the skills, knowledge and competencies that enhance a young person's ability to gain and retain a job, progress at work and cope with change, secure another job if she/he so wishes or has been laid off, and enter more easily into the labour market at different periods of the life cycle'<sup>74</sup>. Effective workplace-based training facilitates these skills and also promotes two-way recruitment benefiting both the employer (internship provider) and the intern.
30. Career development for students needs strengthening within the two Project TVET schools. The weakness in current career development practice is inextricably linked with both the weak industry-enterprise partnerships resulting in limited industry/enterprise involvement in training program development and delivery and the limited, outdated or entire lack of workplace experience of teachers in these Schools.
31. Collection of good quality data on student learning experiences and graduate outcomes, including both labour market and further study outcomes, is vital, in addition to broader industry data on labour market demand, to effective ongoing planning, evaluation and renewal of the training programs. Industry has a strong role to play in supporting analysis and interpretation of such data and providing advice on

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<sup>73</sup> *ibid*, <http://www.moe.edu.cn/publicfiles/business/htmlfiles/moe/s3501/index.html>

<sup>74</sup> <http://www.ilo.org/youthmakingithappen/skills/>

technological and other changes within the industry to inform planning and training program renewal. The Project will support development of capacity within the two Project TVET schools for design, development, implementation of and analysis of data resulting from graduate tracer studies.

32. Teaching and training are no longer limited to teaching and learning provision and the role of teachers and trainers has extended to include curriculum and teaching innovation, networking and partnership negotiation with industry and other education and training providers, career and student support counselling, evaluation, organization and policy and practice research. CPD is essential to assist teachers and trainers to effectively take on these broader roles and to become networking partners with enterprises and national and international TVET colleagues, innovators and researchers.
33. The Project will strengthen staff development of teachers and leaders at Nanning No. 4 Vocational School, Nanning Health School, Bureau of Health and Bureau of Education to improve the overall level of HR. This should include in-service, pre-service and CPD of all relevant staff and leaders and the development of a framework and reference materials to guide, monitor and evaluate professional development. Specific training activities will be developed through the Project following comprehensive human resource development needs and demands analyses at and consultations with both TVET institutions, inputs from enterprise partners and consultants. Training will take various forms including information sharing sessions and discussions, seminars and workshops, short courses, networking visits to education and training institutions in the PRC and overseas study tours (OST).
34. In summary, with increased autonomy and greater competition for students and internship opportunities, the schools will need to place greater focus on (i) developing sustainable and effective school-enterprise partnerships to maximize training program quality and enhance student and staff career development; (ii) increase cooperation with other TVET providers within Nanning, GZAR, PRC, regionally with ASEAN countries and internationally more widely to promote innovation, facilitate knowledge and curriculum sharing, teacher exchanges and research collaboration; and (iii) develop graduate tracer study capacity to inform training program improvement and capacity to undertake a program of TVET research to inform policy, including analysis of the accessibility and social inclusivity of these TVET programs for different groups of eligible young people. Achievement of these developments will require considerable professional development of staff and strengthening and documentation of a framework and standards for continuing professional development (CPD) of staff.
35. Maclean<sup>75</sup>, in his editorial for the book *The future of technical and vocational education and training: Global challenges and possibilities*

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<sup>75</sup> Maclean, M. and Lai, A. (Eds) 'Meaning and Importance of Technical and Vocational Education and Training' (Editorial) in *The future of technical and vocational education and training: Global challenges and possibilities*, pp.2-15.

anticipates the implementation of the ASEAN Free Trade Area (AFTA) in 2015 and notes that because of the *'actual wide disparity that exists between the countries within the ASEAN, mobility of skilled labour within the region becomes an issue which ... is triggering various regional initiatives which has implications for TVET development'*. In the book, Paryono (2011), who belongs to the Regional Centre of Vocational and Technical Education and Training under SEAMEO, proposes some initiatives, including *'negotiation of regional skills recognition agreements, development of a regional qualification framework, and development of regional skills standards ... to enhance labour mobility by way of skills upgrading, re-tooling, and training in new skills'* and that these will *'enhance social and economic integration and cooperation in the region'*. Situated so close to the ASEAN region, it is imperative for Nanning GZAR TVET institutions to consider their role in development of skilled social sector workers for this region.

## **II. SITUATIONAL ANALYSIS OF HUMAN RESOURCES, PARTNERSHIPS AND CAREER DEVELOPMENT**

### **A. BASE SURVEY AND INFORMATION SUMMARY**

#### **1. NANNING NO. 4 SCHOOL**

36. Nanning No. 4 Vocational and Technical School was founded in 1965 and is a full-time public (government) school with three campuses: Zhuxi, Tanluo and Yongning campuses. In addition to pre-school teacher training, the School provides a total of 20 specialties including automotive, garment manufacture, rail transit and sport (basketball) as well as others. The School now has a total of 7,799 students, including 5,321 full-time students and 2,478 adult part-time students. There are 312 professional teachers in the school, including 17 teachers holding a postgraduate certificate, 218 holding an undergraduate certificate and 12 holding an associate degree<sup>76</sup>.
37. The School has notable achievements: it is a designated provincial-level and demonstration secondary vocational school in Guangxi. However, in recent years the School has undergone significant change. Approximately one and a half years ago, the primary teacher training program was moved from Nanning No. 4 School to another school and the school phased out this delivery during 2012. Pre-school teacher training, established in 2004, was a minor program compared with the primary teacher training program. However, with the removal of the primary teacher-training program, pre-school teacher training has now become a major specialization for the School.
38. While the primary teacher training program was removed from the School's offerings, its teaching staff have remained at the School and there has not been a significant addition of teaching staff qualified or experienced in pre-school teaching or pre-school teacher training. Therefore, a rapid transformation has been required for formerly

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<sup>76</sup> Derived from data gathered by PPTA team consultants, including the author.

primary teacher training staff to teach within the pre-school teacher training program.

39. The School currently does not provide any in-service training to kindergarten staff for a number of reasons:
- (i). As a secondary TVET provider it is considered to be of low status by enterprises.
  - (ii). The School lacks government certification to offer post-secondary in-service training and is currently applying for a 'training qualification certificate' to authorize it to do so.
  - (iii). It also currently lacks the capacity to design and provide in-service training as it has almost no training staff with the necessary knowledge of and experience in pre-school teaching environments.
40. PPTA team consultants have reviewed a range of documents and conducted discussions with stakeholders. This included the review of the Nanning No.4 Vocational School Implementation Plan (2013)<sup>77</sup>, which has identified the following issues to be addressed:
41. A need to improve the quality of
- Preschool teacher training curriculum including teaching-learning methods, assessment and content
  - Preschool teacher training (in-service, pre-service and CPD short courses) including integrated classroom and work based learning
  - Educational leadership and management including mentoring and monitoring;
42. A need to Increase the number of its teaching staff to meet the greater number of preschool teachers to be trained. This will require
- Training of new teaching staff to meet the new educational quality requirements of the School;
43. A need to improve the cooperation between the School and kindergartens for purpose of:
- Integration of School-based learning with on-job learning including joint assessment of student teachers
  - Institutionalizing an efficient and effective cooperation management system between the School and kindergartens
  - Joint development of teaching-learning materials including teachers guides and textbooks.

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<sup>77</sup> Nanning No.4 Vocational School (2013) Implementation Plan of the Capacity Promoting Project of Nanning No.4 Vocational and Technical School.

44. In summary, there is a need to build on the School's existing strengths to both increase the quality of its pre-school teacher training and to expand the School's capacity to train greater numbers of pre-school teachers to meet the expected growing demand.
45. As Table 1 below shows, there are 114 teachers, 63 (55%) of them female and 70 (61%) belonging to ethnic minority groups working at the Yongning campus of the School. The majority of teachers at this campus, 96 (84%) have a rural background, reflecting the high proportion of students at this campus who are recruited from rural areas (92.3%). Most of the students in the pre-school teacher training program are female with males representing only 7.7 per cent of the cohort. More than a quarter (27.7%) of the students are classified as coming from poor families.
46. The data supplied by the School indicated a 100 per cent graduation rate, as shown in Table 1 below. However, it was not made clear how this 'graduation rate' was calculated and it does not represent full *real* retention. In interview, School respondents reported that some students dropped out of the program particularly in the first year due to the demands of 'practical' requirements to play a musical instrument, sing, dance and demonstrate skills in creative arts activities. There also was reportedly transfer into the School by students who had initially commenced their post-compulsory education in other programs at other schools. Thus it was not clear whether this 'graduation rate' represented *apparent* retention or simply the proportion of final year students that successfully completed the program.



**Table 1: Nanning No. 4 School Yongning campus (pre-school teacher training site) Profile (2012)**

Nanning No 4 Vocational School (Yongning Campus) 2012		
Number of Teachers: 114	Female: 63 (55%)	Male: 51 (45%)
Qualifications	Total Teaching Staff	Female Teaching Staff
College and below	2	1 (50%)
Bachelor's degree	108	58 (53.7%)
Masters Degree	4	4 (100%)
PhD	0	0
Teachers of ethnic minority	70 (61%) of total teaching staff	
Teachers with rural background	96 (84%) of total teaching staff	
Teachers' age distribution	<30 years: 22 (19%) 31-40 years: 36 (32%) 41-50 years: 50 (44%) 51-60 years: 6 (5%) >60years: 0	
Teachers' classification by duty	Basic (general) subjects: 58 Technical subjects: 56 Trainers: 28 'Double qualified': 30% Contract teachers: 22	
Teachers' Technical background	Graduated from pre-school related program: 1 Graduated from teacher's college/normal university: 113 Worked in related institutions (kindergarten): 0	
Number of Other Staff: 52	Female: 32 (61.5%)	Male: 20
Number of Students: 2467	Female: 2435 (98.7%) <b>Gender Balance: 1:76</b> (male to female)	
Students from rural areas: 2276 92.3%	Students from poor families: 27.7%	
Graduation Rate: 100%	Employment Rate: 100%	

47. The School also reported a 100 per cent employment rate of their graduates. However, again in interview, when asked about this reported employment rate, respondents indicated that it was difficult to track graduates once they had left the School and all destinations could not be identified. Some graduates travelled to other provinces to seek work, some continued with further education and others chose initially not to work at all. Therefore, there was not, in reality a 100 per cent graduate employment rate. There appeared to be a presumption made though, in stating a full employment rate, that because of the demand for pre-school teachers resulting from the shortage of qualified applicants, those who sought such a position could usually expect to be successful.

#### **Staff assessment and development**

48. Staff assessment practice: The Office of the Dean of Teaching is responsible for assessment of teachers' quality of teaching. Evidence is reportedly derived through documented student feedback and through formal observations of teaching organized through the Office of

the Dean of Teaching. Assessment criteria are set and weighted, documented in a formal 'assessment form'<sup>78</sup> shown in ANNEX 6.

49. Informal professional development in kindergarten settings: Historically, Nanning No. 4 School provided mainly primary school teacher training, with pre-school teacher training being a minor offering. Thus only one teacher has completed training in pre-school teaching and not even one has any prior work experience in pre-school teaching environments. To comply with PRC national guidelines for TVET institution teachers' professional development participation and to address the lack of knowledge and work experience in pre-school teaching among staff, the School requires each teacher to spend a minimum of two months over two years, observing and/or working in kindergartens. This takes two forms:
- (i) It is mainly achieved during the periods when staff members take the role of tutors supervising/monitoring their final year pre-school teacher trainees undertaking internships in kindergarten settings;
  - (ii) In addition, the School organizes special visits for staff to kindergarten settings where staff are required to complete a set assignment, for example, documenting their observations of how a pre-school operates. Designed to improve the professional capacity of the teachers, the assignments that staff are required to complete are set by the Office of Teaching and also by the Office of the Dean of Pre-School Education. Assessment of the teacher undertaking the assignment is conducted by both the Office setting the assignment and also by the relevant kindergarten director.
50. The School has an association with 8 public kindergartens. These form the School's 'designated training base' for staff professional development, as well as for their student internships.
51. **Staff development training organized by the School:** As Table 2 below shows, most of the training opportunities provided by the School for its staff during 2012 were limited to small numbers of staff, apart from *Remote training of Guangxi secondary vocational schoolteachers in basic teaching capacity* (31 staff) offered at the school campus, *Educational research skills training* (9) offered by Guangxi Teachers College and *Professional curriculum and teaching reform of pre-school education seminar* at Guangxi Zhongzhou International Training Institute attended by 7 staff members.
52. As 61.5 per cent of the school staff were female in 2012, the distribution among school staff of professional development training offered externally, i.e. by universities and colleges is weighted in favour of male staff, with female staff representing just 44 per cent of the trainees overall. A gender bias is even more evident in the instances where larger numbers of staff were trained, for example, in the three professional development opportunities noted above. Female staff represented only 27% (i.e. 17 of 47 participants) of the total trainees. It is not clear what factors have influenced this uneven pattern of

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<sup>78</sup> Translated School Form: Assessment On Classroom Teaching - Nanning No.4 Vocational School

participation by gender: level of seniority of female staff within the school hierarchy, personal choice or gender bias at management level.

53. A request was made during the first interviews for access to the School's staff development plan. In addition, a formal request was made through the PMO for access to any School documentation regarding staff (human resource) development, for example, a documented staff development plan or strategy, a statement of expectations of professional development activities to be completed by staff members, or guidelines for selection of participants in training events. However, at the time of writing of this report, no such documentation had been provided to this or any other consultant of the PPTA team.

**Table 2: Staff development training at Nanning No. 4 School during 2012**

Training content	Trainees	Females	Location
National level training of 'backbone' pre-school teachers	3	2	North West Normal University & Beijing Union University
Remote training of Guangxi secondary vocational schoolteachers in basic teaching capacity	31	9	Nanning No. 4 School (Yongying Campus)
Arts and Crafts training	1	1	Chongqing Normal University
German Vocational Education pedagogy training course	3	1	Guangxi Normal University
Moral Education	2	2	Guangxi Teachers College
Modern Educational Technology	1	1	Guangxi College of Education
English training	1	1	Yongjiang University
Training of 'backbone' Head Teachers	2	2	Guangxi University
Educational research skills training	9	7	Guangxi Teachers College
Guangxi 'sandbox' technology training course in mental health counselling	1	0	Education Association of Guangxi
Professional curriculum and teaching reform seminar of pre-school education	7	1	Guangxi Zhongzhou International Training Institute
<b>TOTAL NUMBER TRAINED</b>	<b>61</b>	<b>27 (44%)</b>	

54. School respondents reported in interview that some staff had participated in professional development at international universities, in the USA, Germany and Australia, organized by the Nanning Bureau of Education, but such training had not necessarily been focused on pre-school teacher education.
55. All respondents were asked, during interviews, about the School's approach to leadership development among staff, including selection

and professional development. Most declined to make any comment. The only answer that was provided described the process as a ‘tapping on the shoulder’ by the senior leadership with subsequent support and ‘mentoring’.

## Partnerships

56. **With other education and training providers:** The School has established connections, related to its pre-school teacher training program, with 14 tertiary institutions in GZAR and beyond in the PRC, as documented in Table 3 below. These connections, all established since 2010, mainly involve short-term training or observation visit events. The School reported more focused partnerships involving larger numbers of staff in teacher exchange and curriculum sharing. Other information sharing and research activities have been established with four institutions: Guangxi Pre-school Tertiary College (Nanning); Fujian Pre-school Tertiary College (Xiamen); Hepu Normal School (Hepu, Guangxi); and Beijing Gatemong Moterriso Bilingual Kindergarten. In addition, the School has negotiated articulation agreements with two tertiary education providers in GZAR to provide further education and training opportunities for their graduates. The agreement with Guangxi Normal University (Guilin) provides for 10 per cent of the Schools’ most capable graduates, as identified by the School, to gain direct entry into the tertiary program at the University. A similar cooperation agreement is in place with Guangxi Education Institute in Nanning.
57. School respondents expressed the view that as a *secondary* TVET provider, the School was situated ‘at the bottom of the ladder’ of pre-school teacher training and thus had to take the initiative in any partnership development with any tertiary education and training providers.
58. However, the School is keen to strengthen and establish such links both nationally and internationally to learn about curriculum development and exemplary provision of pre-school teacher training for its program improvement.

**Table 3: Nanning No. 4 School partnerships with other education institutions in China**

Institution	Purposes									Time	No. of staff involved	Females
	Teacher /Leader Training	Teacher Exchange	Info Sharing & Exchanges	Teacher Development	Conference	Observation Tours	Curriculum sharing	Research	Others			
Beijing Lianhe University	√			√		√				2012.10-12	2	1
Guangxi Normal College (Nanning)	√			√		√		√	Curriculum cooperation	on needs basis	on needs basis	on needs basis
Guangxi Normal University (Guilin)	√			√		√		√	Upgrade of Student Certificate	annually	5	2
Northwest Normal University (Lanzhou, Gansu)	√			√		√				2012.06-09	1	1
Chongqing Normal University (Chongqing)	√			√		√				2012.09-11	1	
Guangxi Pre-school Tertiary College (Nanning)	√	√	√	√		√	√	√		twice annually	on irregular basis	on irregular basis
Fujian Pre-school Tertiary College (Xiamen)		√	√			√	√	√		2012.12	23	12
Hepu Normal School (Hepu, Guangxi)		√	√				√	√		2011.12	16	8
Beijing Gatemong Modern Bilingual Kindergarten	√	√	√			√	√	√		2012.11	22	15
Beijing Foreign Studies University	√			√						2012.10-11	1	1
Guangxi University (Nanning)	√			√		√				2012.07	2	2
Guangxi Institute of Education (Nanning)	√		√	√	√	√			Upgrade Student Certificate	on irregular basis	on irregular basis	on irregular basis
Beijing University	√			√		√				2010.07-10	1	
Fujian Normal University	√			√		√		√		2010.07-09	1	

**Table 4: Nanning No. 4 School partnerships with employers - Kindergartens**

	Corporate Names and Addresses	Nature		Cooperation Duration	Purpose				
		Pub.	Priv.		Intern-ship	Observation	Teacher Vacation Job Placement **	Job place-ment	Expert Lectures on Campus
1	No.2 Kindergarten Affiliated to Guangxi University	√		2 years	√	√	√	√	
2	Nanning No.2 Kindergarten	√		3 years	√	√	√	√	
3	Guangxi Water Irrigation Kindergarten	√		3 years	√	√	√	√	
4	Guangxi Kindergarten Under Guangxi Health Office	√		3 years	√	√	√	√	
5	Nanning Cotton Weaving Kindergarten	√		3 years	√	√	√	√	
6	Nanning No.3 Kindergarten	√		3 years	√	√	√	√	
7	Infant Nursing Home under Guangxi Party Committee	√		3 years	√	√	√	√	√
8	Kindergarten For Nanning Education Organizations	√		3 years	√	√	√	√	√
9	Infant Nursing Home of Nanning Administrative Region	√		3 years	√	√	√	√	
10	Infant Nursing Home of Nanning Municipal Administration	√		3 years	√	√	√	√	
11	Infant Nursing Home for Yongning Administration	√		5 years	√	√	√	√	√

NOTES: The first 8 Kindergartens comprise the School's designated training base - all public Kindergartens.

\*\*Teacher observes classroom instruction or supervises internship students

59. **With industry/enterprises:** The School has established partnerships with 8 public kindergartens in GZAR that comprise its 'designated training base', as documented above in Table 4. It also has partnerships with three public infant nursing homes that also provide internships and staff development opportunities. One partnership has been in place for five years but the majority of partnerships were established three years ago, reflecting the recent shift from primary teacher training to pre-school teacher training as the major offering of the School.
60. The partnerships with kindergartens have so far been limited to partner provision of observation opportunities and internships for students, jobs for selected graduates and staff development opportunities. However, the School would like to develop its capacity to provide in-service training/professional development for pre-school teachers, in particular for its partner kindergartens. However, this requires the School to be accredited to provide post-secondary level training, accreditation that it currently does not have. Respondents emphasized that one of their expectations of the ADB project outcomes is a sufficient increase in the quality of their pre-school teacher training provision for the School to be able to gain accreditation to provide in-service training at post-secondary level in the future.

### **Career development**

61. Information dissemination about pre-school teaching as an occupation to prospective applicants: The Office of Intakes, Internships and Job Placement is responsible for information dissemination about the School's programs. Promotion/marketing of the School's pre-school teacher training program and dissemination of information about pre-school teaching as a career occurs in a variety of ways including:
  - (i) delivery of talks by teachers from Nanning No. 4 School to Year 9 graduating students at their schools;
  - (ii) distribution of brochures publicising the School and pre-school teaching as a career, including descriptions of the subjects in the program; and
  - (iii) participation in a Nanning city government organised 2 day TVET skills exhibition that takes place every year.
62. Selection of applicants for places in the school: There are no specific selection criteria for entry to Nanning No.4 Vocational School's pre-school teacher training program. Successful completion of the nine years of compulsory education is the only required standard for entry. However, while all applicants are considered suitable for entry to the course, a small number of students reportedly drop out during the first year because they find the 'practical skills acquisition', i.e. the need to be able to develop skills in singing, playing musical instruments, drawing and painting challenging. The School Office of Intakes, Internships and Job Placement advised that generally, students entering the program are not aware of the requirements to develop such skills and thus a small number are not suited to nor able to meet

the demands of acquiring such skills. No mention was made by School respondents of any assessment of applicant or student capacities in relation to communication skills or interpersonal skills in relating to and managing the learning of young children.

63. A formal request was made through the PMO for information about how the School made selection decisions when applications (i.e. demand for places) exceeded the government set quota of places for the School's pre-school teacher training program by the government. However, neither documentation nor any explanations had been made available by the time of writing this report.
64. Effectiveness of program learning activities in assisting students to develop understanding of pre-school teaching as a career: School respondents reported an identified gap between what is taught through the School's classroom teaching and the actual work to be undertaken by graduates in pre-school teaching contexts. This is a result of a range of factors including
  - (i) limitations in the curriculum, teaching, learning and assessment materials including lack of industry relevance due to limited industry expert/enterprise practitioner input to the program's development;
  - (ii) practical activities within the taught program being primarily focused on development of musical instrument, dancing, singing, painting and drawing skills rather than on pedagogical practice in kindergarten workplaces;
  - (iii) lack of pre-school teacher-trainers' training in, knowledge of, and work experience within pre-school teaching contexts.
65. Exposure to workplace practice: In the first two years, students reportedly spend a few days each semester in kindergartens, tasked with making daily observations and maintaining a documentary record of their observations for submission to their teachers at the School. In the third and final year, students spend one month in a kindergarten during the first semester (Semester 5 of the program) and then the whole second semester (Semester 6) as a paid 'education internship' undertaking actual teaching work in the kindergarten.
66. The 6-month internship in kindergartens during Semester 6 (i.e. the last semester of the three year program) assists the students to begin to address this gap in understanding of what their proposed career involves in reality, and also to gain real work experience (of any kind) that otherwise they lack. The School mainly uses its 'internship training base' comprising 8 public kindergartens in urban Nanning, as mentioned above, for student observations of workplace practice during the first two years and for internship placements (See next section for listing of these partner kindergartens).
67. School tutors visit the students and also gain professional development of pre-school teaching practice at the same time. Pre-school teachers at the kindergarten supervise the interns and undertake their final assessment. However, no training is undertaken by the School of workplace-based internship supervisors to prepare them for this role,



for example in relation to students' prior or expected learning through the internship or in relation to the nature of the intern's assessment, nor any mentoring training. Workplace-based internship supervisors undertake intern supervision and assessment entirely independently of the School and the program's curriculum, teaching and learning approaches and assessment principles and practice. Thus there is very limited, if any, explicit integration of the theory taught by the School and the workplace practice experienced by the interns in the kindergartens. However, the School elicits feedback from the students at the conclusion of their internship to assist in identifying the gaps in the School's teaching.

68. **Employability skills:** Development of employability skills is an important component of effective career preparation of students in all fields. However, there is no explicit focus on development of the range of employability skills through the School's pre-school teacher training program itself. However, the program does include a 'special offering' called 'communication for pre-school teachers' and graduating students are provided additional classes in inter-personal relations and communication skills in an attempt to promote the development of employability skills as part of the 'job placement' role. However, there appears to be no or very limited integration of the teaching of employability skills within the general or technical subjects taught within this program.
69. **Job placement assistance:** The school's Office of Intakes, Internships and Job Placement has responsibility for providing assistance to students to gain employment. Assistance includes a range of activities such as:
  - (i) an employment vacancy register;
  - (ii) workshops on resume writing, interview skills, interpersonal relations and workplace communication skills; and
  - (iii) a 'two-way' job market day where interested employers visit the school to meet and 'assess' graduating students, and students can also gain awareness of, and 'assess' potential employment options.
70. **Employment outcomes:** About 70 per cent of graduating students reportedly gain employment with their internship provider kindergarten, staying on as a staff member at that kindergarten at the conclusion of their internship. As the pre-school teacher training program, as a major specialisation for the School, is only new and only small numbers have graduated to date, it is doubtful that this practice would necessarily be sustainable in the longer term with larger numbers of graduates. The remainder of graduates enter the open job market and verifiable data on employment outcomes is difficult for the school to obtain for a number of reasons including the challenge of effectively locating graduates to determine their employment outcomes and destinations without a systematic approach, exacerbated by graduate re-location to other provinces in search of better paid jobs as pre-school teachers and also in jobs unrelated to their training.

71. The Office of Intakes, Internships and Job Placement has the responsibility of locating graduates both to ascertain employment outcomes and to evaluate the effectiveness of the program by gaining feedback on 'graduate performance'. Longer-term data on retention of graduates within the pre-school teaching occupation is made even more difficult by graduate movement. The Head of the Office of Intakes, Internships and Job Placements at Nanning No.4 Vocational School expressed the hope, in interview, that all pre-school teacher graduates of the School would be able to access a public sector job, with '*their future secured by the government*', rather than ever have to compete in an open job market or seek employment with private sector employers.

## Health School

72. Nanning Health School is a long established secondary TVET provider of training of nurses and nursing care, midwifery, rural health care (preparation of rural health workers), and training in the use of various medical techniques and technologies including medical laboratory science and medical imaging technology. The Nursing Care course is certified by the Guangxi Zhuang Autonomous Region (GZAR) Education Department as a provincial-level demonstration course.
73. Nanning Health School has notable achievements: it is a national school. However, there is recognition that in order to provide higher quality health service training towards development of better health services provision to support regional economic and social development, there is a critical need for the School to undertake training program reform, strengthening and development. This includes development of greater relevance of training to industry practice and community needs through closer partnerships with the health services industry, and greater input from industry experts into occupational standards and curriculum development for renewal and development of new programs and strengthening of workplace-based training.
74. In order to achieve these goals a range of issues need to be addressed, through innovative approaches, across the range of Nanning Health School's established and renewed/new training programs.
- (i) School-employer/industry partnerships need to be strengthened and extended, including establishment of industry expert and enterprise practitioner participation in and input to the entire education and training process (including into curriculum, teaching-learning, assessment and work-placement);
  - (ii) Teaching and learning approaches need to be reformed from the traditional teacher-centered form to a student-centered form with integration of theory and practice through both on-campus and workplace-based learning;
  - (iii) Curriculum review, renewal and development need to be informed by industry needs and occupational requirements, as advised by industry experts and partner enterprise informants;

- (iv) Student assessment needs to be transformed to integrate theory and practice and ensure assessment is fair, inclusive and 'authentic' (i.e. workplace practice based);
  - (v) Teacher capacity in student centred teaching, learning and assessment practices needs to be strengthened through training;
  - (vi) Staff development framework and provision for teachers and leaders need to be strengthened including in-service, pre-service and CPD of all staff (medical, management, technical, clinical, administrative, and support);
  - (vii) Future oriented leadership and management development need to be undertaken within a comprehensive and transparent HR framework for performance management and promotion to strengthen individual and institutional capacity;
  - (viii) Students' learning outcomes need to be improved through introduction of a broader range of delivery modes such as practical experience within simulated and workplace environments.
75. *Nursing Profession Training:* In addition to the reforms noted above, the following specific issues need to be addressed in relation to Nursing Professional Training specifically:
- (i) Renewed curriculum that integrates theory and practice, informed by industry experts and enterprise practitioners and aligned to industry needs and occupational requirements;
  - (ii) Integration of campus-based and enterprise based teaching, learning and assessment;
  - (iii) Support of integrated theory and practice teaching and learning through development of industry relevant and up-to date teaching and learning resources.
76. In addition, the nurse training program needs to be aligned more strongly to the nurse qualification examination and its standards, as this is the process through which nurses are certified.
77. *Elderly Care:* China is the most populous country of the world, generally and also as far as elderly population is concerned. The 2010 census showed that 178 million people are over the age of 60 (e.g.13.2% in the total population). There are 25 million people above 80 years of age. Furthermore there is an increasing number (approaching 50%) of elderly households where children have moved away There are 30 million elderly persons with impairments, disabilities of various kinds and there are 10 million Alzheimer's and Parkinson's elderly patients. The growing number of the long-term care problem for the aged, including elderly living without immediate family care and those with disability affect the social fabric and stability of the family and society. This phenomenon not only affects individuals, families and communities but also the national economy and the people's livelihood.

78. Against this background there is a compelling need for a rapid development of social elderly care. Notwithstanding that there are a variety of types of 40,000 age care institutions with over 3 million beds there are only over 300 thousand qualified elderly care personnel. Thus the elderly care bed and nurse cannot meet the requirement of aged, elderly living without close family proximity care and 30 million disabled elderly. Thus there is an urgent need for development of the social old-age care industry to meet the demand for qualified nurse to provide high-quality service and management knowledge. The shortage of elderly care nurse and the nursing care is a systemic problem in the elderly care development. This puts a great demand pressure on vocational school and the opportunities to serve society and the opportunities for student employment. In response to these challenges, vocational school needs to provide appropriate training and retraining.
79. *Rural health training base*: Rural health training basis include township hospitals, village clinics and village health centers. In order to implement “Rural doctors practitioners control regulations” of the State Council CPC Central Committee the State Council there is a need to increase the delivery of rural health training for rural doctors. This means to accelerate the development of rural health services and further improve the overall quality of rural doctors and will contribute to provision of assistance the Government to establish and improve (a) China's new rural cooperative medical care system, to improve the health conditions of the poor rural areas, (b) conditions in rural finance in poor areas, (c) the training of doctors in rural areas, and (d) better delivery of health services for the local population.
80. As Table 5 shows, in 2012, Nanning Health School had a total of 238 professional teaching staff, 131 (55%) of them female. The Nursing program had 45 teachers including 34, almost three-quarters (76%) female, 32 (71%) from ethnic minority backgrounds and 28 (62%) with a rural background. By contrast, the Rural Health program had 13 teachers, the majority (77%) male. Lower proportions of Rural Health program teaching staff than of the Nursing program teaching staff were from an ethnic minority background (54%) though the proportion with a rural background (62%) was the same.

**Table 5: Nanning Health School Profile (2012)**

Nanning Health School 2012		
Number of Teachers overall: 238	Female: 131 (55%)	Male: 107 (45%)
Qualifications (for whole school)	Total Teaching Staff	Female Teaching Staff
College and below	21	7 (33.3%)
Bachelor's degree	212	119 (56.1%)
Masters Degree	5	5 (100%)
PhD	0	0
Nursing Teachers: 45	Female: 34 (76%)	Male 11(24%)
Nursing Teachers of ethnic minority	32 (71%) of total teaching staff in Nursing	
Nursing Teachers with rural background	28 (62%) of total teaching staff in Nursing	
Rural Health (Rural doctor) Teachers: 13	Female: 3 (23%)	Male 10 (77%)
Rural Health Teachers of ethnic minority	7 (54%) of total teaching staff in Rural Health	
Rural Health Teachers with rural background	8 (62%) of total teaching staff in rural Health	
Teachers' age distribution (for whole school)	<30 years: 48 (20%) 31-40 years: 71 (30%) 41-50 years: 79 (33%) 51-60 years: 40 (17%) >60years: 0	
Teachers' classification by duty	Basic (general) subjects: 59 Technical (TVET specific) subjects: 179 Trainers: 27 'Double qualified': 158 Contract teachers: 21	
Number of Students (whole school): 11,776	<b>Gender Balance:</b> 1:43.3 (male to female)	
Students from rural areas (whole school): 77.6%	Students from poor families (whole school): 26.5%	
Graduation Rate (whole school): 84.3%	Employment Rate: 96%	

81. Nanning Health School reported an enrolment of 11,776 students in the 2012-2013 academic year. Notably, the proportion of students at Nanning Health School recruited from rural areas (77.6%) is much lower than the proportion at Nanning No.4 Vocational School (92.3%). This 'mirrors' the lower proportion of staff at the Health School from rural backgrounds (62%) compared with the proportion at Nanning No.4 Vocational School (84%). The proportion of students at Nanning Health School from poor backgrounds is 26.5 per cent, slightly lower than the proportion at Nanning No.4 Vocational School (27.5%). The School advised that around 1 to 2 per cent of students annually are deemed, on the basis of ongoing assessment, not suitable for their enrolled program and they are encouraged to change their course of study. It reported a graduation rate (for all school programs overall) of 84.3 per cent. The basis on which this rate was calculated was not made clear. It also reported a graduate employment rate (overall) of 96 per cent. This will be discussed further in the Career Development section, below.

## Staff assessment and development

82. Staff assessment practice: The Office of the Dean of Teaching is responsible for the assessment of teachers' quality of teaching. All TVET specialty teachers are required to be dually certified, that is, they need to be certified as a teacher and also as a nurse or relevant health practitioner. Three methods are used to evaluate teaching quality: collegial observation and assessment; leadership observation and assessment; and student evaluation. A Superintendant Panel is responsible for the evaluation of teachers' performance.
83. Informal professional development: New teachers to the School are provided with mentoring by 'veteran' teachers through a program called 'old plus new partnership'. The School also has a 'Major Construction Advisory Panel' that interprets and ensures implementation of policy-based directives from provincial and municipal health education authorities. This Panel also takes responsibility for staff visits to TVET institutions providing health focused training in other parts of the PRC and for staff exchanges.
84. During the summer vacation, professional teachers are required to undertake visits and 'internships' in hospitals to explore relevant practice. They also are required to provide a written report on their observations to the Dean of Teaching. The School has an association with 9 public hospitals (8 in Nanning City and 1 in Bin Yang county) that comprise its training base for student internships and staff development activities. The Dean of Teaching also advised that there was an annual requirement (from the GZAR/Nanning Health Bureau) that all teachers prepare written research proposals. Those proposals judged to be on suitable topics and of high quality are funded for project teams to complete the research. However, the Dean of Teaching advised that not many teachers developed any research proposals and that the ADB Project funds could help the School develop a stronger focus on and capacity for research. Teaching staff also 'supervise' student internships in hospitals, however, the extent of this 'supervision' appears to be limited to only one visit per year or at most two.
85. Training organised by the school: Staff development training organised by the School is shown in Table 6 below. This data was not available in a form disaggregated by training program, only for the entire School staff. Participation by gender appears equitable but it is not possible to ascertain this without data disaggregation by program. The majority of training events (9 of the 14) were limited to 5 or fewer participants, with just five training events inclusive of 9 or more participants.
86. A formal request was made through the PMO for access to any available School documentation regarding staff development, for example, documented staff development policy, plan or strategies, a statement of expectations of professional development activities to be completed by staff members, or guidelines for selection of participants in training events. However, at the time of writing of this report, no such documentation had been provided to this or any other consultant of the PPTA team.

87. School respondents were asked, during interviews, about the School's approach to leadership development among staff, including selection and professional development or mentoring. The Vice-Principal was not available during the interviews and available respondents were disinclined to answer this question. However, after some discussion, the advice provided was that management identified 'backbone' (key) teachers and selected them for training in teaching, leadership and management. Potential School leaders had to run (campaign) for any leadership role and make speeches to gain support of the staff. However, School management made the final decisions about leadership role allocation and appointed leaders to serve three years in the post.

**Table 6: Staff development training at Nanning Health School during 2012**

Training content	Trainees	Females	Location
Gangzhou Canton Fair oral health care equipment	5	1	Guangzhou, Guangdong
The 5th National Health Information Technology Education Summit Forum and the institution's information technology teaching and application seminar.	2	1	Nanning, Guangxi
National demonstration school digitized resources sharing plan subject training class	3	3	Chengdu, Sichuan
National demonstration school building experience exchange	9	4	Nanning
Guangxi vocational school teacher training project enterprise with topic training	2	1	Guilin, Guangxi
Training of core teachers in secondary vocational schools in Guangxi, 2012	28	15	Nanning
Secondary vocational education school-enterprise cooperation boutique compilation of teaching materials Seminar	4	2	Dalian, Liaoning
Innovation and development of secondary vocational schools, 2012	14	7	Nanning
Regional German vocational education pedagogy training class, 2012	10	7	Guilin, Guangxi
Guangxi secondary vocational schools nursing skills competition training class	4	4	Yuling, Guangxi
School-enterprise cooperation seminar	2	1	Shenzhen, Guangdong
Senior high school AIDS prevention knowledge training class	2	1	Nanning
2013 annual nurse licensing examination faculty exchange training	10	7	Nanning
Boutique network curriculum design strategies and methods of training	1	0	Shanghai
Total	96	54 (56%)	

## Partnerships

- 88. With other education and training providers:** Collaborations between Nanning Health School and tertiary education and training providers take a range of forms. The School has articulation agreements in place for selected graduates with Guangxi Medical University, Guangxi College of Traditional Chinese Medicine and the Guilin Medical College. In addition, personnel from relevant universities and colleges are invited to provide expert lectures and seminars for Nanning Health School students. Collaborators in program delivery include the Health Management Institute of Guangxi, Guangxi College of Traditional Chinese Medicine, Liuzhou Higher Medical College, the Adult Education Institute of Guangxi Medical University, and the Medicine School of Shanghai Jiaotong University. When questioned about links with other secondary TVET providers focused on health care training, respondents advised that there were 27 secondary TVET schools in Guangxi that they could network with and that they did visit some schools but would not specify any instances of collaboration, knowledge or curriculum sharing and referred instead to hospital partners as the main collaborating institutions with the School in relation to its secondary level training.
- 89. With industry – hospitals and health care centres:** School respondents advised that Nanning No.3 Hospital is the School's designated training base for its Nursing program and that Bin Yang County Hospital is a minor partner. Notably, the collaborative relationships between Nanning Health School and the hospitals listed in Table 7 below are longstanding, 20-30 years in duration.
- 90.** However, the School does not have a partnership with any rural area hospital as they have set criteria for internship placement hospitals and no rural area hospitals have reportedly met these criteria. In addition to internship placements, which all nine listed hospitals are shown in Table 7 below to provide, five hospitals provided opportunities for teacher job workplace placements during vacation periods, seven contributed expert lectures on the
- 91.** School campus and four observation opportunities.



**Table 7: Nanning Health School Associations with Employers - Hospitals**

	Corporate Names and Addresses	All Public	Responsible School Staff	Cooperation Duration	Purpose				
					Internship	Observation	Teacher vacation Job placement	Job placement	Expert Lectures on Campus
1	Nanning No.9 Hospital	√	Dean of Teaching	30 years	√	√	√	√	√
2	Nanning No.1 Hospital	√	Dean of Teaching	20 years	√	√			√
3	Nanning No.2 Hospital	√	Dean of Teaching	20 years	√		√	√	√
4	Nanning No.3 Hospital	√	Dean of Teaching	20 years	√	√	√	√	√
5	Nanning No.4 Hospital	√	Dean of Teaching	20 years	√	√		√	√
6	Nanning No.6 Hospital	√	Dean of Teaching	20 years	√				
7	Nanning No.7 Hospital	√	Dean of Teaching	20 years	√				
8	Nanning No.8 Hospital	√	Dean of Teaching	20 years	√				√
9	Bin Yang County Hospital **	√	Dean of Teaching	30 years	√			√	√

92. Table 8 below provides additional information about the benefits of partnerships with hospitals for the School, related to staff development and teaching program enhancement. These reported activities include: teacher and leader training, teacher workplace placements, information sharing, observation tours, curriculum sharing and some research collaboration.

93. Hospitals provide access for School staff to become aware of new techniques and technologies that have been introduced into hospital practice and to explore how these might be introduced into the School's simulated teaching environment to make the School's teaching more relevant to industry practice and more up-to-date. These partnerships are longstanding and valuable to the

94. School and offer potential for strengthening and extending.

**Table 8: Additional data on the nature of Health School's cooperation with hospitals**

	School Names and Addresses	Purposes							
		Teacher/Leader Training	Teacher Exchanges	Info Sharing & Exchanges	Teacher Development	Conference	Observation Tours	Curriculum sharing	Research
1	Nanning No.9 Hospital	√	√	√	√	√	√	√	√
2	Nanning No.1 Hospital						√		
3	Nanning No.2 Hospital	√	√	√	√	√	√		
4	Nanning No.3 Hospital	√	√	√		√	√	√	√
5	Nanning No.4 Hospital	√					√		
6	Nanning No.6 Hospital						√		
7	Nanning No.7 Hospital						√		
8	Nanning No.8 Hospital						√		
9	Bin Yang County Hospital (close to Nanning)	√		√			√		
10	Nanning Women and Infants Healthcare Hospital						√		

### **Career development**

95. Information dissemination about Nursing as an occupation to prospective applicants: The School's Office of Intakes, Internships and Job Placement is responsible for dissemination of information about the School's programs. Information is provided to prospective applicants and their parents in a variety of ways:
  - (i) Between April and July every year, the Office of Intakes, Internships and Job Placement organises visits by the School's teachers to elementary schools across the province, introducing the School's major offerings, and providing briefings on employment opportunities and answering questions;
  - (ii) Brochures are distributed to elementary schools; and
  - (iii) The School holds a 'Skills Show' at the school where completing Year 11 year students about to commence their internships demonstrate their practical skills. The 'Show' aims to demonstrate the skills gained to parents to encourage 'word of mouth' promotion of the school and also to impress prospective employers.

96. Selection of applicants for places in the school: In common with TVET secondary schools in the PRC generally, all students who have successfully completed the nine years of compulsory schooling are eligible for entry to the Health School's nursing and rural health programs. However, the School has had to apply additional criteria in their selection of applicants as there has been an oversupply of prospective candidates relative to the School's capacity, as determined by classroom and dormitory availability within the School campus. Strong community awareness of the labour shortage in nursing and the opportunities for employment has increased the number of applications. Three measures are now used by the School to select students for the Nursing program from the pool of applicants:
- (i) The School applies a minimum height criterion for entry to the Nursing course (the reason given being that nurses need to be tall enough to be able to hang the infusion bottles and to give injections). There is some flexibility applied in this regard for poor rural students who may have had inadequate nutrition but not to accommodate different child growth rate patterns. A height criterion of 155 centimeters was used to exclude some applicants in previous years but with an increasing number of applications, this was raised in 2012 by one centimeter to 156 centimeters;
  - (ii) Applicant appearance at the time of application is used to exclude other prospective Nursing students as presentation (clothing and footwear) and grooming are considered to reflect an applicant's motivation to enter nursing; and
  - (iii) A 'first-pay, first entry' procedure guarantees that those applicants whose families can pay immediately can secure a place, but excludes some prospective students as those who are unable to pay upfront quickly, miss out on a place.
97. The School believes that this third criterion does not discriminate against poor students as some poor students can gain exemptions from tuition fees. In addition, School staff reportedly visit poor areas first when publicising the School's programs. However, the poor students are not exempt from accommodation and textbook fees and these must be paid upfront and quickly in order for them to secure a place so if a poor family needs longer to find the funds to pay for these, the applicant will miss out on a place. The proportion of the School's students who are listed as poor is 26.5 per cent, lower than the proportion in Nanning No. 4 School (27.7%). Despite the Rural Health specialization offered, the proportion of students drawn from rural areas is also lower in the Health School, 62 per cent, compared with 92.3 per cent at Nanning No.4 Vocational School. About one to two per cent of students annually drop out of the course.
98. A formal request was made through the PMO for access to School documentation on its applicant selection criteria and processes. However, at the time of writing of this report, no such documentation had been made available. It is thus unknown: whether the criteria for selection that were reported are documented in any way; whether there is any transparency in relation to these, that is, whether prospective students (applicants) and their parents have any information about the

selection processes that would be used in any given year; or whether these criteria are devised/adapted in response to the number of applications received in a particular year, and from which selections must be made.

99. Effectiveness of program learning activities in assisting students to develop understanding of nursing as a career: The School has undertaken reforms to its program to increase Nursing students' practical skill development through laboratory work and practice in simulated hospital environments. It also organises opportunities for observation of hospital based nursing practice during the first two years. Such activities comprise 30 per cent of the classroom teaching time. Overall, the School estimates that 60 per cent of the Nursing program is focused on practice and 40 per cent on theory.
100. Exposure to workplace practice: Nursing students complete an 11-month internship (unpaid) in a hospital throughout the third and final year of study. While the interns do have a School based teacher as a supervisor, in reality, any supervision is minimal as the interns are visited only once or at most twice during their 11 month internship, usually once at the beginning and sometimes again at the end. There is minimal facilitation by the School staff of any integration of theoretical learning completed at the school with the practical learning in the hospital context. At the conclusion of the internship, the head of the relevant hospital department provides a report on the intern to the School. Nanning No.3 Hospital is the School's designated training base for nursing students.
101. Rural Health Worker students also complete an unpaid internship of 40 weeks. The first 32 weeks of the internship is completed at a county level health centre supervised by the local hospital. The final 8 weeks of the internship is completed in a village health centre, with activities focused on health education and disease prevention. The School's teachers visit the health centres to assess that their capacity meets internship requirements and sign an internship agreement with selected centres prior to the intern's arrival. A peer-mentoring program is designed to support weaker students during their internship by matching identified higher performing students with poorer ability students. The internship is monitored by staff of local health authorities, who certify that assignments set at the county/village level for the interns are completed. There appears to be very limited integration of the theory taught during the School's on-campus teaching program and the practical assignments completed during internships and no collaboration on the nature of the internship assessment. However, the School has stationed a teacher at a rural health centre in a remote area of the province as part of its 'help the poor' program and shifts the location of this health centre placement every two years. This provides professional development to small numbers of teaching staff members through exposure to rural health centre work.
102. Employability skills: There is limited focus in the Nurse training program on development of generic employability skills. However, there is some emphasis in classroom teaching on development of team-work skills, particularly through the use of assignments that require effective team-work to complete. In addition, a psychology course is offered, designed

to develop communication skills, especially skills focused on communication with patients and relatives.

103. Job placement assistance: The School provides a 'job placement' course in the second year of study that teaches resume writing and interview skills. Former graduates are also invited to the school to provide their reflections on job seeking experiences and advice to the graduating cohort.
104. Employment outcomes: Strong employment outcomes of graduates are considered a priority by the School leadership as these encourage applications through positive 'word of mouth' promotion by satisfied parents and can lead to increased intakes. The School's Office of Job Placement advised that it gathers annual data on the number of graduates, employment destinations and annual average pay rates. The School's Office of Job Placement reported, in interview, that graduate employment rates were high (98%) (though data supplied via the PMO stated a 96% graduate employment rate) because the School is the only national key school in the province. However this data could not be accessed in any formally documented form, for any graduating year. While tracking of graduates is attempted, there was reportedly a lot of job-hopping that made tracking difficult. In addition, to gain ongoing employment in nursing, graduates need to successfully complete assessment for a Ministry of Health Nursing Certificate and not all graduates of the School's program are reportedly able to achieve this. No data was available regarding the proportion of graduates that was successful.

## **B. ASSESSMENT OF STRENGTHS AND WEAKNESSES**

### **1. Nanning No.4 Vocational School:**

105. **Identified strengths** of Nanning No.4 Vocational School in undertaking reforms as part of this Project include:
  - (i) The School is a designated provincial-level key and demonstration school in Guangxi;
  - (ii) Pre-school education is a growing field in GZAR and the demand for places is expected to increase;
  - (iii) Employment opportunities are strong for pre-school teacher graduates and expected to remain strong;
  - (iv) The School has some limited partnerships with industry/enterprises comprising relationships with 8 public sector kindergartens that provide the School's internship training base and offer opportunities for staff development through observations and vacation placements;
  - (v) The School has established relationships with GZAR and wider PRC providers of education and training focused on pre-school education and thus a potential source for greater curriculum and knowledge sharing, teacher exchange and research collaboration;

- (vi) The School has established articulation agreements for selected graduates with two tertiary providers of pre-school teacher training;
- (vii) Teacher development activities have being undertaken by staff;
- (viii) The School's teachers' backgrounds broadly reflect the ethnic minority and rural backgrounds of its students.

106. Identified weaknesses include:

- (i) While pre-school teacher training is expected to grow, there is a risk that with more competitor secondary TVET providers moving into this field, the School's government allocated quota of enrolment places will actually be decreased, rather than increased;
- (ii) The recent shift from Primary teacher training to Pre-school teacher training, with almost no changes to teaching staff, has resulted in almost no teaching staff trained in theoretical bases of pre-school education and none with experience in pre-school settings. Thus, there is inadequate knowledge among teachers of kindergarten workplace practice and occupational requirements and demands and extensive professional development is required to address this weakness;
- (iii) There is a lack of coherent input from industry experts, enterprises/employers (kindergartens) and pre-school education theorists and researchers into planning, curriculum development, teaching and learning approaches, assessment and evaluation related to the training program;
- (iv) There is a low level of dual certification of teachers;
- (v) The status of Nanning No.4 Vocational School as a secondary TVET provider is low and the School lacks government certification to provide post secondary level in-service professional development to pre-school teachers;
- (vi) School staff lack the capacity to design relevant curriculum for initial and in-service training because of their lack of relevant training and experience in pre-school education and in curriculum development;
- (vii) There is a lack of a coherent framework, guidelines and strategy for human resource development of School staff, including for teacher development and leadership development;
- (viii) While there has been staff participation in professional development, there is evidence of inequitable participation in staff development opportunities by gender, and limited focus of these activities on pre-school education;

- (ix) There is a lack of a transparent (documented) approach to leadership and management development, mentoring and monitoring;
- (x) While the School has an internship training base, it comprises only public kindergartens, and there is a lack of a systematic, coherent approach to development, management, monitoring and evaluation of partnerships with industry/enterprises;
- (xi) While the School has some relationships with other TVET providers, these partnerships have been limited in the nature of collaborative activities and in the outcomes and there is no coherent partnership framework or strategies to guide, monitor and evaluate the outcomes from such partnerships;
- (xii) There is limited if any integration of School-based learning with on-the-job learning and no joint assessment of student teachers undertaking internships;
- (xiii) The timing of the sole practical experience for students as an internship at the end of the program provides very limited opportunities for any guided reflection and analysis of the practical experience in relation to the theory;
- (xiv) The School emphasises 'practical training' of its students though this focus is primarily on talent and skills development in musical instrument playing, singing, dancing, drawing, painting and sport with very limited focus on development of inter-personal communication skills and evidence-based pedagogical practice skills for use in the kindergarten context;
- (xv) There are no documented criteria for selection of the highest quality applicants into the pre-school teacher training program when applicant demand exceeds the government allocated quota of places. Secondary TVET applicants are generally lower ability students among compulsory school graduates due to TVET's low status and the lack of effective selection criteria is likely to diminish student (and graduate) quality even further. There are also no explicit guidelines for ensuring inclusivity of community diversity in selection processes;
- (xvi) There is no explicit integration of generic employability skills within the taught program to support graduate competitiveness in the open job market, their transition to the workplace and their career development;
- (xvii) The job placement program has depended heavily on internship placements in a small number of public kindergartens being converted into jobs and this practice is not sustainable with larger numbers of graduates in the longer term. The expressed hope that the School's graduates will always have a public sector job for life and not have to compete in the open job market for private sector employment is unrealistic;

- (xviii) There is limited information gathered about graduate destinations and feedback about effectiveness of the program, as there is no systematic graduate tracking undertaken;
- (xix) School teaching staff lack research skills and do not generally participate in any research activities.

## 2. Nanning Health School:

107. **Identified strengths** of Nanning Health School in undertaking reforms as part of this Project include:

- (i) The School is a designated national-level school in the PRC;
- (ii) Nursing, rural health and elderly care education are growing fields in GZAR and the PRC overall and the demand for places in these training programs is expected to increase;
- (iii) Employment opportunities are strong for health care graduates and expected to remain strong;
- (iv) The School has partnerships with industry/enterprises through long-established collaborative relationships with 9 public hospitals (8 urban and 1 county) that can provide internship training and opportunities for staff development. It also is developing a broader base of county and village based rural health centres for on-the-job training of its rural health workers;
- (v) The School has limited connections with other education and training institutions but has established articulation agreements for selected graduates with three tertiary providers of health care training;
- (vi) All 'specialty' teachers in the Nursing course are required to be dual certified – i.e. as a nurse and as a teacher;
- (vii) Professional development activities have been undertaken by staff, with more than a third of training events based outside GZAR. However, 84 per cent of participants attended training based in GZAR;
- (viii) The school does not have government certification to provide post-secondary in-service training for nurses but does provide training towards certification for small numbers of uncertified rural health workers (village doctors);
- (ix) The School uses on-campus laboratories and simulation environments to provide practical training within the Nursing program.

108. **Identified weaknesses** include:

- (i) The status of Nanning Health School as a secondary TVET provider is low and the School lacks government certification to



provide post-secondary level in-service professional development to nurses;

- (ii) There is a lack of coherent input from employers (hospitals) and the health care industry more broadly, including industry experts and health care researchers into planning, curriculum development, teaching, learning and assessment approaches, and evaluation of School training programs;
- (iii) There is a lack of a coherent framework, guidelines and strategy for human resource development of School staff, including for teacher development and leadership development;
- (iv) While there has been staff participation in professional development, there is no evidence of a coherent plan to improve teaching and curriculum development skills;
- (v) There is a lack of a transparent (documented) approach to leadership and management development, mentoring and monitoring;
- (vi) While the School has an internship training base, including hospitals and rural health centres, there is a lack of a systematic, coherent approach to development, management, monitoring and evaluation of partnerships with industry/enterprises;
- (vii) There is limited integration of School-based learning with on-the-job learning and no joint assessment of student nurses or rural health workers undertaking internships;
- (viii) The timing of the sole practical experience for students as an internship at the end of the program provides very limited opportunities for any guided reflection and analysis of the practical experience in relation to the theory;
- (ix) The School has very limited connections with other education and training institutions providing health care training and no framework or strategies for developing and benefiting from such partnerships;
- (x) There are no documented criteria for selection of the highest quality applicants into the Nursing or Rural Health Care training programs when applicant demand exceeds available places. Secondary TVET applicants are generally lower ability students among compulsory school graduates due to TVET's low status and the lack of effective and publicly transparent selection criteria is likely to diminish student (and graduate) quality even further. There are also no explicit guidelines for ensuring inclusivity in selection processes and the use of the three reported criteria (candidate minimum height – variable according to number of applications received, candidate appearance, and 'first pay, first entry') for selection of Nursing students risks disadvantaging rural and poor students;

- (xi) There is limited integration of generic employability skills within the taught program, other than team-work, to support graduate competitiveness in the open job market, their transition to the workplace and their career development;
- (xii) There is very limited knowledge of or experience among teaching staff in rural health care (especially at the village level) contexts;
- (xiii) There is limited information gathered about graduate destinations and feedback about effectiveness of the program, as there is no systematic graduate tracking undertaken;
- (xiv) School teaching staff lack research skills and do not generally participate in any research activities, though opportunities for research project funding do exist.

### C. GAP IDENTIFICATION

109. The analysis of Nanning No.4 Vocational and Nanning Health Schools' human resource development practices, partnerships and career development in both Project TVET institutions has identified key gaps in capacity as well as in relevant policies and frameworks guiding processes as follows:
- (i) There is a **lack of a coherent documented human resource development policy, strategy or guidelines** for teachers at both Nanning No.4 Vocational School and Nanning Health School;
  - (ii) There is a lack of a coherent documented approach to leadership and management development, mentoring and monitoring at both schools;
  - (iii) While each School has partnerships with employers that form its internship training base, these comprise only public employers, and there is a **lack of a systematic, coherent approach to collaboration with employer and broader industry partners and a lack of input to planning, and lack of advice to inform improvement of the training program**;
  - (iv) There is a **lack of a coherent approach to student career development**: no documented criteria for selection of the highest quality applicants into school programs; no explicit guidelines for ensuring inclusivity in selection processes; no explicit integration of generic employability skills within the taught program to support graduate competitiveness in the open job market, their transition to the workplace and their career development; and limited information gathered about graduate destinations and feedback about effectiveness of the program, as there is no systematic graduate tracking undertaken;

- (v) School teaching staff lack research skills and there is a lack of an evidence-based program and teaching quality improvement strategy.

### III. NATIONAL AND INTERNATIONAL GOOD PRACTICE

- 110. “The cohesiveness of entire communities is bound up in economic development, in education and in the creation of job opportunities for all those who can work, especially youth. In this era of a globalized economy and an information age, where capital and labour is so mobile, no country can afford to undervalue or waste its human resources”<sup>79</sup>
- 111. Peter Anderson, Employers’ Spokesperson, General discussion on youth employment, International Labour Conference, 2005.
- 112. To enable and improve opportunities for young people requires a broad based and collaborative effort from stakeholders including government, education and training providers AND employers. Effective TVET school-industry partnerships enhance the relevance of education and training and can ease the transition for young people from school to work through integration of workplace learning initiatives within the education and training framework.
- 113. The PRC *National Plan for Medium and Long-term Education Reform and Development (2010-2020)*,<sup>80</sup> strongly encourages collaboration between TVET institutions and industry and notes the benefits, not only for improvement of the quality of TVET programs and their development outcomes but also for strengthening the quality and capacity of the TVET teaching force.
- 114. International good practice in TVET-industry partnerships emphasises the range of benefits that flow if these partnerships are effective. Benefits include (i) engagement of industry in competency standards and curriculum development, ensuring teaching and learning program alignment with industry needs and occupational requirements; and (ii) a strengthened learning environment provided by integration of campus-based learning with workplace-based learning facilitating acquisition of both technical skills and more generic employability (or soft) skills<sup>81</sup>.
- 115. The international literature confirms the critical importance of industry expert and enterprise input to effective TVET provision. The famed and widely internationally exported model of German ‘dual system’<sup>82</sup> TVET provision fundamentally depends on effective ‘social partnerships’ to provide industry expert input to standards and curriculum, and ensure employer provision of workplace training opportunities for TVET students. Studies of factors influencing apprenticeship/internship

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<sup>79</sup> ILO, *Youth Making it Happen*, <http://www.ilo.org/youthmakingithappen/PrivateSector/>, accessed 25/4/2013.

<sup>80</sup> *Outline of China’s National Plan for Medium and Long-term Education Reform and Development (2010-2020)*, <http://www.moe.edu.cn/publicfiles/business/htmlfiles/moe/s3501/index.html>

<sup>81</sup> Kuczera and Field, *Options for China*, OCEB Paris, June 2010.

<sup>82</sup> Keating, J et al 2002 Review of research: comparative study of vocational education and training systems

completion in Australia<sup>83</sup> confirm the importance of effective collaboration between education and training providers and enterprises, including constructive employer attitudes to and behaviours towards trainees, the coherent integration of theoretical and practical learning, and high quality workplace-based learning experiences and assessment, as well as learner support mechanisms. Across Europe, rethinking and strengthening of education-work partnerships have been central to the development of strategies for reforming initial TVET<sup>84</sup>.

116. From an international best practice perspective, participation of employers in curriculum development has become increasingly important, as has the need to improve linkages with enterprises through more effective public/private sector partnerships. *‘TVET personnel need to be encouraged to participate in industrial attachments in order to both maintain viable relationships with employers and to enhance their knowledge and competencies ... development of viable student attachments is increasingly important’*<sup>85</sup> in effective TVET provision.
117. However, the quality of internships provision can be variable across enterprises and measures such as financial incentives for employers can improve quality, as proposed in the PRC *National Plan for Medium and Long-term Education Reform and Development (2010-2020)*, ‘... to advance and institutionalize cooperation between vocational schools and enterprises ... Incentives shall be granted to enterprises to invest more in vocational education, accept students for fieldwork or in-service training, and accommodate teachers to practise what they teach in the classroom’ (p.17).
118. Introduction of legal agreements (e.g. TVET-enterprise MOUs, or internship contracts) to clearly document expectations of all parties provides a basis for more effective provision and evaluation of outcomes. Effective quality assurance based around quality standards as part of an overarching framework for TVET institution-enterprise partnerships is required to assure consistent internship experiences. Quality standards can apply to: (i) the setting of clear learning targets in the workplace to complement theoretical learning; (ii) adequate selection and preparation of workplace supervisors of interns; (iii) matching of interns and supervisors to ensure mutually beneficial relationships; (iv) appropriate allocation of work tasks to ensure the range of learning outcomes are met; (v) and workplace-based assessment connected with theoretical learning and assessment and conducted by trained (workplace-based) assessors to promote an integration of theoretical and practical learning.

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<sup>83</sup> For example: Schofield, K 2000; Cully, M & Curtain, R 2001; Ball, K & John, D. 2005; Higgins, T & Stern, S 2005; Toner, P 2005; and Volkoff, V & Jones, T 2007.

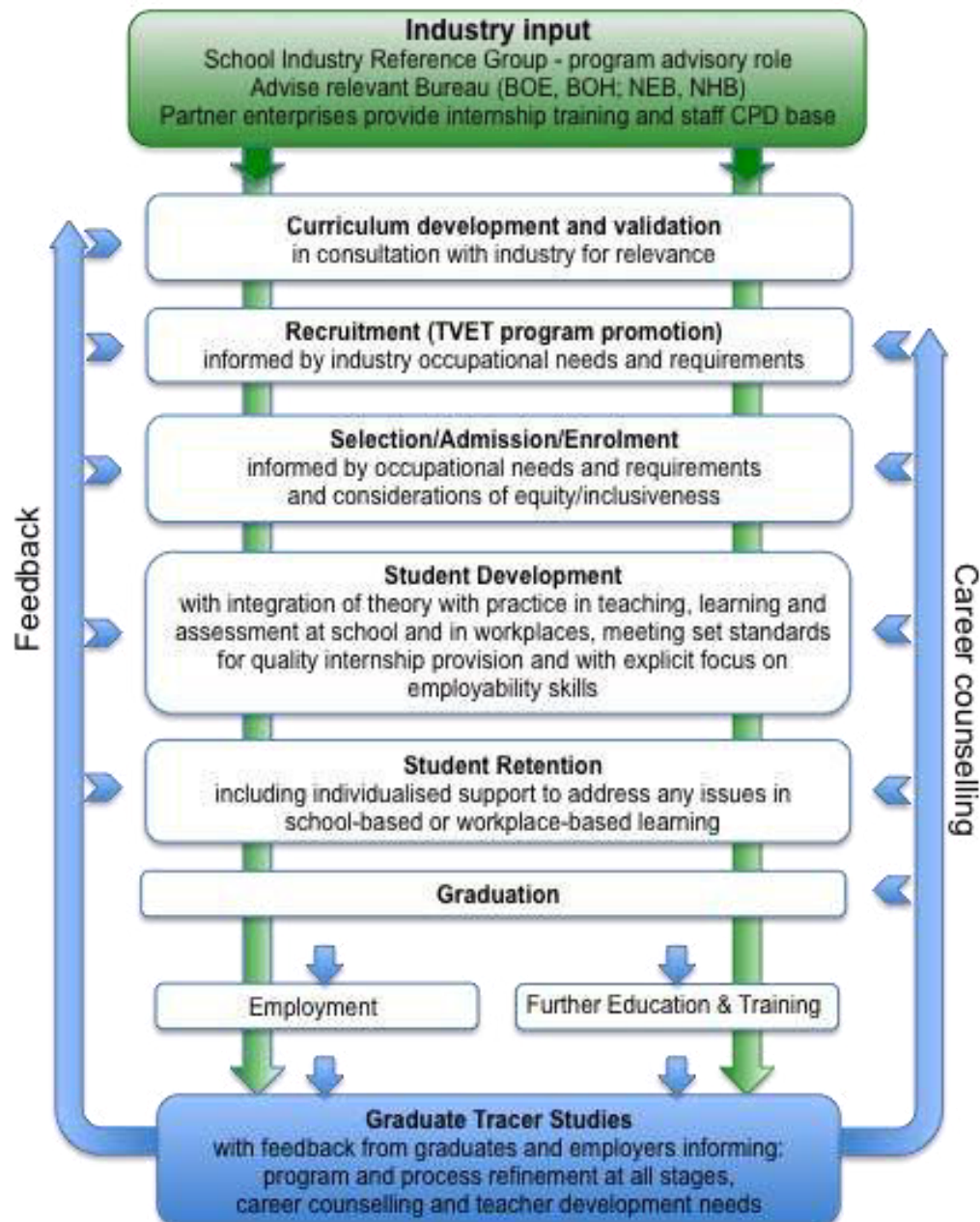
<sup>84</sup> e.g. Marhuenda, F 2000; Lasonen, J & Stenstrom, M 2000.

<sup>85</sup> Maclean, M. and Lai, A. (Eds) ‘Meaning and Importance of Technical and Vocational Education and Training’ (Editorial) in *The future of technical and vocational education and training: Global challenges and possibilities*, pp.2-15.

119. As the **good practice TVET-Industry Partnership Model** shown in Figure 1 below illustrates, industry input has important functions across the entire training program, including:

- (i) curriculum development and validation including development based on industry validated competency standards and industry needs, and up-to-date with industry practice and technological developments;
- (ii) prospective student recruitment strategies (i.e. marketing strategies) informed by industry needs and occupational requirements and thus also contributing a valuable career development function for prospective applicants;
- (iii) applicant selection informed by industry needs and occupational requirements as well as considerations of equity and inclusiveness. Where applicant demand for program places exceeds School government allocated quota or capacity, selection processes should provide the highest quality cohort of students for the specific program, and thus the highest quality graduates for employers, rather than a student cohort (and graduates) selected on the basis of criteria unrelated to industry/occupational needs;
- (iv) student development through a teaching and learning program integrating theoretical and practical learning and assessment with an explicit focus on employability skills both on campus and in workplaces, with internship placements guided by standards for quality provision set under School-enterprise agreements, including adequate preparation of supervising workplace-based staff, and jointly developed assessment;
- (v) student retention maintained through individualized student support and career development both during on-campus learning and workplace-based internships;
- (vi) student outcomes, both employment and further education and training outcomes as identified through employer/industry feedback and graduate tracer studies.

**Figure 1: TVET-Industry Partnership Model (related to program development and delivery)**



120. **Career development:** Ideally, career development is integrated into all phases of program development and delivery. The model above has built into it, an ongoing feedback loop and thus potential for ongoing adaptation of the program and its delivery in response to changing economic and occupational contexts and ongoing quality improvement.
121. Career development services, as widely defined internationally, are intended to assist people to make educational, training and occupational choices and to manage their careers<sup>86</sup>. Provided in a

<sup>86</sup> Watts, A. et al, 2010, *Making career development core business*, State of Victoria.

range of settings, effective career development makes information about the labour market and educational opportunities accessible and helps people to relate this labour market information to themselves, their aspirations, abilities and interests. Within the context of this project and its focus of development within the two secondary TVET schools, career development is more closely aligned to what is internationally known as career education - a subset of career development referring specifically to education-based and curriculum-based interventions.

122. While young students entering these two secondary TVET institutions, have in reality already made initial decisions about a career either in the health care industry or in pre-school teaching, the broad goals of career education nominated in the international literature are still important.
123. Career self-management skills frameworks have been developed in a number of countries. The international research literature on the characteristics of young people who make successful transitions post education and training has identified that young people who are confident, have high self-esteem, who understand themselves, who have a good understanding of educational and work opportunities, who focus upon their future education and work, and who are able to plan and to make decisions, achieve better transition outcomes than do young people who do not show such characteristics<sup>87</sup>.
124. One example of a career self-management framework is that developed by the Association of Graduate Careers Advisory Services (AGCAS) in the United Kingdom (UK). Built on four fundamental components: self-awareness; opportunity awareness; decision making; and transition learning, it has established a set of 22 careers education learning outcomes<sup>88</sup>. Another example is the Australian Blueprint for Career Development (ABCD)<sup>89</sup>, which proposes 11 broad career competences under three categories:
  125. Personal management
    - (i) Build and maintain a positive self image
    - (ii) Interact positively and effectively with others
    - (iii) Change and grow throughout life
  126. Learning and work exploration
    - (i) Participate in lifelong learning supportive of career goals
    - (ii) Locate and effectively use career information

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<sup>87</sup> Watts et al, 2010; Greenhaus, J. 1971 (Journal of Vocational Behavior); Pulkkinen et al., 1999 (Journal of Vocational Behavior); Nurmi et al., 2002 (Journal of Vocational Behavior); Pinquart et al., 2003 (Journal of Vocational Behavior).

<sup>88</sup> AGCAS, 2005, *Careers Education Benchmark Statement*, Association of Graduate Careers Advisory Services, UK.

<sup>89</sup> <http://www.cica.org.au/system/files/f19/o17/abcd.pdf>

- (iii) Understand the relationship between work, society and the economy
127. Career building
- (i) Secure/create and maintain work
  - (ii) Make career enhancing decisions
  - (iii) Maintain balanced life and work roles
  - (iv) Understand the changing nature of life and work roles
  - (v) Understand, engage in and manage the career building process.
128. **Graduate Tracer Studies:** Evaluation of graduate outcomes is fundamentally important to improvement of planning for and the quality of TVET provision. As the model above shows, data from graduate tracer studies inform review and refinement of all aspects of the training program.
129. There are numerous ASEAN and international examples of effective tracer studies of secondary TVET graduates, Pre-school Teacher graduates and Nursing graduates. Examples of tracer studies conducted with senior secondary school graduates include the Australian Victorian (state) annual *On Track* comprehensive Year 12 graduate (both academic stream and TVET graduates) and early school leaver destination survey<sup>90</sup> and sample-based longitudinal study. Conducted since 2003, the questionnaires were originally administered as telephone surveys six months after the conclusion of study (through either Year 12 graduation or early school leaving). Graduates from all government, Catholic and independent schools are included.
130. The Victorian Government has now shifted its methodology to include text messaging and letters to graduates/early school leavers requesting their completion of an online questionnaire. Results of the survey are analysed and published annually with disaggregated results provided to each Victorian school for their analysis and use in program improvement. Local/regional presentations also are conducted statewide, providing opportunities for school staff to seek assistance with interpretation of the data and facilitating data comparisons between schools and other local, 'like' and regional schools.
131. Another Australian state, Queensland has been conducting an annual *Next Step* survey<sup>91</sup> of Year 12 graduate destinations, including TVET students since 2005. Graduates and early school leavers are contacted and asked to complete the survey online or via a computer-assisted telephone (CATI) interview. Responses are predominantly collected by computer-assisted telephone interview, though in 2012 around 12 per cent of former students completed the survey online. Results are

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<sup>90</sup> <http://www.education.vic.gov.au/about/research/Pages/ontrack.aspx> (2003-2012 questions and survey results available).

<sup>91</sup> <http://education.qld.gov.au/nextstep/>



published online annually and disaggregated by region and school. The costs of the survey are carried by the Queensland Department of Education, Training and Employment and there are no costs for any individual school in implementation of the survey, nor in access to the data.

132. Within the ASEAN region, the Ministry of Higher Education in Malaysia undertakes a Higher Education Graduate Tracer Study annually<sup>92</sup>. Conducted online, incentives for graduate participation include a 'jobs information' site embedded in the survey site and some institutions requiring a 'printed online survey slip', provided when the survey has been completed, for graduate collection of the relevant convocation robe for graduation.
133. The Philippines Commission on Higher Education funds a five yearly Graduate Tracer Survey<sup>93</sup>. The College of Education of the De La Salle University has conducted the nationwide graduate tracer study on the experiences of Philippines Higher Education graduates from 2006 to 2010. A new survey is underway in 2013, using *Survey Monkey* software which is readily available, inexpensive and easy to learn to use. The Graduate Tracer Study gathers data on various aspects of the graduates' experiences as they transition from university life to employment to inform future planning for higher education at central and institutional levels.
134. More widely, internationally, a large number of individual European countries conduct annual graduate tracer surveys, e.g. Germany, France, Italy, UK, Netherlands, Norway and Switzerland, and the Bologna Process that launched the European Higher Education Area in 2010 facilitating cross-country study and graduate mobility has strongly promoted research to improve the quality of higher education institutions. The Center for Higher Education Policy Studies (CHEPS) of the University of Twente in the Netherlands has conducted extensive research on graduate tracer studies, particularly in higher education and has supported development of tracer studies in developing countries, for example, Uganda.
135. Individual teacher training institutions also have undertaken graduate tracer studies to identify their graduates' destinations and gain feedback on the effectiveness of their teacher preparation, for example, the ICC College/de la Salle University in the Philippines<sup>94</sup> that prepares elementary and secondary school teachers and Bataan Peninsula University, also in the Philippines.
136. The European Training Foundation (ETF) has co-funded with the Caucasus Research Resource Centers Armenia, tracer studies of graduates of preliminary TVET and middle TVET<sup>95</sup> including in education and health care in Armenia. The Centre of Research on Higher Education and Work at the University of Kassel in Germany has, since its foundation in 1978, worked extensively on development,

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<sup>92</sup> <http://graduat.mohe.gov.my/skpg1/english>

<sup>93</sup> <https://www.surveymonkey.com/s/gts2012>

<sup>94</sup> [http://lsu.edu.ph/institutional\\_research\\_office/publications/vol.14no.2/1.html](http://lsu.edu.ph/institutional_research_office/publications/vol.14no.2/1.html)

<sup>95</sup> <http://www.crrccenters.org/store/downloads/projects/Tracer%20Study%20REPORT%20eng.pdf>

implementation and evaluation of tracer studies. This has included implementing such studies within and across European nations as well as conducting workshops on tracer studies in Costa Rica, Honduras, Indonesia, Panama, the Philippines, Namibia, Nicaragua and South Africa. The Centre has developed a *Handbook for Graduate Tracer Studies*<sup>96</sup>, a practical guide which is freely available online. While focussed on higher education, the handbook offers helpful insights and guidelines for the whole tracer study process from survey construction to data analysis.

137. In summary, as the Model above outlines, graduate tracer studies can provide valuable information to:
  - identify workplace demand for graduates
  - provide graduate evaluation of their learning experiences and identify what aspects of the program were most valuable to them
  - evaluate curriculum effectiveness and inform refinement
  - evaluate effectiveness of teaching and learning strategies
  - identify teacher development needs
  - use in program marketing to parents and prospective applicants
  - support career counselling, including through informing current students about their future prospects
  - inform enterprises (potential employers and internship providers) about graduate status in the broader industry, and
  - promote future job placements.
138. The Inter-Agency Working Group on TVET Indicators<sup>97</sup> (IAG-TVET), in framing the development of proposed indicators for assessing TVET, developed a conceptual framework for monitoring and evaluating TVET policies and reform. In addition to Finance, the three other components were Relevance, Access and Participation and Quality, with Relevance referring to considerations of TVET responsiveness to labour market needs and requirements – closely linked with '*labour market links to TVET programmes and outcomes of the TVET programmes*'. Inclusion of the Access and Participation component focuses on the social aspect of TVET and emphasises the importance of equity and inclusiveness of TVET but also has a strong *relevance* dimension in guiding students from diverse backgrounds in making TVET choices and career building.
139. English language literature drawing on analysis of Chinese TVET provision, in particular incorporating workplace-based training, concludes that while the government has adopted policies to improve

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<sup>96</sup> <http://www.uni-kassel.de/wz1/proj/edwork/handbook.ghk>

<sup>97</sup> IAG-TVET established in 2009, comprises UNESCO, OECD, WB, ILO, EC, ETF and ADB.

TVET, including through improved school-enterprise co-operation, an *'operational system and long term mechanisms of school-enterprise cooperation'*<sup>98</sup> are not yet established. A published review of a Chinese-German project on TVET quality development in Beijing reported that *'The most important issue in our project was the improvement of school-company cooperation'*<sup>99</sup>. A research study that analysed the key determinants of effective collaborations between TVET institutes and enterprises emphasized that *'close collaboration of industry and institutes can develop a competent and highly skilled workforce'*<sup>100</sup> in China and developed an initial framework for effective collaboration. While TVET institution and enterprise collaboration has been established in some technical/industrial disciplines in China, this has not necessarily been the case in social sector skills training.

140. There is substantial Chinese language literature focused on analysis of and reporting about TVET institute-enterprise collaboration across a range of industry sectors. A review of this literature, completed by the National Human Resources, Partnerships and Career Development Specialist, Mr Qin Guan Ping, is included in ANNEX 3.
141. **Effective partnerships with relevant national and international education and training institutions:** These partnerships are also critically important as they facilitate: training program improvement and innovation through curriculum sharing and review; sharing of good practice in teaching and learning approaches that integrate on-campus and workplace-based learning and assessment; staff exchanges; benchmarking of local training programs with relevant national and international programs; collaborative dissemination of learning including through joint conferences and seminars; and opportunities for joint research activities focused on both policy and practice.
142. **TVET Human Resource Development:** Clearly successful TVET reform and quality improvement depends on capacity strengthening of TVET practitioners: curriculum developers, materials developers, teachers, assessors, evaluators and researchers through professional development. China's *National Plan for Medium and Long-term Education Reform and Development (2010-2020)* proposes that *'The cultivation of a teaching force, which is proficient in both theories and skills and the construction of training bases should be strengthened for upgrading the fundamentals of vocational education'* (p.17).
143. Professional development can be defined as a *purposeful learning activity* designed to enhance a staff member's or a team's knowledge, skills and attitudes relevant to their current work or to undertake a new

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98 Zhao, Z. 2011 'School-enterprise cooperation in China's vocational education and training', in Z. Zhao, F Rauner & U Hauschildt (Eds) *Assuring the acquisition of expertise: apprenticeship in the modern economy*, pp.43-52.

99 Buchert, J et al, 2011 'From quality management towards school development: the establishment of a new quality development concept: conclusion from a Chinese and German teacher development pilot project cooperation' in Z. Zhao, F Rauner & U Hauschildt (Eds) *Assuring the acquisition of expertise: apprenticeship in the modern economy*, pp.183-186.

100 Rashidi, R et al 2011 'Framework for effective collaboration between public training institute and industries in vocational education and training of apprentices' in Z. Zhao, F Rauner & U Hauschildt (Eds) *Assuring the acquisition of expertise: apprenticeship in the modern economy*, pp.195-198.

role<sup>101</sup>. High quality professional development exists where organisational structures are designed to sustain rigorous and relevant professional development strategies<sup>102</sup>. Professional development options include a range of internal (to the institution) and external activities, selected examples shown in Table 9 below.

**Table 9: Professional Development Options**

Internal	External
<ul style="list-style-type: none"> <li>• Induction/orientation programs for all new staff beginning to work within the institution</li> <li>• Early career staff mentoring by senior staff</li> <li>• Participation in professional development programs including workshops, seminars &amp; short courses;</li> <li>• Informal on-the-job training</li> <li>• Provision of study support (funding &amp;/or time release)</li> <li>• Internal staff exchanges, e.g. to gain experience in curriculum or materials development</li> <li>• Leadership development and acting in higher (leadership/management) positions</li> <li>• Shadowing &amp; mentoring arrangements</li> </ul>	<ul style="list-style-type: none"> <li>• Observation of workplace practice</li> <li>• Workplace-based placement in industry</li> <li>• Research in relevant workplace contexts</li> <li>• External secondments including in enterprises</li> <li>• Participation in external workshops, seminars and short courses</li> <li>• Participation in &amp;/or presenting at conferences</li> <li>• Staff exchanges with staff in local, national or international TVET institutions;</li> <li>• Cultivation of personal networks with other education and training professionals and industry practitioners.</li> <li>• Memberships of professional associations</li> <li>• National and international study visits and knowledge sharing/research activities.</li> </ul>

144. Continuing professional development (CPD) refers to the ongoing professional development of professional practitioners, whatever their work setting. It builds on their initial education for the profession and extends their learning, assimilation of new ideas and information to improve their practice, throughout their careers. For professionals such as educators and health practitioners, CPD enables them to engage in lifelong learning to maintain the currency of their knowledge, maintain and enhance their practical skills and build their careers through promotion and leadership roles. While there is widespread recognition of professionals' needs to engage in ongoing learning throughout their careers, two key challenges for organizations and leaders in ensuring optimum results among their staff are: providing access to CPD that best enhances daily practice to improve quality; and motivating professionals to be active and reflective learners.

<sup>101</sup> Guskey, T 2000.

<sup>102</sup> McCaffery, 2004.

145. A comprehensive Human Resource Development Framework (HRDF) (incorporating CPD as suggested by the Teacher Training Specialist) is recommended to ensure that all training is part of a comprehensive lifelong learning process for all levels of staff. This framework needs to:
- (i) be linked to the TVET institution's strategic plan;
  - (ii) articulate the role of professional development in contributing to the realization of that strategic plan;
  - (iii) outline the scope and form of professional development that is provided or supported;
  - (iv) note staff entitlements and responsibilities in relation to professional development;
  - (v) set targets for participation at both the institutional and individual staff member levels;
  - (vi) identify and apply good practice standards in provision of professional development;
  - (vii) establish mechanisms for monitoring, reporting and evaluation of professional development; and
  - (viii) facilitate strategies for disseminating outcomes of professional development opportunities to benefit other colleagues within the institution, and in partner institutions and enterprises.
146. Longer-term evaluation of the outcomes of professional development need to be undertaken and this can be done through use of a relevant evaluation approach or mechanism. One such approach that measures more than initial professional development participant responses, was initially developed by Kirkpatrick<sup>103</sup> (1975, 1998), and subsequently adapted by Guskey<sup>104</sup> (2000). This model comprises five main evaluation criteria:
- (i) **Participant reactions:** How well was the professional development received?
  - (ii) **Participant learning:** Did participants acquire the intended knowledge and skills?
  - (iii) **Organisational support and change:** Did the organisation support and share the results of the professional development?
  - (iv) **Participant use of new knowledge and skills:** Did participants effectively apply the new knowledge and skills?

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<sup>103</sup> Kirkpatrick, D. L. (1975) 'Techniques for evaluating training programs'. In *Evaluating training programs*:

Collection of articles from the Journal of the American Society for Training and Development (pp. 1-17). Alexandria, VA: American Society for Training and Development.

Kirkpatrick, D. L. (1998) *Evaluating training programs: The four levels* (2nd ed.). San Francisco, CA: Berrett-Koehler.

<sup>104</sup> Guskey, T. R. (2000) *Evaluating professional development*. Thousand Oaks, CA: Corwin.

- (v) **Outcomes:** What was the impact on the core business of the institution?
147. Guskey points out that while all five levels are important and that each provides valuable data for evaluation and improvement of professional development programs, tracking effectiveness at one level provides no information about impact at a subsequent (higher) level. Indeed he advises 'backwards' planning, that is, starting from the outcomes desired, in planning and designing professional development. For example:
- (i) identifying the student learning outcomes to be achieved or improved (Level 5);
  - (ii) determining what teaching and learning practices (or policies) need to be developed or improved to most effectively and efficiently produce those outcomes (Level 4);
  - (iii) identifying what aspects of organization support/ resources need to be in place for those teaching and learning practices (or policies) to be effectively implemented (Level 3);
  - (iv) deciding what knowledge and skills the participating professionals must have to implement the prescribed practices (or policies) (Level 2); and finally
  - (v) considering what set of professional development experiences will enable participants to acquire the needed knowledge and skills (Level 1).
148. Examples of some HRD Plan priorities that might be included and relevant performance indicators that might be used are shown below in Table 10.

**Table 10. Examples of potential HRD Plan priorities and performance indicators**

HRD Plan priorities	Performance indicators
<ul style="list-style-type: none"><li>• Recruit and retain high quality staff that reflect the diversity of the local/provincial community</li><li>• Strengthen capabilities of all staff to deliver better services to students and communities</li><li>• Develop and implement individual performance planning, management and continuing professional development (CPD) for all staff</li><li>• Develop quality teaching and learning practices aligned to set professional standards</li><li>• Develop quality leadership and management practices aligned to set professional standards</li><li>• Develop leadership and management capabilities, underpinned by professional standards and principles of equity/inclusiveness.</li></ul>	<ul style="list-style-type: none"><li>• High quality staff reflect local/provincial community diversity</li><li>• Increased number of high quality graduates</li><li>• Individual performance plans for all staff</li><li>• Increased proportion of staff (both teachers and leaders) participating in CPD</li><li>• Improved staff (leaders and teachers) capacity to drive and sustain reform and quality improvement</li><li>• Improved leadership capacity with at least 50% representation of women in senior positions and proportion of ethnic minority background leaders reflecting representation in the Nanning/GZAR community</li></ul>

#### **IV. JUSTIFICATION AND RATIONALE**

149. The analysis of Nanning No. 4 School and Nanning Health School human resource development, partnerships with enterprises and other education and training providers and career development practices has identified the need for strengthening of School-based policies, management frameworks and practices in each of these areas, as described above. In order to address the identified weaknesses and gaps, and to assist the two Schools to undertake innovation and reforms towards achievement of good practice, the capacity strengthening strategies, short term training, national networking and international Study Tours, listed in the section below are proposed.

## **V. RECOMMENDATIONS**

### **A. SUB COMPONENT INTERVENTIONS**

150. The Project will support Nanning No.4 Vocational School, the Nanning BOE, Nanning Health School and Nanning BOH to strengthen partnerships with employers to promote improvement in system quality and responsiveness. The Project will (i) strengthen industry advisory groups including two Industry Reference Groups, one for pre-school teaching and another for nursing training; (ii) establish partnership agreements and reference materials for establishing, managing and monitoring School-enterprise partnerships and strengthen management committees at the project TVET institutions to include industry participation; (iii) develop guidelines and capacity for the two Schools to conduct regular graduate tracer studies; and (iv) enhance TVET policy research by conducting relevant studies in strategic areas, including in partnership with local, national ASEAN and wider international partner education and training institutions.
151. The Project will assist in the strengthening and optimization of the functions of the two Industry Reference Groups to forge stronger partnerships with both public and private sector enterprises in the kindergarten and health care industries. An institutional framework will be developed, including terms of reference for the two Industry Reference Groups. Each framework will articulate the responsibilities of and benefits for all key stakeholders, including industrial stakeholders. It also will include guidelines for negotiating, establishing, monitoring and evaluating the effectiveness of industry placements for TVET student internships and TVET teacher/trainer CPD placements, including workplace-based supervisor and assessor induction/training. Guidelines also will be developed for industry input into development and validation of competency standards and curriculum, including providing up-to-date information on labour market needs, technological developments and specific in-service staff training needs. Formal partnership agreements will be established between the two Project TVET Schools and enterprises. The TVET-industry partnership model shown below in Figure 1, outlines industry input that will be facilitated, throughout the entire teaching and learning program.
152. The two Industry Reference Groups will comprise qualified experts from industries and the industry advisory groups, experts from relevant bureau and experts from the TVET institution and will have more formal though mainly advisory roles. They will advise the relevant bureau (NEB or NHB and BOE or BOH) and relevant development teams in the two Project TVET Schools on their development, validation, delivery, evaluation and refinement of the training programs to ensure these meet identified industry needs and occupational requirements. They also will advise and validate teacher training plans and teacher training and management capacity building programs developed under the project; advise and facilitate partnerships between the two Schools and enterprises; advise and validate the framework guidelines developed through the project for internship and staff placements in enterprises; and advise the two Schools and relevant bureau in assessing the recommendations arising from graduate tracer studies and policy research studies on industry-school partnerships.



153. The project will focus on strengthening sharing of TVET knowledge and experience through increased cooperation with other TVET providers within Nanning, GZAR, PRC, regionally in ASEAN countries and internationally more widely. The Project will foster institutional partnerships between Nanning No.4 Vocational School and exemplary pre-school teacher training institutions and Nanning Health School with exemplary nursing, rural health care and elderly care training institutions in the PRC through a series of networking study visits by small teams to research teaching and learning and institution-enterprise partnership practice, ascertain partnership viability, establish collaborative activities where appropriate including curriculum and knowledge sharing, teacher and student exchanges, joint research and where appropriate, articulation agreements. These networking teams will complete small case study reports for sharing with own School and provincial colleagues during Project organized TVET workshops.
154. The Project also will foster development of institutional partnerships between Nanning No.4 Vocational School and Nanning Health School with relevant overseas education and training institutions in the ASEAN region and internationally more widely, providing pre-school teacher training and nursing and health care programs. The *National Plan for Medium and Long-term Education Reform and Development (2010-2020)* strongly promotes international exchanges and cooperation in education, including by vocational schools, to assimilate '*advanced concepts and experience in education*' drawn from international contexts (p.34). In particular, the Plan highlights cooperation with international institutions to: build research capacity and facilitate engagement in joint research projects; facilitate student and teacher exchanges; enable collaborative teaching and research projects including 'demonstration schools'; and develop mutual recognition of academic credits and joint degrees. Achieving growth in competitiveness and anticipated growth trends in labour mobility, particularly within the ASEAN region are strong drivers of such international cooperation. The National Development and Reform Commission (NDRC) of the PRC has recently underscored the importance of international cooperation opportunities in promoting reform and innovation in TVET provision.
155. The Project will support development of international partnerships with relevant vocational colleges to provide opportunities for international benchmarking of the programs, teacher and student exchanges, collaborative curriculum evaluation and renewal and joint research activities as well as fostering a learning culture through twinning arrangements. Partnerships with higher education institutions (e.g. universities) may not support student exchanges or curriculum benchmarking as easily as those with vocational colleges, but they will provide opportunities for staff development through exposure to higher level and/or innovative theoretical perspectives and teaching and learning approaches related to pre-school teaching and health care provision and training in these fields as well as collaborative and comparative policy and practice research and potentially articulation opportunities for School graduates seeking higher learning in an international context. These also will be valuable for establishment of the Model Kindergarten and the Rural Health Training Centre Model. The Project will support establishment of international partnerships with

TVET providers, schools and higher education institutions such as polytechnics and universities through identification of appropriate providers jointly by Project consultants and staff of the two Schools. Emphasis will be placed on potential partnerships with ASEAN providers in addition to other international partners.

156. In addition to convening provincial TVET workshops, mentioned above, to disseminate, learning through Project activities, the Project will support the development of broader learning dissemination strategies for Nanning No.4. School and Nanning Health School staff to share their project experiences in Nanning, GZAR, the PRC and internationally including through seminars and workshops, conference presentations and publications of relevant journal and newsletter articles, including in the ASEAN region and more widely internationally.
157. The Project will introduce market-oriented program planning. It will train staff of Nanning No.4 Vocational School and Nanning Health School as well as staff of relevant Bureau to assess the quality and relevance of their training programs by measuring graduate employment and employability, primarily through regular graduate tracer studies.
158. Graduate tracer studies can provide valuable information to: identify workplace demand for graduates; provide graduate evaluation of their learning experiences and identify what aspects of the program were most valuable to them; evaluate curriculum effectiveness and inform its refinement; evaluate effectiveness of teaching and learning strategies; identify teacher development needs; use in program marketing to parents and prospective applicants; support career counselling, including through informing current students about their future prospects; inform enterprises (potential employers and internship providers) about graduate status in the broader industry, and promote future job placements. The Project will draw on national, regional and international examples of graduate tracer studies of secondary and tertiary education graduates to provide training to selected staff of the two TVET schools and BOE and BOH to design, develop, trial, refine and conduct regular tracer studies and to analyse and interpret the data to inform all aspects of program quality improvement. Training will include the use of online survey software such as Survey Monkey and data analysis software such as SPSS, both extensively used internationally in the implementation of tracer studies.
159. Project provision of training. Specific training activities will be developed following comprehensive human resource development needs and demands analyses at and consultations with both TVET institutions, inputs from enterprise partners and consultants. Training will take various forms including information sharing sessions and discussions, seminars and workshops, short courses, networking visits to education and training institutions in the PRC and overseas study tours (OST). Where appropriate, training will be provided jointly for staff from both Project TVET institutions. Wherever feasible, training activities should involve participation of relevant Nanning and GZAR Education and Health Bureau staff, partner enterprise staff, and staff from partner TVET institutions. Training will primarily focus on:

- (i) Development and management of a coherent framework for continuing professional development (CPD) of staff including supported development of reference materials for quality human resource development practice at the two TVET institutions;
- (ii) Development and strengthening of evidence-based practice in teaching and action research skills towards implementation of ongoing teaching quality improvement processes at both TVET institutions; and development of case study research and reporting skills to support dissemination of learning, including through national networking visits and overseas study tours;
- (iii) Strengthening of student career development practice at all stages of the training program, from recruitment to job placement, incorporating industry input on needs and occupational requirements and considerations of equity and inclusiveness including development of reference materials;
- (iv) Market oriented public-private-partnership planning and cooperation, including development of reference materials for identifying, planning, establishing, managing, monitoring and evaluating TVET institution-enterprise partnerships;
- (v) Development of a Project learning dissemination strategy including conducting seminars and workshops, developing conference presentations and writing journal and newsletter articles for publication locally, provincially, nationally and internationally;
- (vi) Development of research skills for graduate tracer study design, development and implementation including data analysis and interpretation;
- (vii) Development of research capacity for analysis of labour market data and tracer study findings and how national, provincial and municipal policies and guidelines for TVET institution-enterprise and TVET institution-education and training provider partnerships can be implemented to improve the quality of provision.

## **B. SUB COMPONENT IMPLEMENTATION**

### **1. Resources - Consultants<sup>105</sup>**

- 160. One international specialist in HR, partnerships and career development – for 5 person months across 7 quarters commencing Q2 2014.
- 161. One national specialist in HR, partnerships and career development related to pre-school teaching and pre-school teacher training – for 5 person months across 11 quarters commencing Q2 2014.

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<sup>105</sup> Consultant TORs shown in ANNEX 2.

162. One national specialist in nursing and elderly care training – for 5 person months across 11 quarters commencing Q2 2014.

## **2. Project Tasks:**

### **163. Human resource development**

- Conduct comprehensive human resource development (HRD) needs and demands analysis in both Project TVET institutions.
- Conduct in-depth assessment of HRD management practice in both Project TVET institutions.
- Develop and conduct training for selected management staff in planning, coordination and management of human resource development skills in both Project TVET institutions. Training event should also include relevant staff at Nanning and GZAR Education and Health Bureau staff and partner TVET schools.
- Support development of reference materials for quality human resource development practice at both Project TVET institutions, resulting in implementation of human resource development framework with indicators of quality practice.

### **164. Research capacity building**

- Develop and conduct training for selected teacher and management staff in evidence-based practice in teaching (teaching as clinical practice approach) and action research skills towards implementation of a teaching quality improvement cycle and case study research and reporting to support dissemination of project learning, for staff both Project TVET schools.

### **165. Tracer Studies**

- Identify staff teams at both Project TVET institutions to conduct tracer studies.
- Identify relevant national, ASEAN and international examples of effective graduate tracer studies, particularly those of teacher training graduates and health care training graduates.
- Develop and deliver short course to develop graduate tracer study research skills for selected staff of both Project TVET schools, selected staff of Nanning and GZAR Education and Health Bureau and partner TVET schools.
- Guide and support development of scope, design and sample trialling of first tracer study in both Project TVET institutions.
- Support refinement, post-trial, and initial implementation of tracer study of Nanning No.4 Vocational School graduates and Nanning Health School graduates.
- Facilitate data analysis (using SPSS) including disaggregation by gender, rurality, industry sector, socio-economic status (SES) and ethnicity, data interpretation and reporting of Nanning No.4 Vocational School's and Nanning Health School's tracer studies data.
- Support review and dissemination of initial Tracer Studies' findings, discussion of implications for Schools' programs and

development of action plans for refinement of Schools' training program elements, evaluation of effectiveness of the tracer study and implementation of refinements for the tracer study of the next graduating cohort to be completed by end Q4, 2014, in both Project TVET institutions.

- Support Tracer Studies implementation in Year 2 (international specialist) and Year 3 (national specialist).

#### 166. Career development practice

- Conduct an in-depth assessment of career development practices, from school intake to job placement, at both Project TVET schools.
- Develop and provide capacity building activities for management and teachers of both Project TVET schools on (student) career development practice at intake, program delivery and job placement stages, including addressing employability skills and inclusiveness.
- Support development of reference materials for management of career development practice (including recruitment strategies, applicant selection manual, guidelines for embedding generic employability skills within curriculum, teaching and learning and job placement practices) in both Project TVET institutions.

### 3. **Strengthening TVET institution partnerships:**

#### 167. Industry

- Develop and provide market-oriented Public-Private-Partnership (PPP) program planning and cooperation workshops for selected leaders and teachers of both Project TVET schools.
- Identify and assess in-depth existing School-enterprise partnerships, for both Project TVET institutions.
- Develop and conduct training for selected school leadership/management staff and leading teachers of both Project TVET institutions in planning, management, monitoring and evaluation of School-educational institution and School-enterprise partnerships programs with local, ASEAN and wider international partners. Ideally this training event should include staff of Nanning and GZAR Education and Health Bureau, partner enterprises and TVET schools.
- Develop, in collaboration with School management, reference materials for strengthening and management of the two Project TVET institutions' Industry Reference Groups including: qualified experts from industries and the industry advisory groups; experts from the Nanning and GZAR Education Bureau; experts from the TVET institution. Ideally, these developments should be shared with Nanning and GZAR network of TVET schools engaged in pre-school teacher training and health care training.
- Support regular (quarterly) meetings of strengthened Industry Reference Groups for both Project TVET institutions.
- Develop and conduct workshops with senior leadership staff of both Project TVET institutions, enterprise partners and Nanning and GZAR Education and Health Bureau staff to analyse how

national, provincial and municipal policies and guidelines for TVET institution-enterprise partnerships can be implemented.

- Support development, review and refinement of reference materials (including standard MOUs, Partnerships guidelines, etc.) for school-educational institution and school-enterprise partnership management practice in both Project TVET institutions.

#### 168. Other education and training providers

- Identify and assess in-depth, existing partnerships between the two Project TVET schools and respective educational institutions at local, national and international levels.
- Identify good practice educational institutions providing pre-school teacher training, with effective institution-enterprise partnerships, in the PRC, in ASEAN countries and in the broader international context, for potential collaboration with Nanning No.4 Vocational School.
- Identify good practice educational institutions providing nursing, rural health care and elderly care training, with effective institution-enterprise partnerships, in the PRC, in ASEAN countries and in the broader international context, for potential collaboration with Nanning Health School.
- Support organisation of **Networking Study Visits to PRC good practice pre-school teacher training institutions** for Nanning No.4 Vocational School staff to research institution-enterprise partnership practice, ascertain School-institution partnership viability, discuss potential collaborative activities and exchanges, discuss, establish and strengthen partnerships as appropriate. (Small teams of around 5: leadership (2) and teachers (3) to a total of 60 person visits across the 4 years).
- Support organisation of **Networking Study Visits to PRC good practice nursing, rural health care and elderly care training institutions** for Nanning Health School staff to research institution-enterprise partnership practice, ascertain School-institution partnership viability, discuss potential collaborative activities and exchanges discuss, establish and strengthen partnerships as appropriate. (small teams of around 5: leadership (2) and teachers (3) to a total of 60 person visits across the 4 years).
- Organise **International Good Practice in Pre-school Teacher Training Study Tour (No.1 Leadership team)** to support networking, knowledge and curriculum sharing, and partnership building to international (e.g. ASEAN or other) country for **6 Nanning No.4 Vocational School leadership staff for 7 days.**
- Organise **International Good Practice in Pre-school Teacher Training Study Tour (No.2 Teachers)** to support networking, knowledge and curriculum sharing, and partnership building to international (e.g. ASEAN or other) country for **10 Nanning No.4 Vocational School teachers (at least 4 female) for 10 days.**
- Organise **International Good Practice in Health Care Training Study Tour (No.1 Leadership team)** (nursing, rural health care, elderly care) to support networking, knowledge and curriculum sharing, and partnership building to international (e.g. ASEAN or

- other) country for **6 Nanning Health School leadership staff for 7 days.**
- Organise ***International Good Practice in Health Care Training Study Tour (No.2 Teachers)*** (nursing, rural health care, elderly care) to support networking, knowledge and curriculum sharing, and partnership building to international (e.g. ASEAN or other) country for **10 Nanning Health School teachers** (at least 4 female) **for 10 days.**
- Organise ***International Good Practice in Health Care Training Study Tour (No.3 Teachers)*** (nursing, rural health care, elderly care) to support networking, knowledge and curriculum sharing, and partnership building to international (e.g. ASEAN or other) country for **10 Nanning Health School teachers** (at least 4 female) **for 10 days.**

#### 4. Dissemination of project learning

169. Support development and implementation of plan for dissemination of learning by Nanning No. 4 School to partner and other GZAR and PRC TVET pre-school teacher training schools and colleges, Nanning and GZAR Education Bureau staff, partner kindergartens and ASEAN partner institutions through seminars and workshops, and more broadly through conference presentations and publications of relevant journal/newsletter articles.
170. Support development and implementation of plan for dissemination of learning by Nanning Health School to partner and other GZAR and PRC TVET health care training schools and colleges, Nanning and GZAR Health Bureau staff, partner hospitals and ASEAN partners through seminars and workshops, and more broadly through conference presentations and publications of relevant journal/newsletter articles.

### C. LINKAGE TO OTHER SUB-COMPONENTS

171. The interventions proposed under the Human Resources, Partnerships and Career Development sub-component are inextricably linked to the Teacher Training, Curriculum Development, Rural Health Training Bases and Model Kindergarten sub-components. Capacity building activities and support for the development of frameworks and reference materials for human resources development, TVET Institution-Industry partnerships, TVET Institution – education and training provider partnerships and career development will be implemented in consultation with other sub-component consultants and will strengthen and promote sustainability of the outcomes of those sub-components. Table X on the next page provides an initial mapping of the linkages across sub-components.
172. In addition to the analysis above Annex 1. Outlines project intervention strategies, activities costing and implementation decisions. Annex 2. Outlines the proposed Terms of Reference for the subcomponent implementation. Annex 3. Provides a literature review related to good

practice in TVET school/enterprise partnerships in china and Annex 4. outlines initial options for potential education and training institution partners for national, regional and international cooperation. In Annex 5. We have provided proposed target indicators for the human resources, partnerships and career development sub-components and in Annex 6: is assessment form for use in classroom teaching at Nanning no.4 vocational school.



**Table 11. Cross sub-component capacity development outcomes mapping**

	Teacher Training	Curriculum Development	Rural Health Training Base	Model Kindergarten
<b>Human resource development</b> - strengthening capacity of teachers, managers and leaders	<ul style="list-style-type: none"> <li>Teachers implement student-centred teaching methods.</li> <li>Teachers integrate theory and practice in their teaching.</li> <li>Teachers integrate assessment of school-based and work-based learning.</li> <li>Strengthened evidence-based teaching practice.</li> <li>Strengthened capacity to use flexible delivery and other appropriate methods.</li> <li>Enterprise based intern tutor/assessor skills upgraded to reflect new teaching and learning methodologies.</li> <li>School staff research capacity strengthened.</li> <li>School Staff Development planning and strategy strengthened.</li> <li>Monitoring and management of equity issues strengthened.</li> </ul>	<ul style="list-style-type: none"> <li>Kindergarten teacher and nurse training (including elderly care nurse) standards developed.</li> <li>Strengthened curriculum development, teaching, learning and assessment materials development and assessor skills among School staff.</li> <li>Skills mapping studies inform curriculum development.</li> <li>Curriculum integrates theory and practice.</li> <li>Strengthened awareness of issues of stereotyping and lack of inclusiveness in teaching, learning and assessment materials and expertise in development of materials that reflect equity and gender and ethnic diversity inclusiveness.</li> <li>Interactive learner-centred teaching, learning and assessment materials inclusive of gender and ethnic diversity developed and implemented.</li> </ul>	<ul style="list-style-type: none"> <li>Competency based curriculum in public health and community health developed and implemented.</li> <li>Core rural medicine teacher trainers identified and trained.</li> <li>Formal in-service training capacity strengthened and accreditation gained.</li> <li>Rural health care student training strengthened through development and implementation of competency-based curriculum.</li> <li>Nursing student placements in rural health centres strengthened through development and implementation of competency-based curriculum.</li> <li>Rural health provider mentors' capacity strengthened.</li> <li>School plans for dissemination of learning from Pilot Programs developed and implemented.</li> </ul>	<ul style="list-style-type: none"> <li>Formal in-service training capacity strengthened and accreditation gained.</li> <li>In-service kindergarten teachers' skills strengthened.</li> <li>School's pre-school teacher training students practical training and experience strengthened and extended.</li> <li>Newly developed model kindergarten teaching curriculum implemented, evaluated, refined and validated.</li> <li>School plans for dissemination of learning from Pilot Programs developed and implemented</li> </ul>
<b>Partnership Development</b> - building national, regional and international cooperation and strategic TVET and industry partnerships	<ul style="list-style-type: none"> <li>Partnerships with public and private enterprises and industry associations extended and strengthened.</li> <li>Industry Reference Groups strengthened and formalized, with institutional framework including terms of reference.</li> <li>Strengthened enterprise staff and broader industry representatives' capacity to advise and support School market-based planning.</li> <li>Effective school-enterprise partnership management plan developed and implemented.</li> <li>Teacher trainers' and nurse trainers' skills strengthened and upgraded through industry placements and in-service training programs.</li> <li>Teaching and learning materials reflect industry good practice.</li> <li>Enterprise-based intern tutors' training and assessment capacity strengthened.</li> <li>Effectiveness of student enterprise-based workplace internships strengthened.</li> <li>Strengthened national and international partnerships with TVET providers including in ASEAN region facilitate teacher and knowledge exchange, foster innovation in teaching and learning approaches and enable benchmarking and collaborative research in policy and practice.</li> <li>Provincial TVET workshops exchange lessons learned in school-industry collaboration, curriculum development and international TVET partnerships.</li> <li>Dissemination strategy shares Project learning nationally and internationally through conference presentations, journal and newsletter articles.</li> </ul>	<ul style="list-style-type: none"> <li>Competency standards and competency based curriculum development expertise strengthened.</li> <li>Curriculum development and validation advised by Industry Reference Group panel within institutional framework for partnerships. Panel includes industry experts, enterprise practitioners, external TVET experts, research institution staff, graduates and School staff.</li> <li>Strengthened national and international partnerships with other TVET providers foster curriculum sharing and result in stronger alignment of curriculum with international standards.</li> <li>Measures for evaluation of effectiveness and efficiency of strengthened curriculum developed in consultation with industry and implemented.</li> <li>Dissemination strategy shares Project learning nationally and internationally through conference presentations, journal and newsletter articles.</li> </ul>	<ul style="list-style-type: none"> <li>Industry partner input to Rural Health Centre training model strengthens relevance of internship and in-service training to rural health needs.</li> <li>Partnerships with national PRC universities, provincial government offices, national and international health research and education centres and networks inform Rural Health Centre training model development and strengthen relevance of curriculum and content.</li> </ul>	<ul style="list-style-type: none"> <li>Teaching and in-service training within the Model Kindergarten for pre-school teacher training aligned to enterprise needs.</li> <li>Partner input to Model Kindergarten training model development.</li> <li>Leading edge model kindergarten practice established – including teaching methods based on 'best international and national practice' and experiences, including mentoring, monitoring, provision of educational and pastoral care of children, assessment, leadership and management.</li> <li>Knowledge exchange with kindergarten teachers facilitated through in-service training events.</li> </ul>
<b>Career Development</b> - enhancing young peoples' self awareness and management, learning and work exploration, and career building	<ul style="list-style-type: none"> <li>Teachers incorporate career-focussed teaching and learning within their subjects.</li> <li>Teachers use team-based learning and problem solving tasks to build employability skills.</li> <li>Enterprise-based tutors build and assess intern employability skills.</li> <li>Tracer studies inform School intake, internship and job placement strategies.</li> <li>Increased relevance of applicant selection criteria to industry needs and occupational requirements results in higher quality students and graduates for industry needs.</li> <li>Improved access to Project TVET institutions, through alignment of selection criteria with principles of equity and inclusiveness, for disadvantaged students, by gender and ethnic diversity.</li> </ul>	<ul style="list-style-type: none"> <li>Employability skills (soft skills e.g. creative thinking, communication, problem solving, team work, life-long learning, entrepreneurial and customer service) incorporated in curriculum.</li> <li>Integration of theory and practice and employability skills in curriculum leads to more highly skilled and work ready graduates.</li> <li>Curriculum integrates self-development competencies to build student self awareness.</li> <li>Concepts of sustainability (green skills), innovation and entrepreneurship embedded in curriculum to build awareness of the relationship between work, economy, environment and society.</li> <li>Tracer studies inform curriculum review and renewal.</li> </ul>	<ul style="list-style-type: none"> <li>Workplace skills of rural medicine and nursing students strengthened through effective workplace-based teaching and learning using competency-based curriculum and effective mentorship.</li> <li>Practicum rotations provide broader workplace experience for rural medicine and nursing students.</li> <li>In-service rural health worker professional development strengthened.</li> </ul>	<ul style="list-style-type: none"> <li>In-service kindergarten teacher professional development provided through model kindergarten.</li> <li>School's pre-school teacher training students' awareness of work practice strengthened and extended.</li> </ul>

## ANNEXES

### ANNEX 1. PROJECT INTERVENTION STRATEGIES, ACTIVITIES COSTING AND IMPLEMENTATION

Indicative Activities: Human Resource Development, Partnerships and Career Planning

Indicative Activities	2	2014				2015				2016				2017			
	0																
Implementation Period October 2013 - December 2017	1	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
Output 1: TVET Capacity Strengthening																	
1.4 Human Resources																	
1.4.1 Comprehensive human resource development (HRD) needs and demands analysis in Nanning No.4 Vocational School																	
1.4.2 Comprehensive human resource development (HRD) needs and demands analysis (in collaboration with relevant international and national consultants) in Nanning Health School																	
1.4.3 In-depth assessment of HRD management practice in Nanning No.4 Vocational School																	
1.4.4 In-depth assessment of HRD management practice in Nanning Health School																	
1.4.5 Training for selected management staff in planning, coordination and management of human resource development skills in Nanning No.4 Vocational and Nanning Health Schools (training event to also include relevant staff at Nanning and GZAR Education and Health Bureau staff and partner TVET schools)																	
1.4.6 Supported development of reference materials (e.g. manual, strategic plan, guidelines for teacher professional development and leadership management development, equity considerations) for quality human resource development practice at Nanning No.4 Vocational School																	
1.4.7 Supported development of reference materials (e.g. manual, strategic plan, guidelines for teacher professional development and leadership management development, equity considerations) for																	

Indicative Activities	2	2014				2015				2016				2017				
	0																	
Implementation Period October 2013 - December 2017	1	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	
	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
quality human resource development practice at Nanning Health School																		
1.4.8 Training for selected teacher and management staff in evidence-based practice in teaching (teaching as clinical practice approach) and action research skills towards implementation of a teaching quality improvement cycle at Nanning No.4 Vocational and Nanning Health Schools and case study research and reporting to support dissemination of project learning.																		
1.4.9 In-depth assessment of Nanning No.4 Vocational School's career development practices, from school intake to job placement.																		
1.4.10 In-depth assessment of Nanning Health School's career development practices, from school intake to job placement																		
1.4.11 Provision of capacity building activities for management and teachers of Nanning No.4 Vocational School on (student) career development practice at intake, program delivery and job placement stages, including addressing employability skills and inclusiveness.																		
1.4.12 Provision of capacity building activities for management and teachers of Nanning Health School on (student) career development practice at intake, program delivery and job placement stages, including addressing employability skills and inclusiveness.																		
1.4.13 Market-oriented Public-Private-Partnership (PPP) program planning and cooperation workshops for selected Nanning No.4 Vocational and Nanning Health Schools' leaders and teachers.																		
1.4.14 Identification and in-depth assessment of existing partnerships between Nanning No.4 Vocational School and educational institutions at local, national and international levels.																		
1.4.15 Identification and assessment of existing partnerships between Nanning Health School and educational institutions at local, national and international levels.																		

Indicative Activities	2	2014				2015				2016				2017			
	0																
Implementation Period October 2013 - December 2017	1	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
1.4.16 Identification and in-depth assessment of existing Nanning No. 4 School-enterprise partnerships.																	
1.4.17 Identification and in-depth assessment of existing Nanning Health School-enterprise partnerships.																	
1.4.18 Identification of good practice educational institutions providing pre-school teacher training, with effective institution-enterprise partnerships, in the PRC, in ASEAN countries and in the broader international context, for potential collaboration.																	
1.4.19 Identification of good practice educational institutions providing nursing, rural health care and elderly care training, with effective institution-enterprise partnerships, in the PRC, in ASEAN countries and in the broader international context, for potential collaboration.																	
1.4.20 Training for selected school leadership/management staff and leading teachers of Nanning No.4 Vocational and Nanning Health Schools in planning, management, monitoring and evaluation of School-educational institution and School-enterprise partnerships programs with local, ASEAN and wider international partners. Ideally this training event should include staff of Nanning and GZAR Education and Health Bureau, partner enterprises and TVET schools.																	
1.4.21 <b>Networking Study Visits to PRC good practice pre-school teacher training institutions</b> to research institution-enterprise partnership practice, ascertain School-institution partnership viability, discuss potential collaborative activities and exchanges, discuss, establish and strengthen partnerships as appropriate. (Small teams of around 5: leadership (2) and teachers (3) to a total of 60 person visits across the 4 years).																	
1.4.22 Supported (across first 11 quarters) development and implementation of plan for dissemination of learning by Nanning No. 4 School to partner and other GZAR and PRC TVET pre-school teacher training schools and colleges, Nanning and GZAR Education Bureau staff, partner																	

Indicative Activities	2014				2015				2016				2017				
	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Implementation Period October 2013 - December 2017																	
kindergartens and ASEAN partner institutions through seminars and workshops, and more broadly through conference presentations and publications of relevant journal/newsletter articles.																	
1.4.23 <b>Networking Study Visits to PRC good practice nursing, rural health care and elderly care training institutions</b> to research institution-enterprise partnership practice, ascertain School-institution partnership viability, discuss potential collaborative activities and exchanges discuss, establish and strengthen partnerships as appropriate. (small teams of around 5: leadership (2) and teachers (3) to a total of 60 person visits across the 4 years).																	
1.4.24 Supported (across first 11 quarters) development and implementation of plan for dissemination of learning by Nanning Health School to partner and other GZAR and PRC TVET health care training schools and colleges, Nanning and GZAR Health Bureau staff, partner hospitals and ASEAN partners through seminars and workshops, and more broadly through conference presentations and publications of relevant journal/newsletter articles.																	
1.4.25 Identification of School staff teams at Nanning No.4 Vocational School to conduct tracer studies.																	
1.4.26 Identification of School staff teams at Nanning Health School to conduct tracer studies.																	
1.4.27 Identification of relevant national, ASEAN and international examples of effective graduate tracer studies, particularly those of teacher training graduates.																	
1.4.28 Identification of relevant national, ASEAN and international examples of effective graduate tracer studies, particularly those of health care training graduates.																	
1.4.29 Development and delivery of short course to develop graduate tracer study research skills for selected staff of Nanning No.4 Vocational and Nanning Health Schools. To include selected staff of Nanning and GZAR Education and Health																	



Indicative Activities	2013	2014				2015				2016				2017				
	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	
Implementation Period October 2013 - December 2017																		
Bureau and partner TVET schools as appropriate.																		
1.4.30 Supported development in Nanning No 4. School of scope, design and sample trialling of first tracer study.																		
1.4.31 Supported development in Nanning Health School of scope, design and sample trialling of first tracer study.																		
1.4.32 Supported refinement, post-trial, and initial implementation of tracer study of Nanning No.4 Vocational School graduates.																		
1.4.33 Supported refinement, post-trial, and initial implementation of tracer study of Nanning Health School graduates.																		
1.4.34 Supported data analysis (using SPSS) including disaggregation by gender, rurality, industry sector, interpretation and reporting of Nanning No.4 Vocational School's tracer study data.																		
1.4.35 Supported data analysis (using SPSS) including disaggregation by gender, rurality, industry sector, interpretation and reporting of Nanning Health School's tracer study data.																		
1.4.36 Review and dissemination of initial Nanning No.4 Vocational School's Tracer Study's findings, discussion of implications for School's program and development of an action plan for refinement of Schools' pre-school teacher training program elements, evaluation of effectiveness of the tracer study and implementation of refinements for the tracer study of the next graduating cohort to be completed by end Q4, 2014.																		
1.4.37 Review and dissemination of initial Nanning Health School's Tracer Study's findings, discussion of implications for school programs and development of an action plan for refinement of Schools' pre-school teacher training program elements, evaluation of effectiveness of tracer studies and implementation of refinements for the tracer studies of the next graduating cohort to be completed by end Q4, 2014.																		
1.4.38 Tracer Studies conducted, analysed, reported and refined for Nanning No.4 Vocational School graduating cohorts in Years 2, 3 and 4.																		

Indicative Activities	2013	2014				2015				2016				2017			
	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Implementation Period October 2013 - December 2017																	
1.4.39 Tracer Studies conducted, analysed, reported and refined for Nanning Health School graduating cohorts in Years 2, 3 and 4.																	
1.4.40 Development, in collaboration with School management, reference materials for strengthening and management of <b>Nanning No.4 Vocational School Industry Reference Group</b> including: qualified experts from industries and the industry advisory groups; experts from the Nanning and GZAR Education Bureau; experts from the TVET institution. Ideally, these developments should be shared with Nanning and GZAR network of TVET schools engaged in pre-school teacher training.																	
1.4.41 Regular (quarterly) initially supported meetings of strengthened Industry Reference Group for Nanning No. 4 School.																	
1.4.42 Development, in collaboration with School management reference materials for strengthening <b>Nanning Health School Industry Reference Group</b> including: qualified experts from health care industries and the health care industry advisory groups; experts from the Nanning and GZAR Health Bureau; experts from the TVET institution. Ideally, these developments should be shared with Nanning and GZAR network of TVET schools engaged in health care training.																	
1.4.43 Regular (quarterly) initially supported meetings of strengthened Industry Reference Group for Nanning Health School.																	
1.4.44 <b>International Good Practice in Pre-school Teacher Training Study Tour (No.1 Leadership team)</b> to support networking, knowledge and curriculum sharing, and partnership building to international (e.g. ASEAN or other) country for <b>6 Nanning No.4 Vocational School leadership staff for 7 days.</b>																	
1.4.45 <b>International Good Practice in Pre-school Teacher Training Study Tour (No.2 Teachers)</b> to support networking, knowledge and curriculum sharing, and partnership building to international (e.g.																	

Indicative Activities	2013	2014				2015				2016				2017				
		Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Implementation Period October 2013 - December 2017																		
ASEAN or other) country for <b>10 Nanning No.4 Vocational School teachers for 10 days.</b>																		
1.4.46 <i>International Good Practice in Health Care Training Study Tour (No.1 Leadership team)</i> (nursing, rural health care, elderly care) to support networking, knowledge and curriculum sharing, and partnership building to international (e.g. ASEAN or other) country for <b>6 Nanning Health School leadership staff for 7 days.</b>																		
1.4.47 <i>International Good Practice in Health Care Training Study Tour (No.2 Teachers)</i> (nursing, rural health care, elderly care) to support networking, knowledge and curriculum sharing, and partnership building to international (e.g. ASEAN or other) country for <b>10 Nanning Health School teachers for 10 days.</b>																		
1.4.48 <i>International Good Practice in Health Care Training Study Tour (No.3 Teachers)</i> (nursing, rural health care, elderly care) to support networking, knowledge and curriculum sharing, and partnership building to international (e.g. ASEAN or other) country for <b>10 Nanning Health School teachers for 10 days.</b>																		
1.4.49 Supported development of reference materials for Nanning No.4 Vocational School's management of career development practice (including recruitment strategies, applicant selection manual, guidelines for embedding generic employability skills within curriculum, teaching and learning and job placement practices).																		
1.4.50 Supported development of reference materials for Nanning Health School's management of career development practice (including recruitment strategies, applicant selection manual, guidelines for embedding generic employability skills within curriculum, teaching and learning and job placement practices).																		
1.4.51 Workshop with Nanning No.4 Vocational School senior leadership staff, enterprise partners and Nanning and GZAR Education Bureau staff (participants																		



Indicative Activities	2	2014				2015				2016				2017				
	0																	
Implementation Period October 2013 - December 2017	1	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	
	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
in study visits and training) to analyse how national, provincial and municipal policies and guidelines for TVET institution-enterprise partnerships can be implemented.																		
1.4.52 Workshop with Nanning Health School senior leadership staff, enterprise partners and Nanning and GZAR Health Bureau staff (participants in study visits and training) to analyse how national, provincial and municipal policies and guidelines for TVET institution-enterprise partnerships can be implemented.																		
1.4.53 Supported development, review and refinement of reference materials (including standard MOUs, Partnerships guidelines, etc.) for school-educational institution and school-enterprise partnership management practice in Nanning No.4 Vocational School.																		
1.4.54 Supported development, review and refinement of reference materials (including standard MOUs, Partnerships guidelines, etc.) for school-educational institution and school-enterprise partnership management practice in Nanning Health School.																		

## Annex 2. Proposed sub-component costing.

Resource/activity	Calculation	Cost US\$
International specialist (to work across both Project TVET Schools)	5 person months @ US\$25,00 per person month	125,000
National specialist (pre-school teacher training expert for Nanning No.4 Vocational School)	5 person months @ US\$6,500 per person month	32,500
National specialist (health care training expert for Nanning Health School)	5 person months @ US\$6,500 per person month	32,500
Within PRC Networking Study Visits to advanced kindergarten and preschool education programs by Nanning No.4 Vocational School leaders and teachers	Total of 60 person visits across 4 years	100,000
Within PRC Networking Study Visits to advanced hospital, nursing home and health care training programs by Nanning Health School leaders and teachers	Total of 60 person visits across 4 years	100,000
International Good Practice in Preschool Teacher Training Study Tours for leaders and teachers of Nanning No.4 Vocational School	1. 6 School leaders for 7 days	48,000
	2. 10 School teachers for 10 days	100,000
International Good Practice in Health Care Training Study Tours for leaders and teachers of Nanning Health School	1. 6 School leaders for 7 days	48,000
	2. 10 School teachers for 10 days	100,000
	3. 10 School teachers for 10 days	100,000
Twinning (with international TVET partner institutions) including conferences and visits for dissemination strategy	To cover activities by both Project Schools - additional to International Good Practice Study Tours	200,000
4 laptop computers for consultants		6,000
2 x Survey Monkey (or similar software) TVET institution licences		1,000
2 x SPSS software institution licences		2,000

### **ANNEX 3. LITERATURE REVIEW RELATED TO GOOD PRACTICE IN TVET SCHOOL/ENTERPRISE PARTNERSHIPS IN CHINA**

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National Human Resources, Partnerships and Career Development Consultant.

#### **PART I.**

Analysis of the Driving Force/Mode Behind TVET School/Business Cooperation, its existing Problems and Countermeasures

**Pang Shijun** 庞世俊 **Pang Shaozhao** 庞少召 2010 *Analysis of the Driving Mode of TVET School/Business Cooperation, its existing Problems and Countermeasures*, China Vocational and Technical Education, No.15, 2010, p.37-41, Beijing, China

#### **ABSTRACT :**

The author believes that TVET networking between schools and enterprises constitutes one of the indispensable way out for successful TVET education in China, but such a cooperation remains a fragile link on the whole chain. He then makes analysis into this cooperation and comes up with findings that the driving forces behind this cooperation presents a rather complicated and complex picture that covers five areas, that is, the law, the policy, the contract, the purchase and the financial aids. These five areas must be further optimized in addition to further fortification.

#### **1. The modes that push ahead the S/B Networking**

##### **1.1. Driving force in terms of the law**

TVET education draws on an enterprise and its resources in various aspects. To obtain all these resources, one of the most effective ways to take is to enact state policies that say an enterprise must participate in S/B networking, binding as tax paying. Specific laws are easily found in TVET schools in some developed countries in the world, which are kept updated all the time as the economy moves ahead. Take Germany as an example. In its Dual System TVET education, both the participating enterprise and school are legally bound by the government, these examples can be found in their TVET Education Law, Laws on Protecting the Young Work Force, etc.

Laws not only provide room for “active” enterprise involvement in TVET education, they also stipulate that the government foots the bills for S/B cooperation. Such examples can be found in the United States of America. In 1965, US Congress passed a law on Higher Education in which “developing universities” are allowed to spend government money for developing cooperative education within the limits permitted by the law.

Compulsory binding force from the law to secure S/B networking ensures where the participants are, what their rights and interests lie. In addition, legislation also confers on non-government, non market elements, like business associations and institutions their legal status, giving fuller play to them in their share of the TVET education (citation 3). It can be concluded that legislative measures are nowadays one of the most common and indispensable measures that drive S/B cooperation.

##### **1.2. Government policies**

A government represents the society in coordinating TVET education between a school and an enterprise, resorting such main approaches as finance, taxation, special state

fund for education. A government plays a role as a lure in encouraging cooperation between a school and an enterprise, in narrowing the gap between the two in their interests through government finance and taxation, in building a platform and a mechanism for cooperation through their rights that seek to reduce the cost and minimize the risks that may incur for either side of the participants, in acting as good offices built on its credit and influence to create opportunities and bury disputes, in exercising its supervision and management, through various policies, on S/B cooperation.

These good examples can be found in many countries around the world, like Germany in its Commission on industrial cooperation. China is another example in its policies as in Circular on Incentive Policies on Innovative Corporations for their Income Tax. All these policies point to one thing: Costs are to be reduced for corporation in addition to governmental funding.

### 1.3. Contract Investment

The most direct driving force behind this corporation is derived from pursuing market interests for the two participants. A contract cooperation will ensure the contents, rights, obligation and interests for these two stakeholders.

Contract cooperation between a school and an enterprise in China has been a product of market development and educational reforms in China. S/B cooperation under a contract varies in depth with the interests from the two sides, roughly classified into an on-the-surface contract, in-the-middle contract and in-depth contract. An on-the-surface contract involves only a specific item for cooperation, such as a school's consultancy for an enterprise, training while the involved equipment and manpower are furnished by the enterprise. The in-the-middle one refers to the building an on campus training base, workshop practice as well as curriculum development. The in-depth contract goes on a broader scope, as in an "assembly line" like relation that involves teaching, research and production in a package. On the other hand, this cooperation is "deeper" because both the school and the enterprise may share various capital assets as ownership, shared use, shared management, making a school and enterprise into a body.

Contract cooperation presents the following features: joint investment comes the enterprise, the school as well as the government. Secondly, a school and an enterprise share management, they set curriculum targets together and develop curriculum together. Thirdly, they "earn" together. The school ease its pressures in job placements, internship and related required equipments and facilities, which will immensely reduce the costs in running a school. School teachers also are open to opportunities to work in a factory, or get trained there. On the other, an enterprise will recruit the best students it is looking for, get support for research and reduce its production cost by employing intern students, promote its brand among these potential student customers and even marketing. Fourthly, multiplied stakeholders. In addition to the participating school and enterprise, contracts can also be signed between local governments and schools and enterprises or between counterpart TVET schools. Fifthly, capital in various forms. A contract cooperation involves not only monetary capital, it may also be technical, manpower, equipment and facilities, and even the brand itself. Contract cooperation constitutes the main mode of a driving force, subject to market rules, and may be one of the driving forces of greatest vitality.

### 1.4. Unilateral payment

Unilateral payment means either the school or the enterprise will purchase from the other side the service it deems necessary in its own development. Unilateral payment is a market behavior, and is not one that is commonly found in s/b cooperation.

Unilateral payment covers such areas as payment from the school to an enterprise for ensuring job placement or internship in an enterprise, payment from the school for hiring business experts to develop a curriculum or teaching engagement, a lease by the school of the necessary enterprise equipment or facilities. Payment by a school for its teachers to practice in an enterprise, etc.

Unilateral payment from an enterprise includes payment to a school for the work force it needs for its operation, like the demand responsive curriculum programs, specific curriculum development, training for its employees, leasing on campus grounds or facilities, payment to the school for solving its technical problems or research achievements.

### 1.5. Free funding

Many countries like the UK have the responsibility to provide free funding for a TVET school as a for-profit entity. An enterprise has more obligations to provide such funding if it receives more needy and direct work force from a school. In addition to the UK, Germany and Australia are also such good examples.

To sum up, the above five driving forces present their own distinctive features and properties as following:

- **The legal force:** Based on the will of a state, non-negotiable, subject to strict punishment and rewards.
- **The administrative force:** Based on administrative duties with a macro regulation and coordination
- **The Contract force:** Shared interests, shared management and shared input
- **The Unilateral force:** Based on demands from either side, one pays, the other serves.
- **The Free force:** Based on moral and ethics and voluntary consideration, with no “conditional” conditions.

## 2. Present Issues seen in the driving forces

- 2.1 Poorly powered legal force
- 2.2. Policies leave much to be desired
- 2.3. Risks do not match Interests
- 2.4. Unilateral payment acting “on pulse”
- 2.5. Weak Social morality.

## 3. Approaches to optimizing the driving force

### 3.1. Further reinforcing the law implementation

Stricter laws must be observed in TVET cooperation, and loopholes in the law as it is the case nowadays must be closed. Legal instead of pure administrative proceedings where the school head usually has the final say must be ushered in TVET cooperation. At the same time accountability should be implemented.

### 3.2. Governmental coordination

Governmental policies are one of the main driving forces in a macro way in the TVET cooperation. So policies should play their role in balancing relationship between

schools and enterprises, between education and the economy. Policies should also focus on linking TVET education with real business operation, linking TVET cooperation with local economic development and linking governmental support with the active participation by both the school and the enterprise in the networking. Last but not least, policies must also feature supervision in them where rewards and punishments are clearly defined.

### 3.3. Market leading force

The market has always been the major consideration for an enterprise to participate in the TVET cooperation. Hence, only the market, when fully brought into play, will truly contribute to a win-win for both the participants. These examples can easily be found in the German Dual System, in the new apprenticeship in Australia, and the French apprenticeship training center.

### 3.4. Moral gravity.

Driving force derived from morality in TVET cooperation can focus on the following:

1. Maintain credibility, and responsibility for the two participants as TVET education in China is conducive to both the nation as a whole and its people. Returning gratitude to the society is important in an enterprise effort to run into TVET cooperation.
2. Set up a TVET cooperation foundation and other non-profit organizations for fundraising and allocation.
3. Media involvement and supervision. Constant coverage must be done for those who fund the TVET education for a long time. In addition, the state should also set up a Contribution Award for TVET education.

To sum up, TVET cooperation has a driving force that comes from within itself, but the mode of a driving force is missing in this cooperation, or rather such a present mode fails to meet the needs of the school and the enterprise. An improvement on this mode will surely contribute to the prosperity and development of TVET cooperation.

## PART II

Two Exemplary TVET Schools in TVET/Business Partnership in Guangzhou, PRC

Source <http://news.enorth.com.cn/system/2012/05/18/009255466.shtml>

Partnership between TVET schools and enterprises has been a crucial ingredient in the TVET curriculum, in which teaching is well woven into workshop operation, where mutual support is exercised between TVET schools and businesses by reciprocal and complementary penetration, resources sharing for a win-win outcome. The following is a list of some the TVET schools in Guangzhou, PRC, that lead the nation in school/business partnership.

### 1. Guangzhou Financial TVET school

Features “2+1”internship curriculum, orders-taking classroom instruction, learning by working, and others. This practice applies to different specialties and majors in the school. Practice Advisory Panel composed of business experts, educational experts, leading major teachers and some top teachers; engagement of some experience-rich experts and skilled workers from the enterprises as its “exceptional” instructors—exceptional because they are not certified as a teacher; establishing training bases in the enterprises, classroom instruction based on the orders made by the enterprises that fit into the real needs of the enterprise. Professional certification of the TVET students for their smooth transition into the business in either internship, or job placements.

Teacher training: Skill-specific teachers must “go out of the classroom” into the business either as internship for a period of time or these teachers rotate in receiving training in the enterprises that lead them to professional certification. A third way is participation in the TVET school/Business Forum organized by China TVET Association.

Some special classes: the school signed an agreement with Guangzhou Friendship (Group) Co. Ltd in which a special financial staff class is run. “Tailor-made” accountants, cashiers, sales persons are produced in it.

## 2. Guangzhou Garments TVET School

Features “2+1”internship curriculum, orders-taking classroom instruction.

In 2012, the school started its partnership with Guangzhou Daidai Xing Electronic Co.,Ltd for Alternating Learning with Workshop Practice. Starting in their 2<sup>nd</sup> year, Animation students go into a three-month internship for flash animation in the company, in which they actually participated in many projects the company designed for the local government.

The Garments Department divides its School/Business Partnership into four phases: Deciding on the Project Task, Plan-making, Execution and Outcome Presentation. Design or Plan Studios from the business are set up on the school campus, in which designs are completed by both the students and the workers. Students learn and master in a very quick way.

## PART III

Review and Summary, based on reading about China’s TVET School/Enterprise Links, especially some of the cooperation cases found in literature on the Internet.

### 1. School/Business Cooperation, definition variations

Defined in terms of varied cooperation levels

The cooperation can vary from region to region, from curriculum to curriculum and from depth to depth. The cooperation can either be based on regions and curriculum, or mode of cooperation and nature of cooperation. And the cooperation is also closely linked with the vision of a school’s management, is indispensable of government policy support, local economic development. The cooperation may in three levels: the shallow one, the intermediate one and the deep one.

In the “shallow” one, the schools usually set up a expert or advisory panel composed of business experts, school teachers and also a job placement panel. These two panels are highly responsive to enterprise job demands, hence, a training base is set up in a designated business.

In the “intermediate level”, the schools set up a board of directors that attract investment from different channels so a horizontal school/business entity is created. The schools offer different consultancy and training for the business.

In the “deep level”, schools and enterprises infiltrate into each other. A school usually bases its research on being highly responsive to the needs of a business and will timely materialize its research results into a product or job skill. Another important point is the cultural cooperation between a school and a business in which a corporate culture is highly immersed into a school.

## 2. Main Feature of the Cooperation: A Blend of Different Participants.

Game players include the government, business associations, schools and enterprises. The government usually dominates and usually indispensable as well. The school and the enterprises are the major players in the game. Government dominant cooperation produce better and more outcome in China's present economic structure. But it must be encouraged that more role be given to the school and the enterprise and the enterprise must participate more in the curriculum development and school management in order to create a better win-win outcome.



#### ANNEX 4. INITIAL OPTIONS FOR POTENTIAL EDUCATION AND TRAINING INSTITUTION PARTNERS FOR NATIONAL, REGIONAL AND INTERNATIONAL COOPERATION

Partnership development between both Project TVET institutions **and national, regional and international education and training institutions** will need to be informed by close examination of needs and options by the Human resources, partnerships and career development sub-component national and international consultants together with advice from staff of the two TVET Schools and relevant bureau and industry/enterprise representatives. Some potential education and training institutions and agencies, for networking and collaboration, in PRC, ASEAN region and more widespread international contexts are named below. The options shown below have been compiled from recommendations made by the team of PPTA consultants, including those proposed by the author of this report.

##### Across both Project TVET schools

Education and Training Institution or Agency	Strengths	Additional details
CIVTE – China's Central Institute for Vocational and Technical Education (Research Institute under MOE) <a href="http://www.civte.edu.cn">http://www.civte.edu.cn</a>	A designated UNESCO-UNEVOC Centre with links to the range of UNESCO-UNEVOC centres worldwide; Collects statistical data on TVET across PRC; Publishes TVET journals; Analyses TVET policy, practice and outcomes across national and international contexts; Potential for research guidance and collaboration.	National TVET journal publications: China Vocational and Technical Education Also <i>Vocational and Technical Education</i> , with an English language edition, published since 2010 by Jilin Teachers' Institute of Engineering and Technology – available at: <a href="http://www.cctve.com.cn">http://www.cctve.com.cn</a>
Chongqing Municipal Education Commission (CQMEC) Chongqing, PRC	CQMEC was a partner with PRC MOE and AusAID in a five year TVET reform project undertaken in Chongqing from 2002-2006. Outcomes from that project include development of frameworks for collaboration with enterprises, international cooperation with other TVET institutions, developments in TVET evaluation and research and establishment of a range of relevant initiatives and organisations including: <i>International Cooperation and Vocational &amp; Adult Education of the Chongqing Municipal Education Evaluation Institute</i> , the <i>Chongqing Vocational and Adult Education Evaluation Committee</i> , the <i>Chongqing Australian VET Training and Research Center</i> , and links with the <i>Chinese Association for Vocational and Technical Education</i> and the <i>Asian Academic Society for Vocational Education and Training</i> .	Independent evaluation found: ongoing relationship between CQ Pilot TVET Schools and 15 Australian TVET institutions; at local level, examples of technical and professional partnerships formed between CQ Pilot schools with University partners and TVET schools in other PRC provinces; significant advances in the approaches to teaching, learning, assessment methods and materials; ACCVETP has sponsored several National TVET conferences that have enabled the lessons learned and case examples to be discussed and analysed by decision makers and senior practitioners from across the PRC. Although the five Chongqing TVET Project pilot schools focussed on tourism and hospitality, building and construction, electronics, e-business and automotive training, very different from the social sector training the this project's two TVET schools provide, the practices implemented in developing competency based training in collaboration with enterprises, forging strong and

Education and Training Institution or Agency	Strengths	Additional details
		ongoing partnerships with enterprises and Australian TVET providers, establishing evaluation approaches and developing research capacity would be worth exploring.
Industrie und Handelskammer zu Berlin (IHK Berlin), the Chamber of Commerce and Industry of Berlin, Germany	One of the roles of IHK is promoting contact and collaboration between Berlin's secondary TVET schools and enterprises within the framework of German TVET's 'dual-system' (school + workplace) training. IHK has also undertaken research focused on TVET trainee experiences of workplace-based training.	IHK is also involved in strengthening career orientation of secondary school students via school-business partnership project. Enterprise partners include a broad range of industries and businesses.

#### Nanning No.4 Vocational Vocational School

Education and Training Institution or Agency	Strengths	Additional details
Beijing Normal University, and Beijing Normal University Kindergarten (BNUK) (model kindergarten), Beijing PRC. <a href="http://bnuk.english.bnu.edu.cn/">http://bnuk.english.bnu.edu.cn/</a>	Beijing Normal University Kindergarten (BNUK), a part of Beijing Normal University, is one of the first "Model Kindergartens" in Beijing and has a strong focus on innovation; Child-focused teaching and learning approaches; Potential research partnerships.	BNUK has five branches located in different places in Beijing with more than 2,500 children (aged 2-6) enrolled, and a staff of 500. BNUK has served as a research and internship base for BNU experts, PhDs, postgraduates, and undergraduates from relevant disciplines. BNUK established the "Children-oriented" teaching philosophy: to respect children, research children, and promote the development of children's initiative.
East China Normal University (Shanghai), PRC. <a href="http://english.ecnu.edu.cn">http://english.ecnu.edu.cn</a>	Highly ranked university with School of Pre-school Education.	Bachelor program in <i>Preschool Education</i> ; Masters and Doctoral programs in <i>Educational Relationship between China and Abroad</i> . See Teacher Training report.
Pre-School Education Unit, National Institute of Education, Nanyang Technological University, Singapore <a href="http://www.nie.edu.sg">www.nie.edu.sg</a>	Contributor to Singapore MOE development of Framework for a Kindergarten Curriculum and its implementation; Strengths in research in early years teaching including research topics such as: teachers' partnerships with universities in action research; evidence-based practice in teaching; pedagogies of preschool teaching; and early intervention study.	Potential for collaboration in research studies on early childhood education and preschool teacher preparation; Potential for publication in journal; Offer Master of Education program with an early childhood specialization BUT also provide a program to upgrade the qualifications of non-graduate kindergarten teachers, while in-service, through a part-time BEd.

Education and Training Institution or Agency	Strengths	Additional details
<p>Melbourne Graduate School of Education (MGSE), University of Melbourne (UoM), Melbourne Australia  <a href="http://education.unimelb.edu.au">http://education.unimelb.edu.au</a></p>	<p>MGSE Education courses ranked third in the 2013 QS World University rankings after Harvard and Cambridge universities;  The Master of Teaching (MTeach) (Early Childhood is the only teaching degree in Australia that uses a genuine clinical framework to develop evidence-based practice professionals;  Program depends on strong and effective partnerships with enterprises underpinned by well defined framework and partner training;  Strong research program including 5 year tracking study of 3-4 year olds experience in early childhood care and kindergartens, <i>E4Kids</i>, currently underway.</p>	<p>MTeach program integrates theory, professional knowledge and classroom experience through workplace-based practice learning established as regular learning component (2 days per week) from very early in the program;  Strong MGSE-kindergarten/pre-school partnerships operate under a coherent framework and include trained clinical specialists and kindergarten mentors;  Innovative integrated assessment model;  History of MTeach students (with staff supervision) contributing to national and international education capacity development projects as part of their assessed work (e.g. in India, in Thailand and in Indigenous communities in central Australia).</p>
<p>City of Reggio Emilia, Italy  The Reggio Emilia Approach to Early Childhood Education.  <a href="http://www.reggiochildren.it/">http://www.reggiochildren.it/</a></p>	<p>Reggio Emilia early childhood settings have been recognised throughout the world as leading the way in providing quality programs for young children. Linked to Howard Gardner's schooling for multiple intelligences, this approach to early childhood education is child centered and aims to develop children who are competent thinkers, problem solvers, inquirers, negotiators, inventors and lifelong, self directed learners. Preschool teachers within this approach are reflective practitioners and teacher-researchers.  Linkage with this city's early childhood approach offers not so much a model but opportunities for reflection on current PRC theoretical and practical approaches and comparisons for designing model kindergarten.</p>	<p>Reggio Emilia is a city of around 130,000 people in the Emilia Romagna region of Northern Italy. Reggio Emilia Early Childhood Education has won numerous awards including the Danish Lego Prize, the Kohl Foundation in Chicago, the Hans Christian Andersen Prize, the Mediterranean Association of International Schools. In 1997, the Municipal Preschools and Infant Toddler Centres at Reggio Emilia started a collaborative project with the Harvard Graduate School of Education. See <a href="http://www.worldedreform.com/pub/reggio_approach.pdf">http://www.worldedreform.com/pub/reggio_approach.pdf</a></p>
<p><i>Berliner Kita-Institut für Qualitätsentwicklung</i> (BEKI), Berlin (<b>Berlin Kita-Institute for Quality Development (Beki)</b>).  <a href="http://www.beki.ina-fu.org/">www.beki.ina-fu.org/</a></p>	<p>BEKI supports and guides the implementation and evaluation of the educational program in Berlin early childhood care facilities. The Senate Department for Education, Science and Research in 2008, tasked the International Academy at the Free University of Berlin (INA gGmbH) to support the implementation and evaluation of early childhood care centre quality standards. BEKI was established by INA to do this.</p>	<p>Quality management and evaluation of competence standards implementation in early childhood care facilities in Berlin, suggested in Curriculum Development Technical Report</p>

Education and Training Institution or Agency	Strengths	Additional details
<i>Department of Early Childhood Education (DECE), Hong Kong Institute of Education (HKIOE) Hong Kong</i> <a href="http://www.ied.edu.hk/">http://www.ied.edu.hk/</a>	The DECE of the HKIOE has a history of preschool teacher training and research on a range of topics related to early childhood education, including: effective teacher leadership for curriculum change in Chinese kindergartens; teaching and learning quality; teaching for creativity and school improvement.	The DECE of the HKIOE offers pre-school teacher development courses at sub-degree, undergraduate and postgraduate levels including: a 2 year full-time higher Diploma in ECE, a Bed (Hons) in ECE and masters and Doctoral programs in ECE.
<i>Early Childhood Learning Knowledge Centre (ECLKC), Canadian Council on Learning</i> <a href="http://www.ccl-cca.ca">www.ccl-cca.ca</a>	The ECLKC, under the Canadian Council on Learning offers a range of resources, research and policy reports, literature and knowledge exchange on early childhood learning. It includes a focus on early childhood learning for ethnic minority children and those with disabilities.	Includes publications such as Report on the state of early childhood learning and

### Nanning Health School

Institution or agency	Strengths	Details
Guangxi Medical University <a href="http://www.gxmu.edu.cn/">www.gxmu.edu.cn/</a>	Strong faculty; geographical proximity to enable sustained partnership	Provides training in Health Education, Social Medicine and Community Health Service, Public Health, Primary Health Care Services.
China Medical University (Shenyang) <a href="http://www.cmu.edu.cn/">http://www.cmu.edu.cn/</a>	The only national rural doctors education institution	Training of Village Doctors, Basic Public Health Service, Primary Clinical Services.
Rural Health Management Office of Health Department in GZAR	Interpretation of local authority policies and regulations	Interpretation of relevant policies and regulations
Center for Disease Prevention and Control in Nanning and Guangxi	Guidance in public health practices, skills and sciences; geographical proximity to enable sustained partnership	Basic Public Health Services Specifications
Guangxi University of Nationalities	Ethnic culture sensitivity; geographical proximity to enable sustained partnership	National cultural sensitivity
Yunnan Health and Development Research Association (YHDRA)	An experienced NGO with extensive experience in working with rural communities, participatory approaches, community health development and community mobilization	Community Health Work Idea and Community mobilization; Participatory Health Work Idea; National cultural sensitivity.
Global Health TRrough Education, Training and Service (GHETS) <a href="http://www.ghets.org">www.ghets.org</a>	Focussing on education institutions to increase the number of trained medical professionals in the workforce	Promoting workforce development
Australian Rural Health Education Network (ARHEN) <a href="http://www.arhen.org.au">www.arhen.org.au</a>	Experienced in providing and coordinating rural and remote placements for health students across Australia	Organization and logistical arrangements; management of training.
Development Research Centre of the State Council of China (DRC), Beijing <a href="http://www.drc.gov.cn">www.drc.gov.cn</a>	Research and development in Elderly Care	

Institution or agency	Strengths	Details
Dalian Vocational Technology College	"Elderly Service And Management Major" began to recruit students in 1999, 3 years of schooling, recruit 80 people each year.	As suggested by Elderly Care consultant. The main professional courses include: Gerontology foundation and application of elderly policies and regulations, the elderly psychological nursing, diet and nutrition, massage, physiotherapy technology, common Senile disease prevention and care, elderly care institutions operating and management, the elderly activity organization and planning, elderly fitness, TCM nursing, social welfare policy and application, elderly service marketing, interpersonal communication, modern service manners.
School of Nursing, Midwifery and Social Work, Faculty of Medical and Human Sciences, The University of Manchester <a href="http://www.nursing.manchester.ac.uk/nursing/">http://www.nursing.manchester.ac.uk/nursing/</a>	The School of Nursing, Midwifery and Social Work has a well-established history of providing nursing courses, being the first School in England to offer a nursing degree and appoint a Professor of Nursing. Currently recognised as one of Europe's leading nursing education and research departments.	As suggested by Teacher Training Consultant. The School provides a broad range of nursing courses including pre-registration nursing, undergraduate and postgraduate post qualifying courses and MPhil/PhD.
Changsha Social Work College	"Elderly Service And Management Major" began to recruit students in 1999, 3 years of schooling, recruit 50 people each year. The main professional courses including: The Gerontology introduction, elderly health care, elderly interpersonal communication, traditional geriatric rehabilitation care, elderly mental nursing, elderly care institutions management, elderly social work, traditional Chinese medicine health, nutrition and diet, elderly sport health care, elderly activity planning, elderly policies and regulations etc.	As suggested by Elderly Care consultant

### Potential linkage activities

Potential linkage activities include:

- (i) teacher exchange;
- (ii) relevant competency standards, curriculum and framework mapping (e.g. mapping of early childhood framework for Model Kindergarten against Early Childhood Framework developed for kindergartens in Singapore by NIE and the framework developed by the Kita Institute for Quality Development (BEKI) in Berlin);
- (iii) development of articulation options for students, with tertiary linkage partners;
- (iv) knowledge exchange of approaches to program planning to meet labour market demand;
- (v) knowledge exchange of teaching, learning and assessment approaches and materials, including evidence based practice and action research;

(vi) development of a collaborative strategy for practitioner-researcher development, including collaboration on specific research;

(vii) Convening jointly with a partner institution, mini-conferences/workshops with a specific focus, e.g.

- developing and utilizing data from graduate tracer studies;
- improving program planning for labour market demand;
- development of strategies for optimizing training for local labour to benefit from implementation of the ASEAN Free Trade Area (AFTA) in 2015;
- good practice in on-campus practical training through use of laboratories and simulation environments;
- integration of career planning in the training program;
- strategies for strengthening program inclusivity and equity at all stages, from recruitment and selection to participation, completion and employment outcomes.

Outcomes of such conferences or workshops could then be jointly published in relevant journals and newsletters for broader dissemination of learning.

## **ANNEX 5. PROPOSED TARGET INDICATORS – HUMAN RESOURCES, PARTNERSHIPS AND CAREER DEVELOPMENT SUB-COMPONENT**

- (i) Industry placement schemes for trainers and instructors of
- Kindergarten teacher training,
  - Nurse training
  - Rural doctors
  - Nurses for the elderly
- developed by 2014 and institutionalized by 2015
- (ii) Industry based involvement in course design, curriculum and standards through partnerships with private and public industries for
- Kindergarten teacher training,
  - Nurse training
  - Rural doctors
  - Nurses for the elderly
- institutionalized by 2015
- (iii) Market oriented program planning for
- Kindergarten teacher training,
  - Nurse training
  - Rural doctors
  - Nurses for the elderly
- implemented and institutionalized by 2015
- (iv) A continuing professional development (CPD) framework for
- Kindergarten teacher trainers
  - Nurse educators
  - Rural doctors
  - Nurse educators for the care of elderly
- adopted by 2015.
- (v) Human Resource Development Framework, including indicators of quality practice, established and implemented in both schools by 2016.
- (vi) No less than 10 strategies developed and implemented for strengthening partnerships between School and employers, in both schools by 2017.
- (vii) 6 partnerships workshops conducted and 120 participants attended (50 female; 50 from pre-school teacher training institutions; 70 from Nursing/health care training institutions) by Q4 2015.
- (viii) 10 MOU signed and strategies developed by Nanning Health School for collaboration with national (6), international and ASEAN (4) institutions and collaboration (including (a) students, staff and leadership exchanges, (b) joint teaching, staff, course and course material development, (c) research and dissemination of collaboration activities and achievements) by 2017.
- (ix) 12 MOU signed and strategies developed by Nanning No 4 Vocational School for collaboration with national (8), international and ASEAN (4) institutions and collaboration (including (a) students, staff and leadership exchanges, (b) joint teaching, staff, course and course material development, (c) research and dissemination of collaboration activities and achievements) by 2017.

**ANNEX 6: ASSESSMENT ON CLASSROOM TEACHING - NANNING NO.4  
VOCATIONAL SCHOOL**

Time	Period   Week   Month   Date	Instructor:      Subject:	
Plan Title		Sector/Department:	
		Type of Instruction	Class to Be Taught
Arrival of Teacher	Before Class Time      On Time      Late      Absent		
Dismissal of Class	Before Class Ends      On Time      Delay		
Does the Teacher Check the Cleanliness of the Classroom or not?			
Teaching Target	Definite, compatible with the students, Good combination of knowledge, skills, emotion, attitude and values	5 points	Notes
Key Teaching points	Well expresses	5 points	
Difficult Points	Well expressed	5 points	
Teaching Methods	Well mastered and demonstrated in a flexible manner as well, that conveys modern educational visions	10 points	
Basic Teaching Elements	Conducts the class in a natural and friendly manner, relaxed and comfortable appearing	5 points	
	Standardized Chinese Mandarin, concise, impressive, easy to understand	5 points	
	Proper handwriting on blackboard in a well-designed lay-out, good application of teaching facilities like multi-media, etc.	5 points	
Teaching Process	Good and natural lead-in, interest-arousing, interaction with active students participation. Time well set for the whole class with a clear lay out, professional knowledge fully conveyed in teaching that lays an emphasis on improving students practical capacity	25 points	
Class Management	Good control on the class where discipline is well observed	5 points	
Teaching Outcome	Students show great interests and active participation with what is taught well accepted. Learning methods and habits are cultivated.	5 points	
Teaching Feature	Teaching in a way that fits into the school reality, yet shows a distinguished features in its own. Or shows innovated teaching and unique class lay out	5 points	
Total			
Remarks			

Signed by Assessor      Date:



TA 8158-PRC: Project Preparatory Technical Assistance

## **TEACHER TRAINING FOR PRE-SCHOOL<sup>106</sup> EDUCATION AND NURSING**

Author: Helen Drinan

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<sup>106</sup> It is noted that both 'pre-school' and 'kindergarten' are used in ADB documentation. Therefore both terms will be used. In addition the term 'Early Years' may appear if other education systems are referred to, for example, the UK.

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## EXECUTIVE SUMMARY

1. The principal challenges for teacher training in both No 4 School and Nanning Health School, are the quality of the teacher training being provided and the capacity of those who deliver it. This has emerged from a review of literature, interviews, observations and survey analysis. This being the case the following recommendations have been put forward for the implementation phase of the project.
2. The upgrading of all the current teachers in both schools in learner-centred methodological skills should be a priority. It is recommended that a learner-centred approach to the methodology training is used to increase teachers' methodology skills so that the teaching and learning in both schools becomes more task-based, learner centred, communicative, efficient and effective. So that teachers will be able to conduct structured lessons using a range of participatory techniques; plan and deliver lessons to students based on relevant and appropriate materials; facilitate effective teaching and learning using a range of classroom management techniques; reflect and give feedback on their own and other's teaching and learning.
3. In the first instance, the teachers should be trained by external consultants, both national and international. Later this will be provided by a cohort of trained trainers from both schools. Providing that the initial training is of a high standard, teachers in both schools will be able to provide effective teaching and learning using learner-centred approaches. This in turn will provide robust models for future teachers and nurses who experience such teaching.
4. The upgrading of specialist teachers in both schools in module and learner resources (materials) development should be another priority. In the first instance, this should be provided by external specialists and later provided by a cohort of trained trainers. This type of training will ensure that each school has a core group of so called "Key Trainers" who can develop modules, courses and learner- centred materials for ongoing in-service and continuing professional development (CPD). This will ensure an element of sustainability within both schools in terms of quality materials development and training.
5. The selection and development of a cohort of Key Trainers in each school will be essential to ensure ongoing sustainable and effective teaching and learning and for the ongoing development of quality materials. Key Trainers will be selected initially from the intensive upgrading courses but other Key Trainers might be identified as the project matures from internal and external sources, for example, new and/ or existing teachers/ nurse being trained or retrained. The idea of a cohort of teacher trainers in each school is innovative and therefore will require support and commitment from all involved and specifically from those in leadership roles.
6. The retraining and development of leaders and managers in teaching and learning as well as leadership and management will also be a key training activity. All those in leadership and management positions

should undergo training. It is envisaged that some of the leaders will also be “Key Trainers.

7. All the training activities will be assessed through a competency-based framework which will link to the work done by the curriculum development sub-component in both schools. In addition all training activities will have more weighting on practice and authentic experiential learning. To this end School No 4 will make use of the proposed ‘model kindergarten’ to be built on its premises and Nanning Health School will use the identified rural training bases as training venues for trainee nurses.
8. The design and development of a Comprehensive Continuing Professional Development Framework will ensure that all these training activities will be part of an ongoing, life-long professional development experience. Therefore all staff will have the opportunity to continue their training throughout their career through INSET and CPD. This will be done through accredited modular and distance education courses using blended approaches and the use of ICT. The CPD framework will provide staff with pathways to develop their own course of professional progression.
9. Finally it is recommended that a monitoring and evaluation system is established to monitor teacher training activities and to evaluate their effectiveness in order to continually improve on teaching and learning standards.

## I INTRODUCTION

1. The following report considers the role of teacher training at the Nanning No 4 Vocational and Technical School<sup>107</sup> and Nanning Health School. The information provided and discussed is based on: a review of the available literature on the schools; visits made to both schools which included interviews and class observations; visits to a private kindergarten and to a private elderly care home facility in Nanning City which included focus group interviews and a tour of the facilities. Names of those interviewed and places visited as well as the questions asked can be found in Appendices A.

### A BRIEF BACKGROUND TO TEACHER TRAINING IN PRE-SCHOOL EDUCATION AND NURSING IN CHINA

2. The Ministry of Education's (MoE) 2010 National Education Plan for medium and long term reform and development in China, proposes better access to early childhood programmes nationwide by the year 2020. At the same time, it sets forth the main tasks and important strategies for the development of early childhood education in the next 10 years.
3. According to Xin Zhou from East China Normal University the MoE has ten areas it wants to tackle in early childhood programmes. The key issue pertaining to teacher training is number (3) cited below:

“(3) Strengthening the building of teacher capacity. Each province needs to define an appropriate teacher-child ratio and ensure the program hires enough qualified teachers to meet the requirement. The government will issue early childhood teacher professional standards soon and the minimum teacher qualification needs to be clarified. The law should protect teachers' rights and treatment. The pre-service teacher training system needs to be improved, including services and courses provided by universities, colleges and middle level training schools. Innovative in-service teacher training systems need to be explored in order to meet teachers' diverse needs for learning and development. 10,000 early childhood directors and teachers will be trained in 3 years nationwide. Each province needs to provide one round of training for all the program directors and teachers within 5 years. (Source: *Xin Zhou 2010 Early Childhood Education Policy Development in China: East China Normal University*)”.
4. Equally there have been a number of reforms and policies relating to the quality of teacher training in the healthcare system, specifically in elderly care and rural health systems. In elderly care there are number of partnership projects underway which are investigating the best practice in providing quality care for the ever growing elderly populace. The Development Research Centre of the State Council of China (DRC) is one body which is looking at strengthening the elderly care workforce in China (see later under 'best practice' in the report).

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<sup>107</sup> Also referred to as, 'No 4 TVET School' and 'No 4 School' in this document.

5. In terms of rural health training, new medical health training policies have been issued this year (2013) to,' provide medical training to students so that after five years of study, each of the township hospitals and village clinics will have one graduate from the program.'  
(Source: *Plan of Medical Teaching Programs (Secondary School) to Promote Training of Assistant Medical Practitioners in Rural Areas 2011-2015*)
6. These national reforms and policies provide the background context in which No 4 School and Nanning Health School in the Guangxi Autonomous Region (GAR) wish to develop their own plans to reform teaching and learning in their schools.

## **1. Teacher Training in No 4 School and Nanning Health School**

7. Both schools are aware that the current standard of teacher training and, therefore, teaching and learning, in and outside the classrooms, is not effective and is not meeting the demands of the employers and clients. This was made evident from an analysis of the literature and focus group interviews with staff from both schools. At No.4 TVET School Dr Xiao Jin in an afternoon meeting in the Yongling campus, (the Teacher Education part of the No.4 School), stated,  
  
"No4-School is facing a transformation difficulty. The school was a primary school teacher training TVET school and pre-school teacher education was a minor division. Now, Primary school teacher training program was phased out and it is made to specialize in pre-school teacher education. So, most teachers have to reposition themselves into pre-school education teaching. Many of them have not been to kindergartens."
8. Mr Liu, a Psychology teacher trainer at No.4 School, pointed out,' the problem we have now is we only use lecture to teach and our teaching is too theoretical. We need multiple teaching methods, such like case analysis, discussion, scenario, etc.' There is, therefore, an obvious need for a new approach to teacher training and learning in No 4 School.
9. In Nanning Health School the needs are slightly different and indeed there are some positive examples that can be built upon, as Ms Ma Yong, Director of Nursing at the school stated:  
  
'Our teaching and learning is transforming towards nurse task.-oriented teaching and learning [something like competency-based curriculum], making learning close to task requirement as in the position".
10. However she goes on to say:  
  
"Most teachers need training. Without training they could not accomplish the curriculum development. It is our bottle neck, how to provide training to most of the teachers".
11. Critical to tackling most of these challenges and also a cross cutting theme is providing quality capacity building at all levels of these



institutes. Building capacity will improve the professional skills of the labour forces and specifically for women and in turn help support local economic and social development. This is a very important goal for the Nanning Development and Reform Commission. Therefore, it will be important for both the No 4 School and Nanning Health School to not only develop the teacher training but also to create a cohort of Key Trainers to become the critical mass of change agents in each school.

## **B. SCOPE.**

12. The scope of work was to review, analyse and assess the present situation in terms of Teacher Training in the two project schools: Nanning Number 4 TVET School and Nanning Health School. In addition the consultants were to identify the strengths and the gaps in Teacher Training in the two schools and to provide recommendations on how to improve Teacher Training in the schools drawing on best practice nationally, regionally and internationally.

## II Situational Analysis of Teacher Training

13. The following section considers the current situation of teacher training at the No 4 School and the Health School in Nanning and looks at the strengths and gaps in both schools. The information provided and discussed is based on a review of the available literature on the schools and visits made to the schools and other private institutions. In addition to the focus group interviews during the visits, a survey of the following target groups was conducted and analysed: Pre-school directors, Number 4 School teachers and directors, Nanning Health School teachers and directors, nurses and hospital leaders. A list of people met, places visited and questions asked can be found in the Appendices. The following strengths and challenges have emerged:

**Table 1: Strengths and Challenges**

Strengths	Challenges
<ul style="list-style-type: none"> <li>• A willingness to change and try new ideas and approaches to teaching and learning in both schools;</li> <li>• Nanning Health School has tried more participatory/ learner-centred teaching and learning;</li> <li>• Nanning Health School has introduced some competency based training;</li> <li>• Number 4 School has a vision of how it wants to change and become a centre of excellence using the new model Kindergarten as a training and research centre.</li> <li>• In both schools ethnic minority groups appear to be proportionally represented.</li> </ul>	<ul style="list-style-type: none"> <li>• The lack of quality in education specifically in teacher training and curricula;</li> <li>• Shortages of both kindergarten teachers and nurses, specifically in rural areas;</li> <li>• A conflict between supply and demand;</li> <li>• Disparities between rural and urban areas;</li> <li>• Large kindergarten classes and large patient to nurse ratios;</li> <li>• In School No 4 – a lack of influence in pre-school education in the Guangxi Autonomous Region</li> <li>• In both schools there are a lack of male students entering nursing and kindergarten teaching;</li> <li>• The need for better Communication Skills, specifically in the training of nurses;</li> <li>• The need for more entrepreneurial skills, specifically in the training of kindergarten teachers.</li> </ul>

14. After a more in depth survey analysis these challenges were reaffirmed. Thus in terms of the Teacher Training component, the principal challenges in both schools are:

- **In Number 4 School:** There is a lack of qualified teachers in Pre-School Education. The survey found that only one teacher out of the 114 had any certification in Pre-School Education. Moreover none of the teaching staff had had experience of being in or working in a Kindergarten. There is an historical reason for this as the school had formerly been a training school for Primary teachers. In the past year

the school has changed its status and is now required to train pre-school teachers.

- Additionally, the survey results found that all 114 teachers in the school require a new approach to methodological skills training. In the long term the school should be looking at employing what is referred to as 'double-qualification' teachers, which means teachers who have been trained how to teach in their given subject, so have subject knowledge plus teaching skills. In focus group discussions, student teachers during their placement at a private Kindergarten stated that they found the practical subjects (Drawing and Dancing) more useful to their work than Chinese, Maths and English.
  - Consequently School Number 4 has little influence in the advancement of Pre-School Education in the Guangxi Autonomous Region (GAR) at present. It is envisaged that with new innovative approaches to curriculum and to teaching and learning skills that this trend will be reversed and No 4 School can become a Centre of Excellence in the future.
15. Table 2 shows the lack of specialised (in pre-school education) teachers in School Number 4 and also the discrepancy between the high number of 'general subject' teachers and 'specialised' teachers. There should be more specialised teachers than general teachers.

**Table 2: Number 4 School: Types of teacher**

General subject teacher (Maths, Mandarin, English)	Specialised (pre-education) + practice subject teacher	'Double qualification' teachers (subject knowledge + methodology skills)	Contract teachers (paid directly by the school not the state)
58	56	35	22

16. **Nanning Health School:** According to the survey results, teachers in the Health School tend to be better qualified and have more relevant experience when entering the school. The school also has some influence within the Guangxi Autonomous Region (GAR) unlike.
17. However, although there is an existing 140- hour Elderly Care course running at the Health School, directors, teachers and heads of departments interviewed stated there is still a need for more modules in Elderly Care. Some respondents from the survey stated they had had no Elderly Health Care training.
18. The survey analysis states that, "The school should offer curriculum in Geriatric Nursing and Rural Medicine. However the existing school has no specialized teachers. Therefore teachers need to be transferred from other curriculum to be trained. Currently, the aforementioned training is not sufficient and it also lacks any school-based training. Most of the teachers interviewed believe that "the obtained training cannot meet the teaching needs". Nearly 30% of the teachers also indicated that "they have not received training in elderly care nursing yet."

19. In addition the survey found that, “the relative traditional teaching method in this school leads to an adverse impact on teaching effectiveness”. The school has also made it clear that “the training of teaching method is insufficient”. Therefore it is evident that the Nanning Health School also requires a different training approach and needs to have experience of learner-centred methodological skills.
20. Table 3 shows the types of teachers and numbers in Nanning Health School. It is clear that there is a stronger balance of teachers in specialised subjects, that is Nursing, and also more teachers with both qualifications in subject knowledge and methodology skills.

**Table 3: Nanning Health School: Types of teacher**

General subject teacher (Maths, Mandarin, English)	Specialised (elderly care/ rural health) + practice subject teacher	‘Double qualification’ teachers (subject knowledge + methodology skills)	Contract teachers (paid directly by the school not the state)
59	179	158	21

21. **In both schools** approximately 90% of new teachers and nurses are female. In addition the recruitment of new teachers appears to be relatively low which means the issue of demand and supply is not being met. There is a reported shortage of both kindergarten teachers trained in early years education and nurses, specifically those trained in elderly care and rural health. Therefore there needs to be a positive recruitment drive and an effort to target male students as well as female.
22. **Leadership and management in both schools;** School leaders and middle management staff in both schools also need training as they acknowledged themselves during the course of interviews. In the survey, leaders and managers from both schools expressed dissatisfaction with current training opportunities and courses. They complained about the lack of time given for training in new methods and curriculum development.
23. Most of the training is done by external ‘experts’ and there is little or no follow up to the training. The methodology used is frequently traditional and lecture-based, giving little or no opportunity for practice. In response to the survey on the professional development question, leaders and managers said not only do their teachers need training but also they want training in several areas. There are 9 school leaders and 44 middle management staff in Nanning Health School and 10 leaders and 33 middle management staff in Number 4 School that require training.
24. **In the employment market:** The survey analysis asked Kindergarten, Hospital and Clinic directors what they required from the students graduating from both schools. According to the survey, the hospital requires that new nurses should have good communication skills. Currently student nurses are taught ‘Communication Skills’ but the course offered by the school has little effect. Therefore it would be

necessary to integrate such a module into a student-centred Methodology Skills for nurses.

25. The survey of 53 kindergarten principals indicated that, the Number 4 School is not regarded as a provider of skilled kindergarten teachers yet. It is not yet on the list of institutes and agencies which provide training for kindergarten teachers. Therefore much needs to be done in order to raise the status of the school in this sector. The Training Model would provide opportunities for teachers and school staff to continually professionally develop and this in turn would help build capacity in delivering quality teaching and learning. In addition the model kindergarten within the Number 4 School would provide a venue for teaching practice for internal and external students as well as a centre for action research and learning and teaching resource development. Such activities within the Number 4 School would help develop the whole school and raise its status so that it would be regarded as a 'Centre of Excellence,' not only locally but regionally and nationally too.

### **III. National and International good practice**

#### **A. PRE-SCHOOL EDUCATION**

##### **1. A National example**

26. Beijing Normal University's Kindergarten (BNUK) is a long established institute and in 2001 it was named the first 'Model Kindergarten,' in Beijing. It now has five branches throughout Beijing with 500 staff and provides 2,500 children aged from 2 to 6 with pre-school education. It is worth highlighting as it has played a significant role to teacher training in pre-school education.
27. Some of the significant factors that have made BNUK a 'model kindergarten' are<sup>108</sup>:
  - 90% of the teachers have got pre-school education and undergraduate education certification (those teachers in the Beijing Normal University site).
  - it has contributed to the training and development of teachers in preschool education;
  - it has served as a research and internship base for BNU experts, PhDs, postgraduates, and undergraduates from relevant disciplines;

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<sup>108</sup> Adapted from the BNUK website: <http://bnuk.english.bnu.edu.cn/>

- it has developed enthusiastic teachers with research abilities and other professional skills;
  - it has a “Children-oriented” teaching philosophy: to respect children, research children, and promote the development of children’s initiative;
  - it has helped cultivate students who are healthy, happy, curious, and confident, and who have an early sense of responsibility;
  - it is continuously innovative;
  - it is exposed to advanced ideas about preschool education;
28. In addition, from the consultant’s visit to the kindergarten actually based at BNU, it is evident that thought has been given to the design and construction of the building. The building is only two, and in some places, three stories high and there are plenty of safe play areas for the children to (see picture below). As No 4 School is intending to include a ‘model kindergarten’ in its premises, it would be pertinent to visit this and examine similar examples.



**Figure 1. Beijing Normal University Model Kindergarten, April 2013**

29. However caveats should also be made, as with most of the large municipal kindergartens attached to prestigious universities, because often access is difficult and sometimes elitist due to prohibitively high fee charges. Nevertheless No 4 School and its ‘model kindergarten’ could certainly learn some lessons by observing the principles and approaches used in the BNUK. For more information on the school’s principles, philosophy and curriculum see Appendices (C).

## 2. An International example

### Finland

30. Finland consistently ranks 'top of the class' when it comes to education and the pre-school sector is no exception. According to 'Starting Well,' an Economist Intelligence Unit research project on early education across the world, Finland ranked top in terms of the pre-school environments of 45 countries<sup>109</sup>. See under Appendices C.
31. European countries dominated the rankings. The research found that the leading countries had the following elements in place in their pre-school systems:
  - A comprehensive early childhood development and promotion strategy, backed up with a legal right to such education.
  - Universal enrolment of children in at least a year of preschool at ages five or six, with nearly universal enrolment between the ages of three and five.
  - Subsidies to ensure access for underprivileged families.
  - Where provision is privatised, the cost of such care is affordable relative to average wages.
  - Well trained teachers in early years education
  - Student –teacher ratios under 15
  - A well-defined preschool curriculum, along with clear health and safety standards.
  - Clear parental involvement and outreach.
  - A broad socioeconomic environment that ensures that children are healthy and well nourished when they enter pre-school
32. However most importantly the research found that the main drivers of preschool quality were:
  - ensuring a high standard of teacher training and education;
  - setting clear curriculum guidelines and;
  - ensuring parental involvement.

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<sup>109</sup> From: Starting well: Benchmarking early education across the world © The Economist Intelligence Unit Limited 2012)

### 3. A Regional Example

#### Singapore

33. Although Singapore ranked quite poorly in the 'Starting Well' research it is pertinent to look at what is happening there in terms of pre-school teacher training. As a result of poor rankings, Singapore is in the process of refreshing its pre-school curriculum and developing their teachers to ensure quality teaching and learning. Therefore pre-school education is in the spotlight.
34. In the training of kindergarten teachers in Singapore there is a strong emphasis on continuing professional development to ensure that the quality of teaching and learning is maintained. In Appendices (C) an individual and total professional development plan are attached that kindergarten teachers have to complete. These types of professional development plans would be part of the comprehensive CPD framework which is recommended in this technical report.
35. With the introduction of the 'refreshed kindergarten curriculum framework' in Singapore, the kindergarten teachers' role is now regarded as one of a **facilitator of learning and a reflective practitioner**<sup>110</sup>. Teachers plan and provide for learning in a variety of contexts and use a wide range of teaching strategies. They observe and monitor what and how children are learning and use the information to challenge them to create new understanding and relationships. These roles and responsibilities are pertinent as the recommended teacher training model includes similar concepts.

### B. NURSING

#### 1. A National/ Regional Example

36. In Appendices C there is a case study from Taiwan, from the College of Nursing (CON) in Taipei Medical University. It has been included as it gives a clear history of how it has progressed in terms of its development and therefore pertinent to institutes with aspirations to become 'centres of excellence.'
37. In addition the CON has courses in Community Nursing and moreover has a School of Management and Gerontology<sup>111</sup>. It therefore can offer rich experience and professional advice to those who are developing their own courses and curriculum in Elderly Care.
38. Another development and a recent one, has been a partnership between China and Taiwan in the field of Gerontology. In April 2013 China and the UK co-hosted a workshop on elderly care. The Research Center for Social Development of the DRC started the project in June 2012 with the support of the British Embassy's

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<sup>110</sup> For more information and for access to the new kindergarten curriculum framework which gives an in depth description of the roles and responsibilities of teachers as well as the principles underlying the changes in approach go to [www.moe.gov.sg/education/preschool](http://www.moe.gov.sg/education/preschool).

<sup>111</sup> For more information visit the site <http://www.tmu.edu.tw>



Prosperity Fund. Over the past year, the research group has interviewed Chinese government officials, carried out field research in Chongqing, Guangzhou, Hangzhou and Beijing, and held a workshop to share experiences in building an elderly care system from the UK, Japan and Taiwan.

39. The research team concluded that China's elderly care system has developed rapidly in recent years, but that there has been too much focus on residential care. Much elderly care in developed countries is provided at home and in the community. In addition, nearly 80% of institutional beds are occupied by healthy older people, who live there because they cannot access the right services and recreation opportunities at home. The research group suggests that the expansion of residential care should be postponed, and admission criteria should be developed for care homes to ensure they focus on those most in need of their support.
40. The research team<sup>112</sup> also made recommendations on strengthening and professionalising the elderly care workforce. They suggested:
  - providing subsidies for social security and higher salaries for care workers;
  - promoting professional training for care workers, especially on home care and community-based care;
  - establishing qualifications criteria for professional care workers, creating structures for them to be promoted through their careers and ensuring salaries reflect promotion;
  - promoting care workers' social status through awards and public messaging;
  - developing the workforce of elderly care related professionals, for example doctors, nurses, social workers and physiotherapists;
  - gradually opening up the elderly care training and service sector to overseas providers;
  - developing and regulating informal elderly care services;
  - encouraging innovation in elderly care technology to reduce labour forces needs;
  - widening the sources of funding for elderly care.

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<sup>112</sup> (Source: <https://www.gov.uk/government/world-location-news/uk-china-workshop-on-strengthening-elderly-care-workforce-in-china>)

## **2. International Examples**

41. In the UK all nurses must go through college or university training. One of the largest and most prestigious nursing centres in the UK is the School of Nursing in Manchester University. Critical to its success is the quality of teaching at the university. In terms of teaching standards the Quality Assurance Agency in the UK has awarded 32 of the Manchester University's School of Nursing subjects with an 'excellent' rating. In addition and pertinent to the aspirations of the Nanning Health School is that resources have been put into the development of a 'Centre for Excellence' for enquiry – based learning on the campus. This has helped it gain valid credibility with the likes of other prestigious universities in the UK, such as, Oxford and Cambridge. In 2008 the Research Assessment Exercise rated Manchester third in the UK only to Oxford and Cambridge in terms of 'research power.'
42. One area of nursing the UK is looking at is the relationship/communication with their patients. As with the Nanning hospital and clinic directors, there is concern as to how nurses deal with patients especially during ward rounds. In Appendices (C) an example of best practice for ward rounds designed by the Royal College of Nursing can be found. It is pertinent not only for clinical practice but also for improving relationships and communications between nurse and patient.

## **IV. Justification and Rationale**

43. The goal of the recommended 'Teacher Training Model' in Figure 1 below is two -fold: (a) to deliver quality training in both schools and at all levels and (b) to develop a sustainable cohort of trainers in each school able to continue training through PRESET, INSET and CPD and at both school-base and throughout the community. This model is based on the needs expressed during focused group discussions with key stakeholders at both schools and from the analysis of surveys sent to 30 hospital leaders, 50 nurses and 53 kindergarten principals.
44. In addition this training should be seen as part of a lifelong training process. Therefore the training model forms part of the continuing professional development (CPD) for staff. To this end it is envisaged the following will be the result:
  - Teachers in both schools will have strong methodological skills and awareness of teaching and learning as well as a good understanding of their own subject content.
  - Teachers will provide good pedagogical models for the students they teach.
  - Teachers will become more reflective and professionally more confident.
  - Optimum time will be given to practice in both sectors (Pre- School and Health).

- A cohort of 'Key Trainers' will be created over the course of the project in each school to provide INSET, CPD and curriculum development.
- Links will be made between pre-service (PRESET), INSET and CPD.
- Links will be made with employers throughout the training.
- Both urban and rural sites will be experienced.

#### **A. ASSUMPTIONS**

- Both schools are prepared to pilot the model and willing to make changes.
- Both schools are prepared to use some of their staff to build up a cohort of 'Key Trainers' responsible for training and curriculum development.
- Both schools recognise the importance of quality pedagogical skills for effective teaching and learning to take place.

## **V. Recommendations**

45. The following recommendations consider the above strengths and challenges and the implications for Teacher Training for Pre-School Education and Nursing:

### **A. TEACHER TRAINING INTERVENTIONS**

46. The best way of tackling most of the above mentioned Teacher Training challenges, and also a cross cutting theme, is providing quality capacity building of staff at all levels in these institutes. Building capacity of the teachers, students, managers and leaders will improve the professional skills of the labour forces. Women will specifically benefit in developing better teaching and nursing skills and in turn help support local economic and social development, a key goal for the Nanning Development and Reform Commission. The following Teacher Training interventions should develop and support the capacity building and sustainability in both schools and beyond.

- For upgrading of skills for current teaching staff in both schools, all teachers from both schools will require upgrading courses in the two following areas:

#### **1. Learner-centred methodology skills; The rationale for a course and modules on learner-centred methodology skills is:**

- It can improve the effectiveness of teachers' teaching and learning;
- It can develop essential skills that teachers and future teachers and nurses need in the work place, such as, critical thinking and analysis, problem-solving, teamwork etc.;
- It helps teachers understand their students better and more deeply and see them in a more holistic way;
- It is what the staff in both schools have identified and requested as their most urgent need.

#### **(i) Module and learner-centered learning resources development for specialised areas (in this case, Pre-School Education, Elderly Care, Rural Health Systems and Communication Skills). A course and modules on Materials Development is important for the following reasons:**

- Trainers and teachers could learn how to create materials that are learner-centred and task-based which promote creative, problem solving and critical thinking skills;
- Providing trainers and teachers with materials development skills makes them more independent and confident and provides an element of sustainability;
- Materials would be needs – based and reflect reality;

- The staff in both schools have identified it as a need and requested it.

## 2. Develop a cohort of Key Trainers

47. In order to make the whole Training Model sustainable it is recommended that a cohort of key trainers is developed in each school who will have defined roles and responsibilities. These Key Trainers will form the critical mass of change agents in each school responsible for different aspects of teaching and learning. They will be responsible for developing reflective educators capable of making their own professional decisions. For this reason a set of relevant and practical selection criteria will need to be developed. This should include performance and attitudinal behaviour criteria whilst they undergo the upgrading courses.
48. The Key Trainers should undergo the two upgrading courses above and be members of the teaching staff in each school. It is envisaged that an initial selection will be made from these courses.
49. For Nanning Health School 7 could be selected from the methodology course and 8 from the materials development course. This could be done incrementally over the course of the project or immediately in year one. Of the **15 Key Teacher Trainers** in Nanning Health School:
  - 4 will become Rural Health Teacher Trainers;
  - 4 will become Elderly Care Teacher Trainers;
  - 4 will become Materials Development Teacher Trainers and
  - 3 will be Methodology Teacher Trainers
50. For Number 4 School, 10 Key Trainers will be selected: 5 from the methodology course and 5 from the materials development course. Of the **10 Key Trainers** in No. 4 School:
  - 3 will be pre-school education Teacher Trainers
  - 4 will be Methodology Teacher Trainers and
  - 3 will be Materials Development Teacher Trainers
51. For both the numbers are estimates only and it will depend on capacity and availability of staff at a given time (e.g. at the start of the project there will be fewer in-service teachers available as they all need training and experience. After recruitment drive there would obviously be more teachers to draw on). It is envisaged that teacher trainers in each schools will work closely with one another and synergize their work where appropriate.

3. **PRESET (pre-service training): Train** new student pre-school teachers and  
new student nurses

52. New student pre-school teachers and new nurses will be taught by the teachers who have undergone the upgrading. Therefore they should provide a good model of student-centred methodology. In addition the teacher trainers can set up support systems (observation and feedback/ monitoring/ coaching/ mentoring) for new teachers and nurses whilst they are studying e.g. mentor schemes which will continue through to their induction phase when they start their first year in a school/ clinic/ hospital etc.
4. Upgrade (or re-certify) **existing teachers** in Kindergarten Schools in Nanning and existing Rural Health Practitioners
53. As part of the roles and responsibilities of the Key Trainers, they will be trained to be able to run INSET and CPD modular courses for (a) teachers already working but in need of either upgrading or re-certifying and: (b) for nurses and rural practitioners in need of updating their skills.

#### 5. Train Leaders and Managers

54. It is predicted that **leaders** and managers would follow similar intensive training to the teachers initially so as to ensure that each school has **a shared vision of effective teaching and learning**. 43 leaders and managers will be trained from No 4 School and 53 from Nanning Health School.
55. Additionally **leaders** and managers would also receive ongoing training through INSET/ CPD modules. Finally some leaders and managers should be selected to be part of the cohort of Key Trainers in each school.
6. Train **external** clients: Clinical supervisors, kindergarten directors, potential mentors at kindergarten schools, clinics and hospitals
56. Key Trainers would also be responsible for training those staff in schools, clinics and hospitals who are, in turn, responsible for overseeing student teachers' teaching practice and student **nurses'** clinical **practice**. The Key Trainers would train them in support systems and especially on the importance of observation and giving constructive feedback.

#### 7. Develop a Comprehensive Continuing Professional Development (CPD) Framework

57. Key Trainers, leaders and managers would be trained initially by external specialists in the design, **development** and implementation of a comprehensive CPD framework. This would ensure that most<sup>113</sup> of

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<sup>113</sup> I use the word 'most' as some training activities should be done for purely intrinsic value. However, initially, the training activities might have more of an extrinsic value for teachers and staff.

the training interventions were part of a structure that would link to a staff's career pathway.

8. **Provide** opportunities for National, Regional and Overseas Training
58. National, regional and overseas training would be offered to the Key Trainers, leaders and managers on the understanding that the study tours/ visits had pre and post educational tasks attached to them. It would be essential for those who had the opportunity to visit and experience other people, institutions, systems, countries and cultures, to share their experiences on their return in both a knowledgeable and practical way.
9. Provide a **monitoring** and evaluation framework for the training
59. Key Trainers and leaders would be trained by external specialist in how to monitor and evaluate all training activities. This would include keeping track of data through a Teacher Management Information System (TMIS) and conducting tracer studies. Information gleaned from such data would inform the existing CPD framework and training activities so as to make changes where/ if necessary.
60. A summary of who will be trained and types of training can be found in Appendix (8).

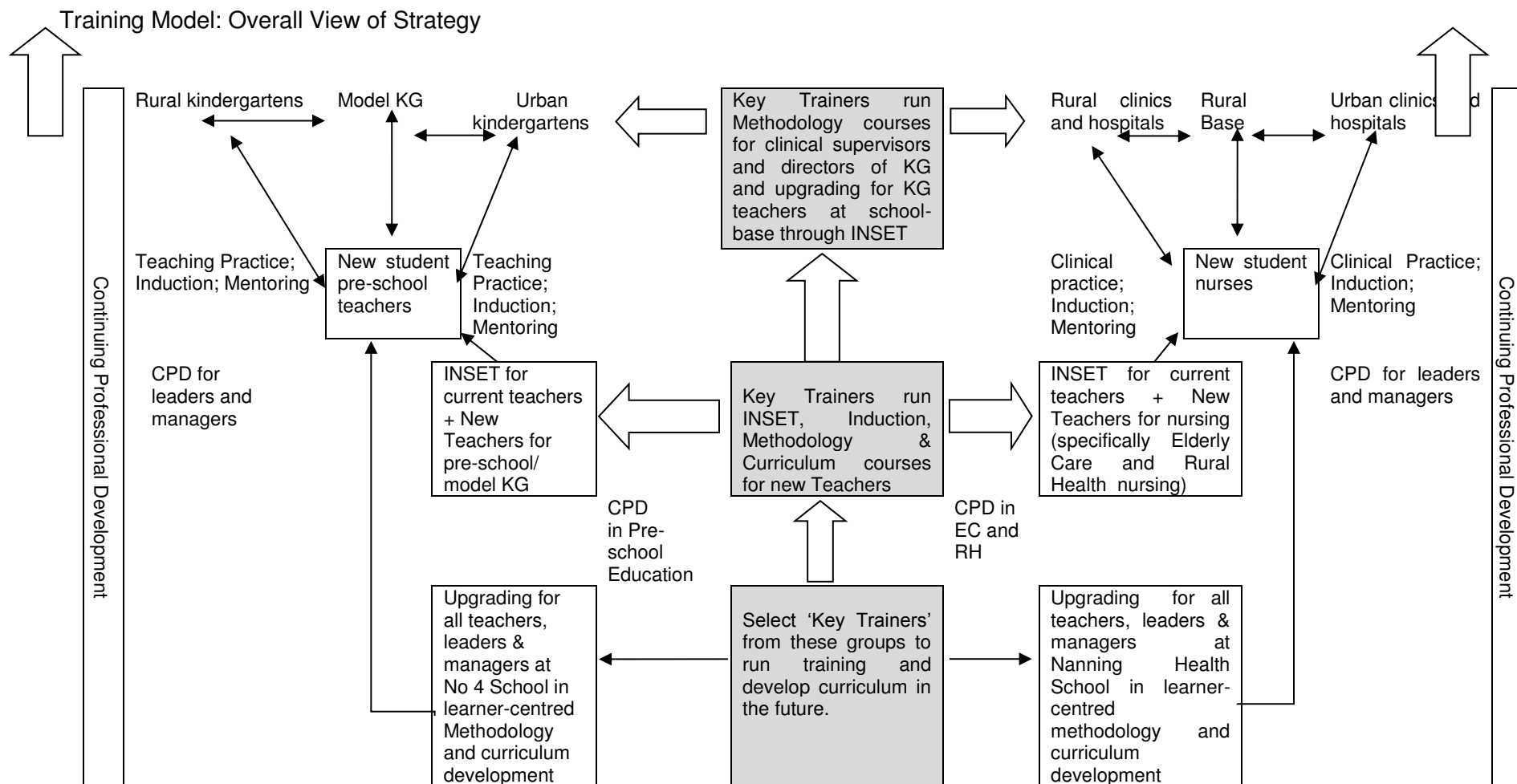


Figure 2: Teacher Training Model for No. 4 School and Nanning Health School



## B. IMPLEMENTATION OF THE TEACHER TRAINING MODEL

The Model (see figure 1 above for the overall view)

### Upgrading Teacher Skills at Number 4 School and the Nanning Health School

61. The survey analysis indicated that out of 114 Teachers in Nanning Number 4 School, '...99.1% of the Teachers are employed directly after graduating from normal school. There is only one teacher who has graduated with a pre-primary major and no-one has work experience in kindergarten.'
62. Conversely, Nanning Health School has, '...23 teachers who are employed directly after graduating with a nursing major and 18 teachers who have already worked in a nursing department (including elderly care nursing) and 57 teachers who have graduated from medical college'. However there is a demand and need for additional training in Elderly Care at a more advanced level, as well as an improvement in methodological skills of the Teachers.
63. The analysis reinforced the preliminary findings from the inception, '... the relative traditional teaching methods in both schools lead to an adverse impact on teaching effectiveness. The schools have also made it clear that "the training of teaching method is insufficient.'
64. Therefore it is recommended that teachers from both schools receive upgrading in two areas:

1. Learner- centred Methodology/ Pedagogical skills integrated with content;
2. Module and Learner Resources Development

School	1. Upgrading	2. Upgrading
School Number 4	Learner- Centred Methodology with Pre-School Education	Module and Learner Resources Development in Pre-School Education
Nanning Health School	Learner – Centred Methodology with content with Elderly Care	Module and Learner Resources Development in Elderly Care

#### 1. Learner- Centred Methodology Training

65. In terms of methodology a learner-centred, task-based methodology with a practical application of skills, knowledge and attitude is recommended and desired by the stakeholders. It is recommended that a learner-centred approach to the methodology training is used to increase teachers' methodology skills so that the teaching and learning in both schools becomes more task-based, learner centred, communicative, efficient and effective. So that teachers will be able to conduct structured lessons using a range of participatory techniques; plan and deliver lessons to students based on relevant and appropriate materials; facilitate effective teaching and learning using a range of classroom management techniques; reflect and give feedback on their own and other's teaching and learning.

66. A learner-centred approach to training does not imply that other approaches and methodologies are not introduced. Indeed it is recommended that as part of the learner-centred methodology course the first session/ module would be an introduction to different methods and approaches. The course would also introduce the idea of being eclectic and using the appropriate method depending on what is being taught.
67. An introduction to different methods and approaches will enable their students to use similar methods in their classes. Most importantly these 'Upgrading Courses' should be part of ongoing, lifelong training as part of the trainers continuing professional development (CPD).
68. The Learner- Centred Methodology Skills Training should include modules such as: Learning styles; Understanding your participants; The training cycle; Shape of a training session; Input techniques; Task types; Practising input and task; Setting objectives; Session/ Lesson planning; Giving instructions; Questioning, Eliciting and responding; Participatory work arrangement; Monitoring and discipline; Presentation skills; Communication skills; Using training aids; Output techniques; Micro-teaching; Observation; Giving constructive feedback; Mentoring/ coaching; CPD.

### **Two routes to Learner- Centred Methodology Training**

69. In order to ensure that all teachers at both schools have access to Learner-Centred Methodology training, two routes are suggested. The first is an intensive programme and the second an in-service (INSET) programme.

#### ***Route 1: Summer intensive training***

70. This Learner- Centred Methodology training would be for a group of 30 teachers. It has been suggested that the participants on this course would be the younger members of staff who teach general subjects. The Key or 'backbone' technical teachers would participate in the materials development training programme that would run parallel to this course in the summer. However it is recommended that all teachers eventually have the learner-centred methodology skills training during the project. In addition participant selection criteria should be developed for all the trainings to ensure those teachers with a commitment to change in their teaching and learning are selected.
71. The Learner- Centred Methodology training could be run during the summer period as this is when many in-service training (INSET) programmes in China are run. However the training would include Teaching Practice, so, if run during the summer months, 'guinea pig' students/ schools would have to be found.
72. It is envisaged that the Learner- Centred Methodology training would be 120 hours in length and run for 4 weeks. The first week would focus on methodology only, followed by 3 weeks of integrated methodology and content. Content for School Number 4 would be modules on Pre-school Education and for Nanning Health School the focus would be Elderly Care. In weeks 2-4 participants would also take part in

teaching practice, peer observation and feedback. Continuous assessment would be used from week1 to 3 using a competency-based framework and in week 4 there would be the final assessment.

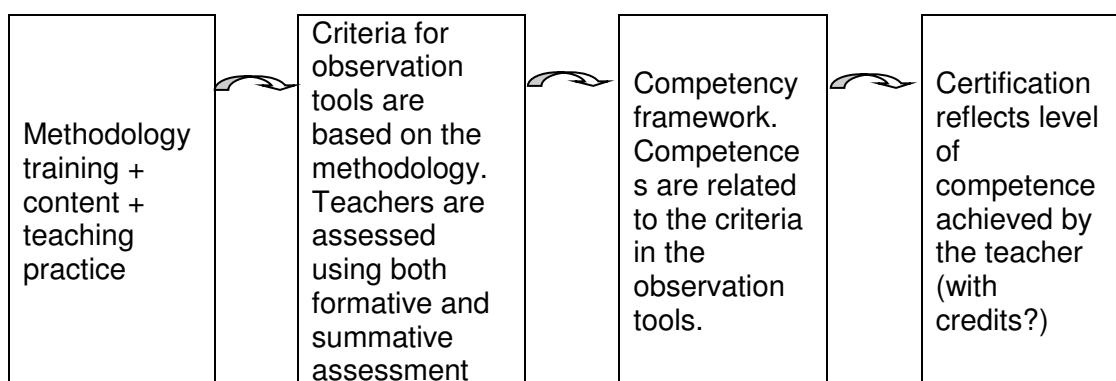
The summer training might look like this:

Week one	Week two	Week three	Week four
Methodology modules	Methodology + Content Teaching Practice Observation and feedback	Methodology + Content Teaching Practice Observation and feedback	Methodology + Content Teaching Practice Observation and feedback Final Assessment

Length: 120 hours (4 week programme)

### Competency – based framework for Assessment

73. The teachers would be assessed through observation and feedback. Observation tools and criteria would link to a competency-based framework which would provide observers with a range of statements for each area of criterion and at each competency level.
74. The benefits of using such a system would be:
  - It uses both formative and summative forms of assessment;
  - It ensures quality training;
  - It provides a level of standardisation



The intensive Learner- Centred Methodology training during the project might run like this:

Project years	School Number 4	Nanning Health School
Year 1	30 teachers trained in learner-centred methodology and content	30 teachers trained in learner-centred methodology and content
Year 2	30 teachers trained in learner-centred methodology and content	30 teachers trained in learner-centred methodology and content

75. After year two there would be enough 'Key Trainers' to continue the methodology training in the intensive format or through INSET.

## Route 2: INSET/ Peer teaching

76. Selected teachers who have successfully completed the intensive learner-centred methodology training can provide INSET methodology courses for the teachers who did not attend the summer training. The school should use the prescribed INSET days<sup>114</sup> set by the province. Some TVET schools use Tuesday afternoons after classes to do further study. Initially this time could be used to do the INSET.
77. The methodology programme would be modularised so that each module represents a 1.5-2 hour training session including practice/ micro-teaching time. Each trainer would train a group no larger than 21 participants (this number can be divided into 3 groups of 7 for micro-teaching and teaching/ clinical practice).
78. It is recommended that both routes are first delivered by external specialists, both national and international, to provide an effective model for future training. Delivery of these training programmes will be a model for participants (Teachers in the schools) and therefore should be delivered in a participatory and learner-centred way with ample practice time given. It is envisaged that some of the participants will be selected to form the cohort of 'Key Trainers' who will deliver the same programmes to other teachers.

Project years	School Number 4	Trainers	Nanning Health School	Trainers
Year 1	30 teachers trained in methodology and content	National and international specialists	30 teachers trained in methodology and content	National and international specialists
Year 2	30 teachers trained in methodology and content	Key teacher trainers	30 teachers trained in methodology and content	Key teacher trainers

## 2. Module and Learner Resource Development Training

79. The methodology used to deliver the module and learner resource development training should mirror that of the **methodology** programme, that is, it should be participatory and learner-centred. The goal would be to create a cohort of trainers who would be confident material developers in the future.
80. It is envisaged that the module and learner resource development training runs parallel to the methodology training and follows a similar route. Therefore, initially 30 teachers would be trained in the summer. These teachers would be the 'backbone' or technical teachers but again selection criteria would be developed to ensure that teachers committed to change in teaching and learning were selected.

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<sup>114</sup> There is some confusion as to how many days are prescribed which is perhaps an indication that they may not be used. One number that has been suggested is 360 hours every 5 years.

81. Those teachers not included in the summer training would be given INSET by selected teachers from the module and learner resource development programme.
82. The module and learner resource development training would include some/ all of the following steps:

Conduct a needs analysis  
 ↓  
 Develop learning outcomes  
 ↓  
 Develop skills standards (to be link with bench marks for curriculum development)  
 ↓  
 Develop formative and summative assessment  
 ↓  
 Develop the module content for INSET and CPD  
 ↓  
 Develop training delivery strategies using student- centered teaching and learning resources with an emphasis upon the practical application of skills, knowledge and attitudes.  
 ↓  
 Pilot, evaluate and modify as required  
 ↓  
 Review training materials to identify and remove gender/ ethnic stereotype  
 ↓  
 Seek approval from Bureau of Education and Bureau of Health (?)

83. The intensive module and learner resource development training during the project might look like this:

Project years	School Number 4	Nanning Health School
Year 1	30 teachers x 2 parallel courses trained in module and learner resource development for pre-school education	30 teachers x 2 parallel courses trained in module and learner resource development for Elderly Care
Year 2	30 teachers trained in module and learner resource development for pre-school education	30 teachers trained in module and learner resource development for Elderly Care

84. After year two there would be enough 'Key Trainers' to continue the module and learner resource development programme either in the intensive format or through INSET. It is recommended that both routes (the intensive and INSET) are first delivered by a national and international specialists to provide a quality model for future training. Delivery of these programmes will be a model for participants (Teachers in the schools) and therefore should be delivered in a participatory and learner-centred way with ample practice time given. It is envisaged that some of the participants will be selected to form the cohort of 'Key Trainers' who will deliver the same programmes to other teachers.

Project years	School Number 4	Trainers	Nanning Health School	Trainers
Year 1	30 teachers trained in curriculum	National and international specialists	30 teachers trained in module and learner resource development	National and international specialists
Year 2	30 teachers trained in curriculum development	No 4 School teacher trainers	30 teachers trained in module and learner resource development	Nanning Health School teacher trainers

85. In terms of the scope the materials development Appendix 11 describes what a module might look like and provides suggestions for CPD content.

### Cohort of 'Key Trainers'

86. In this training model Key Trainers would be selected from the Methodology and Module and Learner Resources Development Training courses from both schools. Key Trainers would be responsible for:
- Methodology training for new Teachers;
  - Methodology training for new trainee teachers / student nurses;
  - Module and Learner Resources development for Pre-School;
  - Module and Learner Resources development for Elderly Care;
  - Module and Learner Resources development for Rural Health;
  - Developing Continuing Professional Development programmes/modules;
  - Developing **reflective practitioners**, meaning that they are able to reflect on their own practice and have the professional confidence to make decisions about their own strengths and limitations.
87. The purpose of building up a cohort is to have a critical mass of change agents in each school who would drive change in curriculum and methodology.
88. The building of this cohort would be incremental because of staff shortages at present in both schools. During the first two years of the project both schools could be supported by external expertise.

Project years and training course	School Number 4 : Number of 'Key Trainers' selected	Nanning Health School number of 'Key Trainers' selected
<b>Year 1:</b> Learner- centred methodology	3	4
Module and Learner Resources development	3	4
<b>Year 2:</b> Learner-centred methodology	2	3
Module and Learner Resources development	2	4
<b>Total</b>	<b>10</b>	<b>15</b>

89. No 4 School cohort of Key Trainers: A total of 10 Key Trainers (5 from the methodology course and 5 from the materials development + members from the leader/ managers group) will be trained and developed to become Key Trainers in: Learner-centred methodology for pre-school education; materials development. The cohort of trainers will be responsible for INSET and CPD.
90. Nanning Health School cohort of Key Trainers: A total of 15 Key Trainers (7 from the methodology course and 8 from the materials development) will be trained and developed to become Key Trainers in: student-centred methodology for elderly care, rural and community care nursing; materials development. The cohort of trainers will be responsible for INSET and CPD.

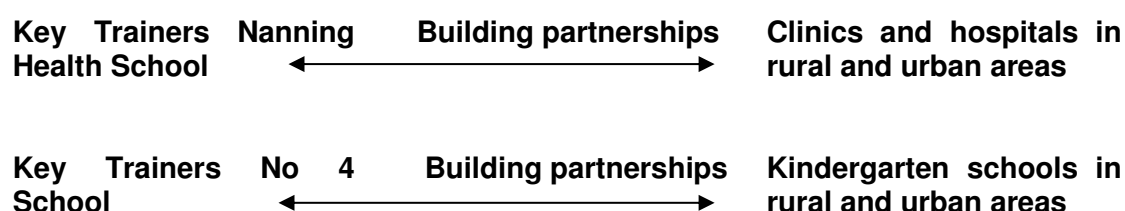
#### **New student pre-school teachers and new student nurses**

91. These students would be taught by the current and new Teachers in their subject areas. However it is envisaged that after the training of current and new teachers, subject content would be taught in a learner-centred, task-based and practical manner.
92. During their school-based training there would be an emphasis on:
- Micro-teaching/ nursing where teachers/ nurses practice a new techniques, activity or task;
  - Problem solving and creative thinking through task-based activities which relate to their field;
  - Observation of demonstrations of new techniques, tasks and so with an opportunity to use observation tools and have feedback sessions after the demo;
  - Peer observation and feedback
93. During their teaching/ clinical practice there would be an emphasis on;
- Observation of experienced teachers/ nurses;
  - Teaching practice/ clinical practice;
  - Observation and feedback sessions;

- Establishing Mentoring Schemes with teachers at schools;
  - Establishing Mentoring Schemes with nurses in hospitals/ clinics
94. After their training in Number 4 School and Nanning Health School:
- Mentoring Schemes to continue
  - Key Trainers from the schools provide follow up and support to the new teachers/ nurses during their induction phase at school/ clinic/ hospital/ care home

### **Training of external clients: Clinical supervisors and kindergarten directors**

95. This training model would require clinical supervisors, that is, those responsible for working with student nurses during their clinical practice and induction periods, to participate in Methodology Training. The Key Trainers from Nanning Health School would provide training for the clinical supervisors. This would mean that:
- Clinical supervisors would have the necessary skills to help and support the student nurses in their clinical practice and during their first year of nursing;
  - Direct links would be made between Nanning Health School and clinics/ hospitals so that strong professional and practical partnerships would be built.
96. The same would apply to the Kindergarten directors. The Key Trainers from Number 4 School would provide training for the directors who in turn would support and help the trainee teachers in their teaching practice and induction period. This would mean that:
- Kindergarten directors would have the necessary skills to help and support trainee kindergarten teachers in their teaching practice and their first year of teaching;
  - Direct links would be made between Number 4 School and Kindergarten Schools so that partnerships could be built.



### **Upgrading (re-certifying) existing kindergarten teachers**

97. Although a system for the upgrading of existing kindergarten teachers already exists which is meant to be run from School Number 4, there has been no intake.



98. This is because School Number 4 has only recently changed status to a pre-school provider. It was formally a primary school provider. Therefore it has no reputation in Early Years Education. This training model would help Number 4 School develop a quality upgrading/certification programme for those kindergarten teachers already teaching. It is recommended that an essential part of their training should be the Methodology programme. The table below shows how this might be done:

Participants	Content	Mode of delivery	Trainers	Length of programme	Cost
Kindergarten teachers already in service/teaching	E.g. Modules would include: Learner-centred Methodology Skills Pre-school education using student-centred skills etc General subjects: Maths, Mandarin etc using student-centred skills etc	Blended approach: face-to-face;  Distance education;  Teaching practice; micro-teaching; observation and feedback	Key Trainers from Number 4 School	2 courses @ 120 hours (4 weeks) per courses x 30 teachers per course Numbers unknown but groups of not more than 30 Intensive parallel courses x 2 run during the summer (August – {starting the third quarter of 2015 – year 2 of the project}).	Teacher pays? (to be decided)

99. School Number 4 is a recognised training base so it has the right to issue certificates. The Bureau of Education can authorise School Number 4 to issue certificates for existing and new teachers
100. Through the implementation of this training model it is envisaged that linkages with other Kindergarten providers will be made as well as with other PRESET providers, such as, the Normal university in Guangxi, Education College and other Vocational Colleges. In this way the GAR could develop comprehensive networks and links between PRESET-Induction periods- INSET and CPD. Additionally partnerships can be made between schools and employers both in the public and private sectors.

### **Training of School directors and Heads of Department**

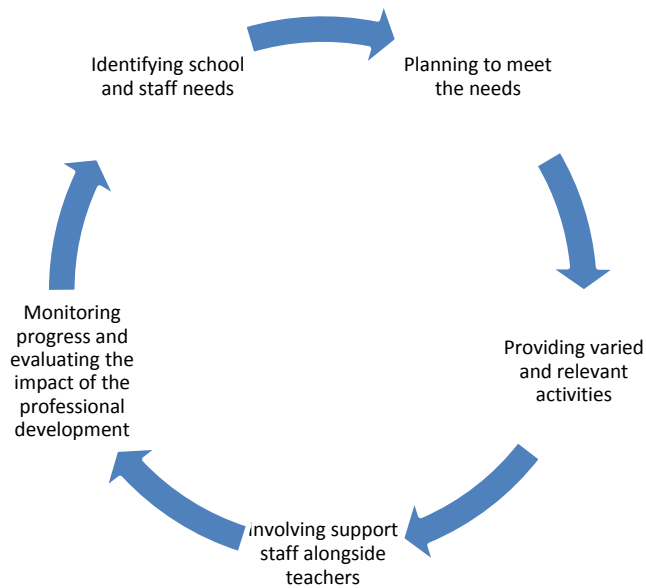
101. It is recommended that there would be parallel training for directors and heads of department during the summer intensive methodology and curriculum development training.
102. This training could be part of a modular continuing professional development framework for managers and leaders. The following is a module topic list which can be built on within a CPD framework:
- Management and Leadership;
  - Management tools and skills;
  - Teaching and Learning;
  - Communication Skills and Presentation Skills;
  - Health and Safety (including Environment);

- Sustainable Development;
- Continuing Professional Development

### **Continuing Professional Development (CPD)**

103. CPD runs throughout the training model because this is only part of the lifelong learning process for all levels of staff. It is envisaged that the Key Trainers and leaders would initially work with an external specialist to develop a comprehensive CPD framework for their schools.
104. Benefits of committing to a CPD system has strong international endorsement and research has found that when schools and institutions commit to supporting CPD they are more open and supportive; they have a collaborative culture instilled across the institute; staff have increased levels of self-esteem, self-confidence and enthusiasm. Therefore supporting CPD can:
  - Raise standards of achievement in pupils at all levels
  - Help staff to manage change
  - Lead to the personal as well as the professional development of staff
  - Improve the performance of individuals and institutions as a whole
  - Increase staff morale and sense of purpose and promote a sense of job satisfaction
  - Pull together the school's/ institution's vision for itself
105. An effective CPD framework will require a high level of commitment at both individual and institutional levels. There will need to be a level of individual responsibility on behalf of teachers and instructors to be responsible for their own professional development but equally a collective responsibility at institutional level to ensure that CPD can be accessed and provided.
106. Figure 3 shows the essential links in the CPD chain. Research has shown that CPD is most effective in the schools where the senior managers fully understood the connections between each link in the chain:

‘They recognised the potential of CPD for raising standards and therefore gave it a central role in planning for improvement. The teachers and support staff in these schools enjoyed high-quality CPD, which had been well chosen from a wide range of possible activities to meet their school's and their own needs. Schools which had designed their CPD effectively and integrated it with their improvement plans found that teaching and learning improved and standards rose.’ (www. Ofsted.UK)



**Figure 3: Links in the CPD chain'**

107. A CPD Framework for TVET Schools (with specific reference to Early Childhood Training and Nurses' Training) could include the following steps:

- Principles – a set of principles and values and information on relevant codes of conduct or practice for the range of staff in the schools. The principles should inform CPD policy.
- A learner-centred approach for implementing CPD.
- Learning culture.
- CPD processes (what stages/ cycles)
- Documenting CPD – recording CPD practice for directors, trainers and students and other staff, use of appropriate systems.
- Funding, resources and access to learning and qualifications – access to the range of learning activities, qualifications and support, including mentoring, assessment and coaching.
- Guidance and processes for registration – the role of appropriate regulatory or professional bodies.
- Career pathways – flexible routes to career enhancement.
- Monitoring and evaluation of CPD – systems and processes which focus on the impact and benefits for the people who use the services.

## **Monitoring and Evaluation**

108. Assessing the impact of training models and training activities on the individual and on the whole school/ institutional development is often the weakest part of the chain of planning activities. Therefore it is important to do it well. Recent research has found that impact evaluation is effective when there are:
- Clearly pre-defined outcomes and a suitable method for collecting evidence of its impact.
  - Some examples of suitable methods for collecting evidence are:
    - Discussions with teachers; heads; support staff; parents; colleagues or focus group
    - interviews
    - Pupil interviews
    - Focussed classroom observation
    - Using external expertise to gain a more objective opinion
109. This will be the responsibility of leaders and the Key Trainers in each school. It is also suggested that a TMIS is developed as well as tracer studies. It will be important that the teams responsible for monitoring and evaluating:
- understand how to evaluate quality and not just to monitor compliance;
  - are able to write guidelines on impact evaluation;
  - are able to analyse the data from an impact evaluation;
  - use the information from the evaluation to further improve teacher and training CPD at all levels.
110. For the overall implementation strategy see the Training Matrix in Appendices (A) (9 & 10).

## **Linkage to other sub-components**

111. The Teacher Training sub-component is an integral link to many of the other sub-components, specifically to:
- Curriculum development;
  - Elderly care;
  - The rural health training pilot;
  - Human resource development;

- Poverty, Social and Gender

112. The sub-components link because;

- They have been designed based on needs and specifically the needs of the staff in each of the project schools; School No 4 and Nanning Health School;
- They have been designed with consideration to best practice nationally, regionally and internationally;
- The training models in different sub-components link and were designed in a collaborative way so as to avoid duplication;
- The sub-components come under a student-centred, competency-based, life-long learning approach to teacher training and curriculum development;
- The CPD framework will provide staff with pathways to develop their own course of professional progression and this will link to human resource development plans for promotion and career development;
- There will teacher training and materials development in ethnic minority cultures and tradition (see TORs).

## ANNEXES

### **Annex 1. Persons and institutions and or organizations consulted, meetings held**

In the first intervention the consultant visited the following places and met the following people:

1. “Xin jia” kindergarten (private) 21 February 2013

People met:

- Principal of No 4 SVS: Ms Yang Xiaoling,
- Vice Principal of No 4 SVS: Mr. Chen Jianzi
- Director of No 4 SVS PMO: Mr. Zhong Yongqiang
- Director of kindergarten: Ms Yu Lian
- Teacher (graduate of No 4 SVS): Miss Lu Huifang

Students(internship): Miss Tan Jing, Ma Libin, Lei Ligui, Chen Shanshan, Xu Jingcai, Yang Jiaomei, and Liao Shulian

2. “Jai Li Yi Yuan Xin Kang” Nursing Home, 21 February 2013

People met:

- Director of Health School PMO: Mr. Zhen Changsheng
- Director of Nursing Home: Ms Deng Lijuang
- Deputy Director of Nursing Home: Ms Lin Yujie
- Director of nursing division (Nursing Home): Ms He Lanli
- Chief Nurse: Quan Qiuyan

People Visited on 25 Feb. Afternoon in the Nanning Health School

- Mr. Yang Lixing, Deputy principal
- Ms Chen Yuanying, Deputy principal (teaching affairs)
- Mr. Huang Junsheng, director of recruit and employment office
- Ms Wang Lanfen, personal division chief
- Mr. Zhong Deqiang, Mr Qin Hong, medical technology program
- Mr. Zheng Changsheng, director of school PMO
- Ms Sun Qian, Ma Ying, Mr Liang Kuan, Ms Lu Sumei, and Mr. Xia Niange, Nursing program
- Mr. Yi Yunlong, Feng Zhaoli, and Ling Chunyang, Teaching affairs division,
- Mr. Dong Yonggang, Rural Health program
- Ms Huang Ruolin, Dental Medical Technology program
- Mr. Liang Zhimin, and Ms Zhu Jingfen, Medical Basis program
- Ms Xie Xiukun, General and Basic Courses

## **Annex 2: Focus Group Questions**

Visit to a Private Kindergarten and a Care Home for the Elderly in Nanning City, Guangxi Province, PR China: 21 February 2013

### **Names of group visiting:**

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Dr Wenjin Wang: teacher Training Specialist  
Dr Terry Clement: Curriculum Specialist for Elderly Care  
Ms Helen Drinan: Teacher Training Specialist  
Dr Peter Huebner: Pre-school and Nursing Curriculum Specialist  
Other?  
Names of those interviewed: see Appendix 1

### **Purpose of visit**

To gather information on the curriculum and training of pre-school (kindergarten) teachers and nurses caring for the elderly  
To see how what they have learnt in Vocational / Health Schools is applied in the real context (or not)  
To identify strengths and gaps in the training / curriculum

### **Methodology**

The use of focus group questions will be used to gather information

### **Focus Group Questions**

Please note: They have an Educational rather than a Health slant but questions can be adapted to either. Please add or modify.

#### **Director (Principal)**

General

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How long been director? (Possible to ask about their own background – training and qualifications?)  
How is the old the school/ care facility?  
How many children/ pupils/ patients?  
How many teachers/ staff?  
How many classes/ rooms?  
How large are the classes?

#### **Teachers**

General

---

Name, age, where from?  
How long teaching/ caring?  
How many classes do you teach? How many patients do you have?  
How many in each class?

#### **Your teacher/nurse training programme**

Tell me about what you learnt during your training: topics, skills, micro-teaching/ nursing? Did you learn about Inclusive Education (including gender, disadvantaged and ethnic minorities, social equity and participation)?

How were you taught? What type of methods were used?  
What about teaching/nursing clinical/practice?

1. How long was your training?
2. Where did you do your TP/ NP?
3. How many clinical/practicums did you have?
4. Was it integrated into the program
5. What were you allowed to do

How long was your training?

Who were your trainers/ teachers?

What do you think were the objectives of your training?

How were you assessed?

Were you happy with your training? Why?/ why not?

What would you add to your training? What would you take away?

What was missing, do you think?

### **Applying what you learnt**

Teaching

What has been the most useful part of your learning that you have been able to apply in the classroom?

What has been the least useful.....?

How do you teach? What methods do you use? What activities/ techniques?

Nursing

How relevant was your training in preparing you to nurse?

Did the level of training match the level of responsibility you have in your job?

### **After training**

Do you have an Induction (apprenticeship) period at your new school/ hospital/care home? How long is it?

### **Mentoring and support**

Were you mentored during your training?

Are you mentored now e.g. in this school? By whom? How?

What type of support do you get from internal and external personnel?

### **Monitoring and evaluation**

Who monitors and evaluates your performance? Yourself/ peers/others? How is it done?

### **Continuing professional development**

Do you receive any continuing professional development ? e.g. courses in your school/ hospital/ institute? Courses outside the school/ hospital/ institute?

Do you do your own CPD? Extra courses? Further reading / study?

Do you do research – yourself or with peers e.g. classroom action research?



### Annex 3: Questions for Nanning Health School and No 4 School

访谈：Interview

1. how students are assessed入学要求
2. relationship with employers and parents.与用人单位和幼儿园家长的联系
3. **Methodology:** Who trains the trainers? Do they receive INSET? How often? How long? What methods do they use when teaching their students? Get some examples of the types of activities they use. What percentage of the students' training is theory and what percentage practical? How is it organised? Do they do any teaching practice in the rural areas?方法：谁培训培训者？在职培训？时间？正在使用的教学方法？举例课堂教学活动。理论与实践比例？理论课和实践课是怎么组织的？有没有在农村幼儿园的教学实践？
4. What support do graduates get when they start teaching/ nursing?
5. Is there a CPD system in place? If yes, please get more details.
6. How much time do graduates spend training/ practising in rural areas? Rural KG/ rural clinics?
7. **Assessment:** Does the school use an assessment system based on competencies? Do they have a framework already that we can build on? (Do they have copies? Can we get translations?) Do they have continuous assessment?评价：学校是否使用基于能力的评价体系？是否已有框架？（有无纸件？能否翻译？）有没有持续的评价？（四职和卫校）
8. **Curriculum:** What are the standards for the curriculum? Can we get a copy and get it translated? (same for the Health School). 课程：课程标准是什么？能否拿到纸件及翻译？（四职和卫校）
9. We need to know the training content and objectives of their training. If we can get copies of the curriculum and any syllabi – this would be very useful.学校的课程体系、课表、培养方案、学前教育教学法课程、老年护理课程的教材和人才方案。
10. Some teachers have mentioned they need better materials for Ethnic minorities. Can we find out more about this too:适用于少数民族的材料：
11. - Are there policies/ quota systems for ethnic minority students? Do they do tracer studies for these students e.g. do they get placed in rural schools/ ethnic minority areas or stay in urban areas?少数民族学生入学有指标吗？有无跟踪调查（在农村就业还是城市或少数民族地区？）
12. - What materials do they have at present for ethnic minorities?目前关于少数民族的材料有什么？
13. - Do they do any Ethnic Minority Language work with the KG students? 幼儿园学习少数民族语言吗？
14. **Employers:** What is the school's relationship with the employment market? Do they have any links/ partnerships? How does this affect the curriculum?学校和就业市场的联系？有无任何合作关系？如何影响课程？
15. **Public vs Private:** How many graduates go to public KG and how many to private? Do they keep statistics? Do they do any tracer studies?公办与民办：毕业生在公办幼儿园和民办幼儿园工作的比例？有无统计记录？有无毕业生跟踪调查？
16. **Parents:** Do they do any work with parents? Needs analysis? How do they find out what they want? How does this affect the curriculum?学校有

无和幼儿家长的联系？家长方面的需求调查？怎么了解家长的意愿？对课程的影响？

17. **Other:** Do they have links with KG schools in both urban and rural areas? Both public and private? Do they have links with Primary schools? Is there a link from KG to Primary? Are there 'cluster systems' of schools? 其他：  
是否与城市和农村幼儿园都有联系？与公办和民办？是否与小学有联系？  
幼儿园是否与小学有联系？有没有合作体系（关系体系）？

## Annex 4: Survey questions

### Kindergarten Survey A (for Director)

#### 幼儿园园长调查问卷

Dear Director,

This questionnaire is designed to find out the challenges you have with teaching practice in kindergarten and your requirements of the teacher training curriculum. The survey is taken anonymously, the survey results will be only be used for kindergarten teacher training curriculum reform. We hope to find ways to improve the kindergarten teacher training program with your participation and support. Please tick ("√") in the "□", or rank, or fill in the blank with your different ideas. Thanks for your support and cooperation!

尊敬的园长，您好！

本问卷旨在了解您在幼儿园教育教学工作中遇到的问题及对幼儿园教师培养培训课程的需求。调查采取不记名方式，调查结果仅供幼儿园教师培养培训课程改革所用。我们期望在您的参与和支持下，探索改革幼儿园教师培养培训课程的有效途径，**提升幼儿园教师培养培训质量。请根据题目相关要求，对符合您实际情况的选项“□”内划“√”，或对相关选项进行排序，也可将符合实际情况的内容填写在横线上。**衷心感谢您的支持与合作！

Background data needed to be filled in the blank基本信息填写：

Name单位名称（请详细填写）： Location单位所在地（城市、县镇、农村）：

Type of School (public/ private) 办园性质（公办/民办/其他）： \_\_\_\_\_ Size办园规模（班级数）：

Number of children enrolled在园幼儿人数： \_\_\_\_\_ Staff幼儿园教职工人数：

Teaching staff专任教师人数： \_\_\_\_\_ Teachers specialized in preschool education学前教育专业教师人数：

Teachers certificated专任教师中持有教师资格证人数：

School motto办园理念（或校训）：

Please choose only one answer to the following questions以下为单选题

1. How long have you been kindergarten teacher? 您从事幼儿园工作的年限：

☐ less than 3 years 3年以下 ☐ 3-5 years 3-5年 ☐ 5-10 years 5-10年 ☐ 10-15 years 10-15年

☐ above 15 years 15年以上

2. What's your major? 您所学专业：

☐ Preschool education teacher training program 学前教育专业 ☐ other teacher training programs 其他师范教育专业

☐ Non-related program 非师范教育专业

3. Do you have teacher certification? 您的教师资格证：

☐ None 没有 ☐ Yes but certification for primary school teacher 有小学教师资格证

☐ Yes and certification for kindergarten teacher 有幼儿园教师资格证

4. What is your technical title? 您的职称：

☐ None 无 ☐ 3<sup>rd</sup> grade primary 小学三级 ☐ 2<sup>nd</sup> grade primary 小学二级 ☐ 1<sup>st</sup> grade primary 小学一级

☐ Senior primary 小学高级 ☐ Senior secondary 中学高级

5. How familiar are you with 3-6-year-old children's education and care?您对3-6岁幼儿科学保育和教育知识的了解情况:

- ☐ Very much非常了解      ☐ Mostly基本了解      ☐ A little了解一些      ☐ Nothing不了解

6. How do you feel about the quality of the teaching staff in your kindergarten?您对本园幼儿教师整体素质的满意度如何:

- ☐ Completely satisfied非常满意      ☐ Satisfied比较满意      ☐ Just so so一般般  
☐ Unsatisfied不满意

Please fill in the blank with your ideas in the following questions 以下为填空题

7. If you send teachers for in-service training, what aspects do you expect her/him to be trained? 如果您送教师在职进修，最希望她进修什么内容？

- A                      B                      C

8. If you send teachers for in-service training, what are the difficulties?如果您送教师在职进修，困难是什么？

- A                      B                      C

9. What kind of kindergarten teachers are parents' preference? 您认为家长最喜欢什么样的幼儿教师?

- A B C

10. Have you heard of 'Continuing Professional Development,' (CPD)? If yes, please list three things you know about it:

A-----B-----C-----

11. What suggestions do you have to improve kindergarten teacher training program?您对现在的幼师培养有什么建议?

## Annex 5: Survey questions (teachers)

### Kindergarten survey B (for teachers)

#### 幼儿园教师调查问卷

Dear Teacher,

This questionnaire is designed to find out the challenges you have with your daily teaching practice in kindergarten and your requirements of the teacher training curriculum. The survey is taken anonymously, the survey results will only be used for kindergarten teacher training curriculum reform. We hope to find a way to improve kindergarten teacher training programs with your participation and support. Please tick, ("√") in the "□", or rank, or fill in the blank with your different ideas. Thanks for your support and cooperation!

尊敬的老师，您好！

本问卷旨在了解您在幼儿园教育教学工作中遇到的问题及对幼儿园教师培养培训课程的需求。调查采取不记名方式，调查结果仅供幼儿园教师培养培训课程改革所用。我们期望在您的参与和支持下，探索改革幼儿园教师培养培训课程的有效途径，提升幼儿园教师培养培训质量。请根据题目相关要求，对符合您实际情况的选项“□”内划“√”，或对相关选项进行排序，也可将符合实际情况的内容填写在横线上。衷心感谢您的支持与合作！

Please choose only one answer from the following questions 以下为单选题

1. How long have you been kindergarten teacher? 您从事幼儿园工作的年限:

☐ less than 3 years 3年以下    ☐ 3-5 years 3-5年    ☐ 5-10 years 5-10年    ☐ 10-15 years 10-15年

☐ above 15 years 15年以上

2. What's your major? 您所学专业:

☐ Preschool education teacher training program 学前教育专业    ☐ other teacher training programs 其他师范教育专业

☐ Non-related program 非师范教育专业

3. Do you have teacher certification? 您的教师资格证:

☐ None 没有    ☐ Yes but certification for primary school teacher 有小学教师资格证

☐ Yes and certification for kindergarten teacher 有幼儿园教师资格证

4. What is your technical title? 您的职称:

☐ None 无    ☐ 3<sup>st</sup> grade primary 小学三级    ☐ 2<sup>st</sup> grade primary 小学二级    ☐ 1<sup>st</sup> grade primary 小学一级

☐ Senior primary 小学高级    ☐ Senior secondary 中学高级

5. How familiar are you with 3-6-year-old children's education and care? 您对3-6岁幼儿科学保育和教育知识的了解情况:

☐ Very much 非常了解    ☐ Mostly 基本了解    ☐ A little 了解一些    ☐ Nothing 不了解

Please choose multiple answers to the following questions 以下为多选题

6. What challenges are you and your colleagues confronted with in your professional development? 您和您的同事在幼儿园教育教学活动中面临的最主要的问题:

☐ Outdated teaching content 教学知识陈旧老化    ☐ Lack of new teaching methods 缺乏对新的教育教学方法的了解和运用    ☐ Lack of awareness and methods of educational research 缺乏教学科研意识和方法

☐ Lack of pedagogical and psychological support 缺乏教育学、心理学背景知识的支持 ☐ Lack of educational information technology 缺乏对教育与信息技术手段的了解和掌握 ☐ A narrow range of background knowledge 知识面窄

☐ Lacking in professional identity

7. What skills do you need the most?

☐ classroom management ☐ teaching and learning

☐ applying/ practising new activities and techniques ☐ Literacy ☐ Numeracy

☐ using new teaching resources ☐ Giving peer feedback \_\_\_\_\_ ☐

Others 其他 \_\_\_\_\_

8. What content knowledge do you need the most? 您目前最需要哪方面的知识：

☐ Physical and mental development in early years 幼儿身心发展特点与规律的相关知识 ☐ Early childhood education

and care 幼儿保育和教育知识 ☐ Knowledge in the five learning areas required in the Guidelines for Kindergarten Education 幼儿园教育指导纲要要求的五大领域基本知识 ☐ Interpretation of related policies and documents 幼儿教育相关政策和文件解读

☐ Physical and mental development and education of children with special needs 特殊需要幼儿的身心发展特点及教育策略与方法等方面的知识 ☐ Teachers' mental health 教师心理健康知识 ☐ Others 其他 \_\_\_\_\_

9. What challenges do you think there are with the preschool education teacher training program? 您对您参加过的学前教育专业学习和培训怎么看，认为其中存在下列哪些问题：

☐ Over emphasis on professional and academic knowledge 课程内容过于注重知识的专业化和理论性 ☐ Outdated

and hard to learn 内容陈旧，偏深偏难 ☐ Knowledge and skills taught are unpractical 与一线教学实践联系不紧密

☐ Face-to-face classroom lecture is the main teaching mode 教育教学方式单一，主要是“面对面”式的课堂讲授 ☐ Lack of support (mentoring/ follow support) ☐ Lack of observation and constructive feedback

☐ Others 其他 \_\_\_\_\_ (请填写您认为存在的其他问题)

Please give your answers and rank them 以下为排序题

10. What are you unsure about in your daily educational practice? Please rank from the most unsure to least unsure. 您在日常教学中对哪一方面的内容最感到困难，请根据困难程度从强到弱，由左至右排序，在横线上填写选项前字母：

Most 最困难 \_\_\_\_\_ least 困难较小

A Teaching activities design 教学活动设计 B Formative/ summative Evaluation on teaching 教学评价 C Teaching activities organization and arrangement 教学活动组织与实施 D Communication and Interaction with children 师幼关系的处理 E Understanding of advanced educational philosophy 理解新教育理念 F Cooperating with families 家园共育 G Assessment

11. What program content do you think is the most helpful to your teaching practice? Please rank from the most helpful to the least 您认为下列哪些课程对您的教学实践最有用，请根据有用性程度从强到弱，由左至右排序，在横线上填写选项前字母

Most 最有用 \_\_\_\_\_ least 用处较小

A Teacher morality 师德修养类    B Mental health 教师心理健康类    C Early childhood psychology 幼儿心理学类    D Modern educational technology 现代教育技术类    E Job skills 教学技能技巧类    F Advanced educational theories 现代教育理论类    G Classroom management 班级管理类

12. In your daily teaching activities, what job skills and activities do you think you should have? Please rank from the most-needed to least-needed 在日常教育教学活动中，您认为目前最需要提升的教育教学能力有哪些，请根据需要程度从强到弱，由左至右排序，在横线上填写选项前字母：

Most 最需要 \_\_\_\_\_  
 \_\_\_\_\_ least 弱需要

A Teaching activities design 教学活动设计能力    B Reflecting 教学反思能力    C Initiate and provide materials for games 开展并支持游戏    D Making use of environmental resources 教学资源运用    E Setting up rooms 环境创设能力    F Formative Evaluation 教学评价能力    G Parents work 家长工作能力    H Making use of educational technology 运用教育技术的能力    I Educational research 教学科研能力    I Observation and Giving constructive peer feedback    J Continuing Professional Development    K Materials development

## **Annex 6. Suggested generic methodology of training skills**

Methodology for teacher trainers of Kindergarten teachers and Nurses (to be developed into a 120 hour programme for trainers)

- *Learning styles*
- *Understanding your participants*
- *The training cycle*
- *Shape of a training session*
- *Input techniques*
- *Task types*
- *Practising input and task*
- *Setting objectives*
- *Session planning*
- *Giving instructions*
- *Questioning, Eliciting and responding*
- *Participatory work arrangements*
- *Monitoring and discipline*
- *Presentation skills*
- *Communication Skills*
- *Using training aids*
- *Output techniques*
- *Observation*
- *Giving constructive feedback*
- *Mentoring/ coaching*
- *CPD*



## **Annex 7. The characteristics of effective learning and areas of learning and development for early years and beyond**

### **Characteristics of effective learning**

A child relates to people and things through the characteristics of effective Learning, which move through all areas of learning:

- playing and exploring
- active learning
- creating and thinking critically

The ways in which the child engages with other people and their environment – playing and exploring, active learning, and creating and thinking critically – underpin learning and development across all areas and support the child to remain an effective and motivated learner.

### **Areas of learning and development**

#### **Core Areas**

Core areas are fundamental, work together, and move through to support development in all other areas. The prime areas begin to develop quickly in response to relationships and experiences, and run through and support learning in all other areas. The prime areas continue to be fundamental throughout the EYFS.

- Personal, Social and Emotional Development
- Communication and Language
- Physical Development

#### **Specific areas**

Specific areas include essential skills and knowledge for children to participate successfully in society. The specific areas include essential skills and knowledge. They grow out of the prime areas, and provide important contexts for learning.

- Literacy
- Mathematics
- Understanding the World
- Expressive Arts and Design

#### **Context**

Children develop in the context of relationships and the environment around them. This is unique to each family, and reflects individual communities and cultures. Both characteristics of effective learning and learning and development are integrated.

### Annex 8. Summary of whom to train and types of training

Who? \ What?	Upgrading course <sup>115</sup>	PRESET	Induction	INSET	CPD
Current teachers at No 4 School	✓			✓	✓
Current teachers at NNHS	✓			✓	✓
New teachers for No 4 School			✓	✓	✓
New teachers for the NNHS			✓	✓	✓
Directors/ Heads of Dept in No 4 School	✓			✓	✓
Directors/ Head of Dept in the NNHS	✓			✓	✓
Clinical mentors in hospitals/ clinics	✓			✓	✓
Kindergarten Directors and mentors				✓	✓
New student teachers at No 4 School		✓	✓	✓	✓
New student teachers at No 4 School for rural and EM areas		✓	✓	✓	✓
New student nurses at the NNHS		✓	✓	✓	✓
Kindergarten teachers on-the-job	✓				✓
Nurses on-the-job	✓				✓
Care/ health facility directors	✓				✓
Administrative staff in both schools	✓				✓

<sup>115</sup> Upgrading courses are part of INSET but have been separated to highlight their importance.

### Annex 9. Training Matrix

School	Type of Training	Where and Mode of delivery	Length of training course	Number and Target group	Trainers/ instructors
No 4 School	<p>Upgrading: Generic Student – centred methodology skills with Pre-school education: Core modules: Personal, Social and Emotional Development; Communication and Language; Physical Development Specific modules: Literacy; Mathematics; Understanding the World; Expressive Arts and Design Rationale: Teachers and leaders at both schools have identified the lack of methodology skills as a key challenge and a hindrance to effective teaching and learning. Therefore this initiative is needs- based and derives from stakeholders' concerns.</p>	<p>Local training Student-centred methodology: Theory and practice are integrated. Training practice to be conducted initially through micro-training and then using real classes in the school (Model Kindergarten in school No 4 to also be used as Training and Research Centre).</p>	<p>2 courses @ 120 hours (4 weeks) per courses x 30 teachers per course Intensive parallel courses x 2 run during the summer (August – {starting the third quarter of 2014} which is the normal INSET month for teachers) with approx 30 teachers per training group @ 120 hours per course (4 weeks) All teaching staff need student-centred methodology skills training. So the intensive course will be followed by ongoing INSET/ CPD for the remaining 54 teachers, run at school-base by selected trainers from the 60 already trained, throughout the project years.</p>	<p>60 of 114 teachers in the No 4 School which should include relevant heads of Dept. From the 60 teachers, 5 will be selected to become Key Trainers in student-centred methodology, responsible for the INSET/ CPD of the other teachers in the school.</p>	<p>national and international consultants In years 2-3 of the project the INSET and CPD will be supported by national and international consultants. (to help set up support systems/ CPD frameworks for INSET and CPD)</p>
	<p>Module and learning resources development for pre-school education Rationale: This was another area of challenge identified by the key stakeholders; a lack of skilled materials developers. Developing a cohort of key teachers/ trainers who can develop materials and learning resources will not only be beneficial to teaching and learning but also be more sustainable. The schools will not always have to rely on external help which has often proved ineffective.</p>	<p>Local training Blended mode (face to face; use of ICT; piloting) with the opportunity to pilot materials developed in No 4 School, in the model kindergarten and in regional sites.</p>	<p>1 course @ 60 hours (2 weeks) x 25 teachers One intensive courses @ 60 hours each x approx 25 teachers. Run in August starting third quarter of first year of project. Not all teachers need this training. 5 Key Trainers selected from the 25 will run INSET/CPD for other teachers interested in materials development.</p>	<p>25 of the 56 specialist teachers (meaning those teachers specialising in Pre-School/ Early Years Education) From the 25, 5 will be selected to be Key Trainers for materials and learning resource developers responsible for the INSET/ CPD of the other teachers.</p>	<p>national and international consultants  In years 2-3 of the project the INSET and CPD will be supported by national and international consultants. (to help set up support systems/ CPD frameworks for INSET and CPD)</p>

School	Type of Training	Where and Mode of delivery	Length of training course	Number and Target group	Trainers/ instructors
	<p>Training of Trainers A total of 10 + (5 from the methodology course and 5 from the materials development + members from the leader/ managers group) Key Trainers will be trained and developed to become Key Trainers in: student-centred methodology for pre-school education; materials development. The cohort of trainers will be responsible for INSET and CPD.</p> <p>Rationale: Developing a 'cohort of trainers' is an innovative idea (for the school) which will require time and commitment from both schools. However the cohort will provide a critical mass of change agents. They will provide quality teaching and learning inputs and sustainability. Therefore after the project ends this cohort of trainers will continue to develop and run INSET/ CPD courses for existing teachers, new teachers and teachers/ directors working outside the school.</p>	<p>Local training Using a blended approach so that trainers experience different types of methods and a variety of activities; face-to-face, ICT; networking, research using the Model Kindergarten etc.</p> <p>National<sup>116</sup> training and linkages Exchange visits to other provinces/ municipalities to learn from 'best practice' e.g. Beijing and BNUK (Beijing Normal University Kindergarten)</p> <p>Building networks with other centres of excellence e.g. China Normal University in Shanghai</p> <p>Regional training Study tour to Singapore to look at how the Early Years Curriculum Framework is implemented.</p>	<p>2 courses @ 30 hours (1 week each) per year for length of project x 10 trainers in August 2015/ 2016 or before during term time One week intensive courses run throughout years 2, 3 and 4 of the project on the following areas: competency –based curriculum and assessment; Developing CPD frameworks; additional training on student –centred methods and materials development. As part of the trainers professional development they will visit at least 2 national examples of best practice in early years/ kindergarten education and development. e.g. one week in Beijing x 10 return flights to Beijing x 10 per diems (accommodation and meals) x 10 e.g. one week in East China Normal University/ Guangzhou/ Nanjing: return flights x 10 per diems x 10 10 day visit to Singapore Return flights to Singapore x 10 Per diems x 10 Visa and admin costs x 10</p>	10 trainers from No 4 School	<p>In years 2-4 of the project the INSET and CPD for the trainers will be supported by national and international consultants. (to run training of trainers; help set up support systems/ CPD frameworks for INSET and CPD)</p>

<sup>116</sup> The place names and countries put forward for national, regional and international study tours are SUGGESTIONS ONLY and to help with costing and budgeting. Each school will make its decision on where the study tours might be.

School	Type of Training	Where and Mode of delivery	Length of training course	Number and Target group	Trainers/ instructors
	<p>Training of leaders and Managers</p> <p>Training in Teaching and Learning/ Management and Leadership + modular courses to continue as INSET/ CPD</p>	<p>Local Training</p> <p>Student-centred training courses</p> <p>National training and linkages</p> <p>Exchange visits to other provinces/ municipalities to learn from 'best practice' e.g. Beijing and BNUK (Beijing Normal University Kindergarten)</p> <p>Building networks with other centres of excellence e.g. China Normal University in Shanghai</p> <p>Regional/ International training</p> <p>Study tour to Singapore to look at how the Early Years Curriculum Framework is implemented.</p> <p>Study tour to Germany</p>	<p>2 courses @ 120 hours (4 weeks) per courses x 22 leaders/ managers per course</p> <p>Intensive parallel courses x 2 run during the summer (August – {starting the third quarter of 2014}) with approx 22 leaders/ managers per training group.</p> <p>The intensive course will be followed by ongoing INSET/ CPD run at school-base by the cohort of trainers (this cohort may include members from this group)</p> <p>As part of the leaders/ managers professional development they will visit at least 2 national examples of best practice in early years/ kindergarten education and development.</p> <p>Only the 4 Key Trainers from the group would go on the national visits.</p> <p>Half of the group (22) would do the regional tours and half the group (22) the international tours. e.g. one week in Beijing x 4 return flights x 4 per diems (accommodation and meals) x 4 e.g. one week in East China Normal University/ Guangzhou/ Nanjing: return flights x 4 per diems x 4</p> <p>10 day visit to Singapore</p> <p>Return flights x 22</p> <p>Per diems x 22</p> <p>Visa and admin costs x 22</p> <p>2 week visit to Germany Return flights x 22 Per diems x 22 Visa and admin costs x 22</p>	<p>43 leaders and middle managers.</p> <p>4 would be selected from this group to join the cohort of trainers</p>	<p>national and international consultants</p> <p>In years 2-3 of the project the INSET and CPD will be supported by national and international consultants. (to help set up support systems/ CPD frameworks for INSET and CPD)</p>

School	Type of Training	Where and Mode of delivery	Length of training course	Number and Target group	Trainers/ instructors
	Upgrading of existing teachers/ directors in public and private kindergartens Training would focus on 'supervisory skills:' observation and feedback; mentoring, coaching; action research; facilitating	Local training Student-centred methodology: Theory and practice are integrated. Training practice to be conducted initially through micro-training and teaching practice using the Model Kindergarten in school No 4 . Then using their own classes for TP.	2 courses @ 120 hours (4 weeks) per courses x 30 teachers per course Numbers unknown but groups of not more than 30 Intensive parallel courses x 2 run during the summer (August – {starting the third quarter of 2015 – year 2 of the project}). These courses would be run by members of the cohort of Key Trainers. 4 trainers x 4 weeks 60 teachers x 4 weeks Transport and logistics costs	60 + teachers and directors of public and private kindergartens. From this group, potential mentors would be selected.	Key Trainers from cohort of trainers in No 4 School.
NNHS	Generic student-centred methodology skills with Medical care nursing; Elderly care nursing; Rural/ community care nursing Rationale: Teachers and leaders at both schools have identified the lack of methodology skills as a key challenge and a hindrance to effective teaching and learning. Therefore this initiative is needs- based and comes from the stakeholders.	Local training Student –centred methodology: Theory and practice are integrated. Training practice to be conducted initially through micro-training and then training practice in real clinics hospitals – including using the project's rural training bases.	2 courses @ 120 hours (4 weeks) per course x 30 teachers per course Intensive courses run during the summer (August – {starting the third quarter of 2014}) with approx 30 teachers per training group. 2 parallel courses run in the first year and one more in the second year. All teaching staff need Methodology skills training. So the intensive course will be followed by ongoing INSET/ CPD run at school-base throughout the year for the remaining 138 teachers.	100 of 238 teachers in the Nursing Dept which would include relevant heads of dept  From the 100, 7 will be selected to become Key Trainers in student-centred methodology, responsible for the INSET/ CPD of the other teachers in the school	national and international consultants  In years 2-3 of the project the INSET and CPD will be supported by national and international consultants. (to help set up support systems for INSET and CPD)

School	Type of Training	Where and Mode of delivery	Length of training course	Number and Target group	Trainers/ instructors
	<p>Module and learning resources development for elderly care and rural/ community care nursing</p> <p>Rationale: This was another area of challenge identified by the stakeholders; a lack of skilled materials developers. Developing a cohort of key teachers/ trainers who can develop materials and learning resources will not only be beneficial to teaching and learning but also be more sustainable. The schools will not always have to rely on external help which has often proved ineffective.</p>	<p>Local training</p> <p>Blended learning with piloting of materials and resources developed in NNHealth School and in clinical and rural health bases outside the school.</p>	<p>2 courses @ 60 hours (2 weeks) x 25 teachers</p> <p>Two intensive parallel courses@ 60 hours each x approx 25 teachers in each. Run in August starting third quarter of first year of project.</p> <p>Not all teachers need this course. 10 Key Trainers selected from the 50 will run INSET/CPD for other teachers interested in materials development</p>	<p>50 out of 179 specialist teachers (meaning those teachers specialising in Elderly Care and rural community care nursing)</p> <p>8 out of 50 will be selected to follow up by running ongoing INSET/ CPD at school-base and regionally throughout the year. This would include piloting of materials etc.</p>	<p>national and international consultants</p> <p>In years 2-3 of the project the INSET and CPD will be supported by national and international consultants. (to help set up support systems for INSET and CPD)</p>
	<p>Training of Trainers</p> <p>A total of 15 (7 from the methodology course and 8 from the materials development) Key Trainers will be trained and developed to become Key Trainers in: student-centred methodology for elderly care, rural and community care nursing; materials development. The cohort of trainers will be responsible for INSET and CPD.</p> <p>Rationale: Developing a 'cohort of trainers' in an innovative idea which will require time and commitment from both schools. However they will provide quality teaching and learning inputs and sustainability. Therefore after the project ends this cohort of trainers will continue to develop and run</p>	<p>Local training</p> <p>Using a blended approach so that trainers experience different types of methods and a variety of activities; face-to-face, ICT; networking, research using the rural bases, clinics and hospitals etc.</p> <p>National training and linkages</p> <p>Exchange visits to other provinces/ municipalities to learn from 'best practice' e.g. e.g. Beijing to link with the work the Development Research Centre of the State Council of China (DRC) has done on Elderly Care</p> <p>Building networks with other</p>	<p>2 courses @ 30 hours (1 week each) per year for length of project x 15 trainers in August 2015/ 2016 or during term time</p> <p>One week intensive courses run twice throughout years 2, 3 and 4 of the project on the following areas: competency –based curriculum and assessment; Developing CPD frameworks; additional training on student – centred methods and materials development. August could be used for some of this TOT.</p> <p>As part of the trainers professional development they will visit at least 2 national examples of best practice in elderly care, rural and community care nursing; e.g. one week in Beijing x 15 return flights x 15 per diems (accommodation and meals) x 15</p>	<p>15 trainers from NN Health School</p>	<p>In years 2-4 of the project the INSET and CPD for the trainers will be supported by national and international consultants. (to run training of trainers; help set up support systems/ CPD frameworks for INSET and CPD)</p>

School	Type of Training	Where and Mode of delivery	Length of training course	Number and Target group	Trainers/ instructors
	INSET/ CPD courses for existing teachers, new teachers and teachers working outside the school in.	centres of excellence e.g. . Dalian / Changsha as mentioned in The Elderly Care technical report. Regional training Study tour to Taiwan	e.g. e.g. one week in Dalian or Changsha: return flights x 15 per diems x 15  10 day visit to Taiwan (Taiwan was recently used as a study tour venue by the Development Research Centre of the State Council of China (DRC) during their research in strengthening the elderly care workforce in China).  Return flights to Taiwan x 15 Per diems x 15 Visa and admin costs x 15		
	Training of leaders and Managers Training in Teaching and Learning/ Management and Leadership + modular courses to continue as INSET/ CPD	Local Training Student-centred training courses  National training and linkages Exchange visits to other provinces/ municipalities to learn from 'best practice' e.g. Beijing to link with the work the Development Research Centre of the State Council of China (DRC) has done on Elderly Care Building networks with other centres of excellence e.g. Dalian / Changsha as mentioned in The Elderly Care technical report. Regional/ International training Study tour to Taiwan to look at how Elderly Care system is implemented	2 courses @ 120 hours (4 weeks) per courses x 26 leaders/ managers per course Intensive parallel courses x 2 run during the summer (August – {starting the third quarter of 2014}) with approx 26 leaders/ managers per training group @ 120 hours per course. The intensive course will be followed by ongoing INSET/ CPD run at school-base by the cohort of trainers (this cohort may include members from this group) As part of the leaders/ managers professional development they will visit at least 2 national examples of best practice in elderly care and rural/ community care nursing.. Only the 6 Key Trainers from the group would go on the national visits. Half of the group (26) would do the regional tours and half the group (26) the international tours.	53 leaders and middle managers. 6 would be selected from this group to join the cohort of trainers	national and international consultants  In years 2-3 of the project the INSET and CPD will be supported by national and international consultants. (to help set up support systems/ CPD frameworks for INSET and CPD)



School	Type of Training	Where and Mode of delivery	Length of training course	Number and Target group	Trainers/ instructors
		Study tour to Canada (see Elderly Care Technical Report) or the UK, Manchester University Nursing School	<p>e.g. one week in Beijing x 6 return flights x 6 per diems (accommodation and meals) x 6 e.g. one week in Dalian or Changsha: return flights x 6 per diems x 6</p> <p>10 day visit to Taiwan (Taiwan was recently used as a study tour venue by the Development Research Centre of the State Council of China (DRC) during their research in strengthening the elderly care workforce in China). Return flights x 26 Per diems x 26 Visa and admin costs x 26 2-week study tour to Canada Return flights x 26 Per diems x 26 Visa and admin costs x 26 Or 2-week study tour to UK Return flights x 26 Per diems x 26 Visa and admin costs x 26</p>		

School	Type of Training	Where and Mode of delivery	Length of training course	Number and Target group	Trainers/ instructors
	Training of existing clinical practitioners (supervisors)/ nurses/ directors in hospitals and clinics in rural and urban areas of GZAR etc Training would focus on 'supervisory skills:' observation and feedback; mentoring, coaching; action research; facilitating	Local training Student-centred methodology: Theory and practice are integrated. Clinical practice to be conducted initially through micro-training and using the project rural bases . Then using their own clinics/ hospitals.	2 courses @ 120 hours (4 weeks) per courses x 30 health practitioners per course Numbers unknown but groups of not more than 30 health practitioners Intensive parallel courses x 2 run during the summer (August – {starting the third quarter of 2015 – year 2 of the project}). These courses would be run by members of the cohort of Key Trainers. 4 trainers x 4 weeks 60 health practitioners x 4 weeks Transport and logistics costs	60 + teachers and directors of public and private kindergartens From this group potential mentors would be selected	Key Trainers from cohort of trainers in NN Health School.

KEY      CPD      Continuing Professional Development  
              INSET      In-service training  
              TP      Teaching Practice

### Annex 10.: Implementation Plan for Teacher Training

Indicative Activities	2013	2014				2015				2016				2017				2018			
Implementation Period October 2013 - December 2017	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
1.2 Teacher Training																					
1.2.1 Upgrade selected teachers in learner-centred methodology skills in No 4 School and Nanning Health School																					
1.2.2 Upgrade selected teachers in module and learning resources development in No 4 School and Nanning Health School																					
1.2.3 Select and develop Key Trainers in pre-school education, elderly care and rural health using learner-centred methodology (including training in competency-based curriculum and assessment and CPD frameworks)																					
1.2.4 Develop Key Trainers of module and learning resources development (including training in competency-based curriculum and assessment and CPD frameworks)																					

Indicative Activities	2013	2014				2015				2016				2017				2018			
Implementation Period October 2013 - December 2017	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
1.2.5 National networking visit to Beijing for Key Trainers at No 4 School																					
1.2.6 National networking visit to Shanghai/ Guangzhou/ Nanjing for Key Trainers at No 4 School																					
1.2.7 Regional study tour to Singapore for Key Trainers at No 4 School																					
1.2.8 National networking visit to Beijing for Key Trainers at Nanning Health School																					
1.2.9 National networking visit to Dalian/ Changsha for Key Trainers at Nanning Health School																					
1.2.10 Regional study tour to Taiwan for Key Trainers at Nanning Health School																					
1.2.11 Train new student pre-school teachers and new student nurses																					
1.2.12 Upgrade existing teachers in KG schools and rural health practitioners																					

Indicative Activities	2013	2014				2015				2016				2017				2018			
Implementation Period October 2013 - December 2017	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
1.2.13 Train leaders and managers at No 4 School and Nanning Health School in teaching & learning, leadership CPD, Competency based frameworks etc																					
1.2.14 National networking visit to Beijing for leaders and managers at No 4 School																					
1.2.15 National networking visit to Shanghai/ Guangzhou/ Nanjing for leaders and managers at No 4 School																					
1.2.16 Regional study tour to Singapore for leaders and managers at No 4 School																					
1.2.17 International study tour to Germany for leaders and managers at No 4 School																					
1.2.18 National networking visit to Beijing for leaders and managers at Nanning Health School																					
1.2.19 National networking visit to Dalian/ Changsha for leaders and managers at Nanning Health School																					

Indicative Activities	2013	2014				2015				2016				2017				2018			
Implementation Period October 2013 - December 2017	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
1.2.20 Regional study tour to Taiwan for leaders and managers at Nanning Health School																					
1.2.21 International study tour to Canada OR UK for leaders and managers at Nanning Health School																					
1.2.22 Train external clients in KG schools, clinics and hospitals in rural and urban areas																					

Key

Intensive training inputs for teachers, trainers, leaders and external clients	
INSET and CPD modular courses which should be ongoing	
National, regional and international networking, study tours	

## **Annex 11. Materials Development**

### **A Scope of materials development**

The Materials Development teams would be responsible for developing modules and learning resources for continuing professional development. Below is a description of what the CPD module might look like. This is followed by a table with suggested modular content.

#### **Module no.**

This refers to either a consecutive number for a series of modules e.g. one, two three etc or it may refer to a number in a set of modules e.g. Inclusive Education: Module Number 1; Inclusive Education: Module 2 etc.

#### **Mode of delivery**

This refers to the different ways a module might be delivered and prepares the learner what to expect in terms of ways of working. The following modes of delivery are suggested:

- Face to Face summer courses
- Face to face in No 4 and Nanning Health schools
- Distance learning
- Blended learning
- Workshop
- Seminar
- Institutional/ university training
- Township/ village level training

#### **Title of module**

This will be the general title, for example, 'Classroom Management', and then each unit within the module will have a specific title. It will depend on the subject area as to how many units there are per module.

#### **Duration of module**

This will describe how many units are in the module. Each unit will take so many training sessions or periods depending on the subject area.

#### **Module description**

This will describe the content of the module.

#### **General competences**

This will describe what the learner will be able to do by the end of the module and will be described like so; At the end of the Module the trainee will be able to:

#### **Professional standards and competences**

This will refer to the professional standards and competences the module relates to and will be described like so:

**This module refers to the following professional standards and competences:**

**Reflection/ feedback (quality review)**

This will be completed by the instructor who has designed and delivered the module. This gives the instructor/ institution the opportunity to assess the quality of the CPD material and make modifications, if necessary, before conducting the course again.



Possible content areas for materials development as part of the continuing professional development modules and framework  
The table provides examples only. In order to provide meaningful CPD, educators should conduct needs analyses with the different target groups.

Classroom practice	Curriculum areas	Pastoral care	Cross-curricular themes	Management issues	Career development
<ul style="list-style-type: none"> <li>Assessment</li> <li>Classroom management</li> <li>More learner-centred learning</li> <li>Lesson planning and preparation</li> <li>Learning environment</li> <li>Relationship with learners</li> <li>Supporting learners with special needs</li> <li>Teaching and learning styles</li> <li>Use of resources</li> <li>Teaching methods and strategies</li> </ul>	<ul style="list-style-type: none"> <li>Early years education</li> <li>Elderly Care</li> <li>Rural Health Care</li> <li>Participatory learning</li> <li>Foreign and community languages/ bi-lingual learning</li> <li>The new national curriculum – its subjects, processes and assessments</li> </ul>	<ul style="list-style-type: none"> <li>Anti-bullying</li> <li>Counselling skills</li> <li>First aid/ health and safety</li> <li>Work/ careers guidance</li> <li>Leading pastoral teams</li> <li>Designing pastoral programmes</li> </ul>	<ul style="list-style-type: none"> <li>Gender and equity</li> <li>Understanding the school-work environment link</li> <li>ICT</li> <li>Literacy</li> <li>Citizenship</li> <li>Numeracy</li> </ul>	<ul style="list-style-type: none"> <li>Appraisal/ review and staff development</li> <li>Development planning</li> <li>Communication</li> <li>Equal opportunities</li> <li>Financial management</li> <li>Handling stress</li> <li>Leadership</li> <li>Managing change</li> <li>Managing teams</li> <li>Monitoring and evaluation</li> <li>Personal and inter-personal skills</li> <li>Time management</li> <li>Timetabling</li> </ul>	<ul style="list-style-type: none"> <li>CPD</li> <li>Mentoring and coaching</li> <li>Feedback</li> <li>Job applications</li> <li>Job interviews</li> <li>Preparing for your next post</li> </ul>

**Deployment Plan for Teacher Training National and International Consultants**

Indicative Deployment	2013	2014				2015				2016				2017				2018			
Implementation Period October 2013 - December 2017	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
1.2 Teacher Training Consultants National																					
1.2.1 Teacher Trainer Specialist in learner-centred methodology skills, materials development and CPD for both schools																					
1.2.6 Teacher Trainer Specialist in Monitoring and Evaluation of Teacher Training activities																					
1.3 Teacher Training Consultants International																					
1.3.1 Teacher Trainer Specialist in learner-centred methodology skills, materials development and CPD for both schools.																					
1.3.6 Teacher Trainer Specialist in Monitoring and Evaluation of Teacher Training activities																					

## **C Best Practice case Studies:**

Pre-School: National and International examples

Pre-School in Transition: a regional example

Nursing: International example

Nursing: National/ Regional example

Pre- School - National Best Practice: BNUK Principles, Philosophy and Curriculum

## Theoretical Principles

### 1. Education Theory of Du Wei and Tao Xingzhi

Dewey and Tao Xingzhi's education theories are significant in terms of moving educators away from the traditional "Teaching-Learning Approach" and had a great influence on the education theory and practice of our Kindergarten in 1930s. On the basis of the ideas proposed by Duwey-- "Education is life," "School is Society," and "Learn from Action," -- Tao Xingzhi put forward the concepts: "Life is Education," "School is Society," and "Teaching, Learning and Doing are Integrated," which influenced some of the ideas and practices of our Kindergarten in the 1990s.

### 2、Vygotsky's Education Theory

Vygotsky's Education Theory has a great influence on our Kindergarten in learning former Soviet Union period of the 1950s and 1960s and in Chinese education reform period after the 1990s.

### 3、Constructivism Theory Based on Piaget's Cognitive Development Theory

In the early 1990s, Piaget's Cognitive Development Theory influenced our Kindergarten in the form of "High Scope." This theory and course promotes the development of open activity and resulted in the application of the concept "Children are active and capable learners."

### 4、Montessori's Education Method

Since the Kindergarten set up a Montessori Experimental Class in 1994, Montessori's Education Method has been instrumental in influencing teaching at BNUK. The Kindergarten Affiliated with National Peking Women's Normal College, the predecessor of BNUK, set up two experimental classes in 1923.)

### 5、Reggio's Education Mode

Reggio's education mode influences the Kindergarten in the following ways: (1) Adopting flexible courses to encourage the children's interests (2) Emphasizing the interaction between the children and their environment (3) Creating opportunities to encourage the children to express themselves in various ways (4) Using archives in the educational process, including the children's growth files and the education files of the teachers.

## Education Philosophy

The Children-oriented education philosophy of our Kindergarten is reflected in the three aspects: respecting children, researching children, and promoting the development of children's initiative.

**Respecting children:** Children should be treated as people with independent personalities and characteristics. When it comes to children's education, their dignity, basic rights (to live, to be protected, to develop, and to participate), age characteristics, physical and mental development disciplines, uniqueness and interests, and requirements for the development of their individual sense of initiative should be respected

**Researching Children:** Make research on children's age characteristics, physical and mental development disciplines, and individual differences; make research on how to promote the development of children's initiative.

**Promoting the development of Children's initiative:** We should respect the children's various interests so as to promote their overall development. Teachers should encourage children's self-service and the exploration of initiative, so as to make the

children be masters of their lives and learning.

The relationship between respecting children and researching children is a precondition, and the two are rooted in each other. Promoting the development of children's initiative is the ultimate target of education.

### Curriculum

#### 1. Essence of the curriculum

"It is fundamental to promote children's development and key to improve teacher quality

#### 2. Characteristics of the curriculum

Comprehensive, subjective, activity-based, integrated, life-based, and personalized.

#### 3. The Curriculum in action

Daily life activities, regional activities, theme activities, full-time class, and large-scale activities.

(Source: <http://bnuk.english.bnu.edu.cn/>)

## **Pre-School- International Best Practice**

### **Case Study: Lessons from Finland's Pre-School**

In Finland, preschool refers to a year of free half-day classes for six-year-olds, which is complemented with day care for the other half of the day. This builds on a programme that gives parents access to full-day childcare from birth till the age of six, at a capped cost. The overall system has been developed since the 1960s to support the participation of women in the workforce. Today, it incorporates a range of rights for children: all have legal access to childcare, comprehensive healthcare, and local preschools.

To ensure quality, Finland has systematically developed teaching as a professional career.

Teachers have to attain high university qualifications: all have a three-or four-year bachelor's degree in education, while many complete a master's degree (from primary level on, a master's degree is required). Studies are typically academic research-based courses at high-end universities, with detailed courses on curriculum planning and design, as well as leadership. Teachers are accorded the same respect as other professionals, such as lawyers, with comparable working conditions. Wages are good—although by no means the highest among the countries in this Index—and class ratios are low with an average of 11 pupils per teacher.

All this helps Finland take a light touch when it comes to testing and monitoring, given the strong institutional trust in teachers. "This is why we have been deliberately staying away from the unnecessary standardised testing, or unnecessary external inspection of our schools," explains Dr Pasi Sahlberg, a Finnish education expert and director general of Finland's Centre for International Mobility and Cooperation. It also allows Finland to delegate authority over curriculum planning to teachers. Indeed, trust is so high that this in turn can raise new challenges: Dr Sahlberg notes that more work is needed to educate parents about their own responsibilities in raising children, lest they assume that teachers will do it all.

(Source: 'Starting well: Benchmarking early education across the world,' © The Economist Intelligence Unit Limited 2012)

## Pre-school Education in Transition

Pre-school Professional Development Plans: Singapore  
Individual Professional Development MAP  
FORM A

Teacher: \_\_\_\_\_

Year: 2011

S/ No	Learning Dimension	Training Area	Training Activity	Current ability level (High / Medium / Low)	Date / Number of training hours	Aligned with kindergarten goal/need? (Yes/No)	Fee	Remark

Principal / Supervisor's Signature .....

Source: Softcopy of Form A can be downloaded from  
<http://www.moe.gov.sg/education/preschool/>  
Form b

## Kindergarten Total Professional Development Map

Kindergarten: \_\_\_\_\_

Year: 2011

Developmental Role	Name of Teacher	Training Activity (Title of workshop/course/conference/seminar, etc.)	Learning Dimension (to tick appropriate dimension)		Date	No. of Training Hours	Fee	SDF Subsidy (Y/N)	Final Cost	Remark (Attended / Not attended - state reason / KIV)
			Professional Practice	Personal Effectiveness						
The Trained Beginning Teacher										
The Trained Experienced Teacher										
The Senior Teacher										
The										

Developmental Role	Name of Teacher	Training Activity (Title of workshop/course)	Learning Dimension (to tick appropriate dimension)	Date	No. of Training Hours	Fee	SDF Subsidy (Y/N)	Final Cost	Remark (Attended /)
Organisational Leader									

Source : Softcopy of Form B can be downloaded from  
<http://www.moe.gov.sg/education/preschool/>

## Nursing: International example/ Best Practice: Medical Ward Rounds

### Establishing Best Practice Principles in UK Nursing

Medical ward rounds are complex clinical activities, critical to providing high-quality, safe care for patients in a timely, relevant manner. They provide an opportunity for the multidisciplinary team to come together to review a patient's condition and develop a coordinated plan of care, while facilitating full engagement of the patient and/or carers in making shared decisions about care. Additionally, ward rounds offer great opportunities for effective communication, information sharing and joint learning through active participation of all members of the multidisciplinary team.

Identifying principles for best practice in ward rounds can improve:

- patient safety;
- patient experience;
- shared learning;
- collaborative working and,
- efficient use of resources.

Ward rounds are critical to developing rapport and building trust with patients, while discharging a duty of care. Ward rounds also enable all individuals involved to express a shared aspiration **to make the patient the centre of attention**, empowered in his or her own care.

However, the success of the approaches requires **a concerted cultural change**, with clinical staff, managers and hospital executives all fully engaged and focused on improving the quality of rounds.

The key points to act upon to ensure best practice in the ward are:

- Ward rounds are complex clinical processes that extend beyond a bedside review of care.
- They present a key opportunity to involve patients in their care, building trust and rapport.
- There is still significant variability in the conduct and purpose of ward rounds.
- Nurses provide the hub of patient care, and their involvement in the daily bedside clinical review is central to the effectiveness of the ward round.
- An organised and disciplined approach to ward rounds, with appropriate preparation, scheduling and review, improves patient safety and experience, while promoting efficient use of time and resources.
- Safety checklists reduce omissions and variation in practice, while strengthening team communication, performance and patient experience.
- Engendering and sustaining improvements to traditional ward round practices require strong
- clinical leadership, with all healthcare professionals fully engaged in improving patient care and effecting culture change.

(Source: adapted from Royal College of Nursing, 'Principles of Best Practice,' October 2012)



## **National/ Regional Case Study: Taiwan**

### **Taipei Medical University**

#### College of Nursing (CON)

In 1963, a 5-year junior college program was established to educate nursing professionals. Junior high school graduates were recruited. However, with the challenges and important improvements in nursing education, the School of Nursing was established in 1977 and recruited high school graduates. In 1985, male students were admitted for the first time to a nursing school in Taiwan. In the current undergraduate program, students are required to complete 140 credits (around 4 years of courses) in order to obtain a bachelor degree.

Moreover, in order to satisfy the national education policy of improving the quality of nursing profession, a pilot RN-to-BSN program was initiated in 1990 and recruited junior college graduates. An associate degree is provided when requirements are completed. Since the RN-to-BSN program was a success, it was officially established in 1994 and enrolled 50 students annually. Students are required to complete 80 credits and obtain a degree. To meet the anticipated needs of nursing professional development, a 2-year RN-to-BSN program for anesthetic nursing was established in 2005. Moreover, due to the increasing numbers of elderly people, a course on health care and management in gerontology will be developed to cope with the caring needs associated with aging-related diseases and conditions.

Furthermore, in order to advance nursing education, a master degree program was established in 1995 with three divisions including nursing administration, adult care, and community care nursing programs. In 1999, students who were registered nurses were eligible to enroll in the CON for the postgraduate program. As extensions of the CON, pediatric and mental health nursing programs were initiated in 2000. Anesthetic nursing and geriatric nursing were established in 2004. In total, there are seven nursing areas in the master program. Currently, 46 master students are enrolled in postgraduate programs each year, and they are required to complete 34 credits of course work (11 credits for required courses and 23 for elective courses) and six credits of a master thesis to fulfill the requirements of a master degree in nursing.

In order to prepare nurse researchers and educators, a doctoral program was initiated under the Graduate Institute of Medicine in 2000 and enrolls three to four students each year. A doctoral program under the Graduate Institute of Nursing is established in 2006.

Today the CON (February 2003) has about 400 students in the undergraduate program, 250 students in RN-to-BSN program, and more than 100 students in the postgraduate programs. Our undergraduate and graduate students have earned exceptional reputations in both clinical and academic fields.

#### **Research Focus:**

Our college emphasizes on research and academic presentations as well as constructively promotes related performance. Each faculty member has given outstanding presentations in periodicals, seminars, etc.

In order to implement research findings in empirical care and strengthen the collaboration between CON and our two subsidiary hospitals(Taipei Municipal Wan-

Fang Hospital and Taipei Medical University Hospital), a periodical nursing forum was formed, and the eight interdisciplinary research groups have teamed up together: Nursing Administration and Nursing Ethics and Law, Oncology and Hospice Care, Exercise Rehabilitation, **Community Nursing**, Research on Physiological and Psychology, Psychiatry and Mental Health, Control of Tobacco, and Gerontology and Long-term Care. We have also invited international academic experts to collaborate in our research projects.

### **School of Nursing and Management in Gerontology**

School of Geriatric Nursing and Care Management was the newest established school in the Taipei Medical University. It was just founded in August 2007 and was the pioneer educational program in geriatric nursing care offered by college of nursing. The overall purpose of the program is to educate students who in their professional careers will work to sustain or improve the quality of older persons. The curriculum of the program is organized in 3 pillars of elderly cares: living care, acute care and long term care. This program is designed for students interested in providing services to the elderly in a variety of settings, such as hospitals, clinics, community health centers, home health, senior centers, long-term care and other service arenas. In addition, students may pursuit double major in nursing, students then may provide direct nursing care to the elderly. Recently, we aggressively expand international cooperation in teaching and research with the world's top universities, such as Griffith University, Australia, and the Tohoku Fukushi University, Japan, to provide better learning environment and opportunity for our staffs and students toward globalization.

Our curricular framework is designed to manage older adults' life from a continuing care aspect including life style management, needs management, care management, and long-term care. With its affiliated medical centers such as hospitals, community health centers, senior centers, and long-term care centers, students are offered a variety of learning arenas in addition to class room setting.

We have a group of multidisciplinary faculty members who study the human life by exploring the biological, psychological, sociological, and medical dimensions of adult life. We also expand international cooperation with the world's top universities, such as the Griffith University in Australia, and the Tohoku Fukushi University in Japan. As a newly developed school rooted in a traditional Medical University, together with our faculties and students we can influence older adults' health locally, nationally, and internationally.

(source: adapted from <http://www.tmu.edu.tw>)

d. Any other necessary material (e.g. Sub ---component indicative equipment, list, etc

Equipment	Quantity	Purpose
Mini-bus	2 (1 for each school)	For teaching and nursing/ clinical practice; For support systems e.g. newly qualified teachers and nurses continue to be mentored by the schools as well as by employers; For outreach INSET/ CPD training; For networking, workshops and conferences

TA 8158-PRC: Project Preparatory Technical Assistance

**ASSESSMENT ELDER CARE NURSING REPORT**

Author: Dr Terry Clement, Ph. D. and Dr. Zhang Mingwu

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## **1. INTRODUCTION**

1. China, like the rest of the world is facing the challenges that result from a rising rate in the number of elderly. Unlike some areas of the world, China does not have an established infrastructure to look after the aged particularly during those years in which the level of independence is diminished or lost due to chronic and acute illness. Lack of an elder care infrastructure is leading to a serious shortage of human resources in health care.
2. As a partial response to this challenge the Nanning Health School (NNHS) examined its options related to nursing. When the various factors were taken into consideration it was determined that strengthening the nursing curriculum in the specialty area of elder care and making it a mandatory part of the syllabus is the best approach. A strengthened curriculum will create the equivalent of a major in elder care nursing. This approach has several advantages: the graduate will be able to tend to the nursing care needs of the elderly at all levels of care; it should provide a strong theoretical and practical base which will enable the nurse to respond to new government initiatives and programs and it will not restrict the practice options (hospital focus or long term focus) of the graduates who pass the certification examinations.
3. The following technical report describes the activities which lead to this conclusion and outlines what needs to be done in the next phase of the project. It should also be mentioned that the various government departments who are working on resolving the challenges of meeting the needs of the elderly fully support this initiative.

### **A ELDER CARE NEEDS ANALYSIS**

#### **1. Demography**

##### **National**

4. An elderly person in China is defined to be someone who is 60 years of age or older. Based on this definition according to Sixth National Census, in 2010 there were 178 million elderly of which about 19 million were over the age of 80. It is estimated that by 2050 the number of elderly is expected to exceed 480 million. At the same time, census data indicates that the number of people who fall within the 'working-age' category will decline.
5. China's one child policy has led to the situation where a family now consists of four grandparents, two parents and one child often referred to as the 4-2-1 phenomenon. As of 2013 it is estimated that approximately 80% of the population who will be newly classified as elderly, will be parents of an only child. So a critical situation is emerging, people are living longer and there are fewer young people to support them.
6. According to a survey (N=19,986) conducted by the China Research Centre on Ageing in December, 2010:

- 11.3% of respondents in urban areas said they are willing to stay in nursing homes, adding that they would be able to afford an average monthly fee of 1,016 Yuan (\$160).
  - 12.5% of respondents in rural areas said they would be willing to live in a nursing home, adding that they would be able to afford just 172 Yuan a month on average.
  - 54% of elderly people in urban areas lived in “empty nest”<sup>117</sup> families in 2010, while 45.6% of those in rural areas lived alone that year. In 2006, the figures were 49.7% and 38.3% respectively.
7. Based on this information one can see that economics will play an important role both on the extent of government support and the ability of the family to afford whatever service is provided.

### Guangxi and Nanning

8. Within permanent residents of Guangxi, 6.0368 million people are 60 years old or older which represents 13 % of the total population. Within the Nanning permanent residents, 856,800 people are 60 year old or older which represents 12.86% of the population. In Guangxi Province, there are now 1.5 million empty-nest elderly people and in Nanning, there are estimated to be around 10,000 and increasing every year.

## 2. Social Change

9. The implication of the demographics is that the tradition of the younger generation looking after the older generation will not be sustainable without major assistance. However, when asked, the Chinese family looks at a nursing home as almost unthinkable and a last resort as a means to care for their elderly parents. Many think it suggests abandoning or being abandoned in terms of traditional values. People make all kinds of sacrifices to care for their elderly relatives including the elderly themselves as they often don't want to burden their children or do not have the resources to get help or treatment thus suffer in loneliness. Nevertheless, economics are forcing an increasing number of young adults to move to urban areas to seek employment, leaving their elderly parents alone.

*“A study by the China Research Center on Aging shows that nearly half of the elderly in urban areas do not live with their children. Even in rural areas, the rate is almost as much, at approximately 40 percent.”*<sup>118</sup>

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<sup>117</sup> empty nesters are defined to be elderly people who do not have relatives living nearby to take care of them.

<sup>118</sup> China's One-Child Policy Leads to Elder Care Crisis, John Young, Epoch Times Staff  
Created: November 15, 2010 Last Updated: November 26, 2012

10. Experts say family-based care is becoming impractical because most middle-aged children have little time to take care of their parents. So one of the problems the elderly have to face nowadays is how to organize their retirement years when their families are unable to care for them.

### 3. Community Care Facilities and Services

11. "By the end of 2010, China had only 3.5 million beds in roughly 100,000 public senior care facilities (local government and community based) — only enough to provide for less than 2 percent of its elderly and the government nursing homes with better facilities and lower cost are even more limited."<sup>119</sup>
12. The government's response to this challenge is outlined in the 12th Five-year Plan (2011-2015) which suggests an elder care system that is similar to that in the West, namely, one that is largely based on homecare and supported by community care.
13. Although the last 3 years has shown an increase in nursing homes,  
*According to China's Ministry of Civil Affairs, there are currently 420,000 nursing homes in China, able to accommodate 3.81 million people. It falls significantly short of the capacity needed to care for 200 million elderly in 2013.*<sup>120</sup>
14. The Ministry recognizes the need to involve other organizations such as private enterprises, community groups and non-government organizations. Unfortunately, many of the private enterprises are finding it difficult to establish profitable facilities as costs are high and most individual family resources are low. In a poll conducted by China Research Centre on Ageing, they determined that the maximum respondents would be willing to pay is RMB 1,016 per annum. Even retirement community care facilities targeted at the 'well to do' are having difficulties selling their units.
15. However, there has been some success by Pinetree, a company in Beijing, who has developed a respite model.  
*Pinetree allows customers to choose from hourly rates between RMB 100 and RMB 260 depending on the experience of nurses, who are dispatched from 14 service units across Beijing. Customers typically spend between RMB 100 and RMB 800 per visit.*<sup>121</sup>
16. Accordingly, Pinetree plans to open 1000 franchises nationally which will employ in the neighbourhood of 40,000 nurses and serve approximately 5 million clients.

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<sup>119</sup> China's Elder-Care Woes, Zhang Qian, Shanghai Daily, 26, June 2012

<sup>120</sup> Nursing Facilities for the Elderly, BJT Special Report, 13 March 2013

<sup>121</sup> No Silver Bullet: Tapping China's Elder-Care Segment, Li Xiaoshu, 17 October, 2012

#### **4. Policy**

17. Dou Yupei, Vice Minister of Civil Affairs has stated that home and neighborhood-based elder-care services will be available across China's urban communities and half of its rural areas by the end of 2015. He also said that by 2015, the country will have 30 nursing-home beds for every 1,000 senior citizens, basically enough to meet demand. Currently the Chinese government is providing subsidies for citizens aged over 80 in 18 of the country's provincial-level regions and offering allowances for elders who have difficulties in their livelihoods, in 22 regions.
18. Policy reform will be required to attract investors into the private sector component of community care for China's elder who have limited resources.

#### **5. Human Resource Implications**

19. There is no question that the ageing population, 4-2-1 phenomenon and the policy to have 30 beds per 1000 population by 2015 will dictate a requirement for trained nurses. In Guangxi there are approximately 6 million elderly of which approximately 657,000 reside in Nanning. This means that even at a ratio of 1 nurse per 30 patients, a total of 180,000 nurses will be needed in Guangxi Province and 20,000 in Nanning City. Although there is no definitive international standard for "patient to nurse" ratio a 1 to 30 ratio would be considered as dangerous. In North America, for elder care, a ratio of "1:6" to "1:8" seems to be acceptable recognizing that this will change depending on the level of care provided by the facility. However, for the purpose of estimating the immediate elder care nursing requirements in Nanning, a ratio of 1:10 may be realistic. On this basis, for 30 beds, a daytime shift would require 3 nurses and an evening shift which could have a higher ratio, say 1:15 would require 2 nurses. Accordingly in Nanning, 100,000 nurses able to work with the elderly will need to be trained.
20. Unfortunately, a factor exacerbating the shortage is the feeling that in elder care facilities most workers have little education and their experience in nursing is limited. For example, according to Peng Jianming, vice president of Civil Affairs Department of Changning District, in the various facilities in Shanghai only 26.7 percent have staff with more than three years' nursing experience while senior professionals have only 10 percent. Assuming these percentages reflect the general situation in Guangxi there will also be a need to upgrade the staff in existing facilities

### **B ANALYSIS OF ELDERLY CARE**

#### **1. Nanning**

21. The following information is derived from a variety of reports of observations made while on a field survey trip which took place in late,

2012 to a number of local clinics and health centers and from focus groups consisting of officials from the Nanning Health School

- (i) In the rural health system, the state requirement is to have 1 doctor for every 1000 residents.
  - (ii) Village clinics are required to be in a location convenient for villagers.
  - (iii) There are 123 health centers in total and 2318 village/street clinics. Among the 123 health centers, 40 are central centers.
  - (iv) Typically a village is primarily populated with old people, women and children.
  - (v) There are 56800 residents in the Shuangqiao township.
  - (vi) The birth rate is about 400 newborns each year, which is about half the rate of years ago. So, the changing demography is making elderly care a problem.
  - (vii) Village populations are now consist mainly of children, women and the elderly.
22. Of about 4000 village doctors
- (i) most are over 60 years old.
  - (ii) 50% of them did not have doctor certificates.
23. “We found beautifully built village clinics empty due to lack of personnel. including doctors.”
24. Each clinic lacks trained personnel and medical service quality is low.
25. Many of the elderly do not see a doctor because of the cost and they working constantly just to meet basic needs.
26. In Wuming County the welfare home is only for the old and extremely poor who have no family members. It only provides simple boarding and dinning for a few dozen elderly. Health care is not a component of daily work. When one gets sick, they are sent to the county hospital.
27. The new medical care scheme to be implemented will be inclusive and will apply to everyone in all rural areas. The goal is to keep 90% of the patients inside the county with only the difficult cases going to Nanning.

## **2. Rural Medical Insurance**

28. Rural medical insurance costs about RMB 50 for the individual and the government provides a subsidy of RMB 240 for a total RMB 290 annual installment. This allows each rural resident to claim for RMB 290 per visit to a doctor up to a maximum RMB 60,000. Currently, residents can claim about 90% of their medical cost at township

hospital and 65% of the medical cost for treatment at county hospital. In order to encourage residents to use within-county medical facilities, proportion of claims for doctor visits and medical treatment outside the county are lower. For severe cases maladies, resident can also apply for a subsidy from the County Welfare Bureau up to a maximum of RMB 10,000.

### **3. Issues Arising from the Field Study**

29. Although the government is promoting a township-village integrated health system. observations indicate that implementation has not taken place primarily due to lack of trained personnel.
30. TVET health school is not responsible for assigning jobs for students. This gives rise to a number of questions:
  - a. what happens to the students who are unemployed?
  - b. do they find work in other fields
  - c. what about graduate follow-up?
  - d. could the school develop a job placement center?
31. Increase enrollment in pre-employment programs to meet the desperate need for local village doctors.
32. Young graduates do not want go back to home village.
  - a. We need government policy to provide subsidies for those going back and working in village clinics.
  - b. Incentive programs and strategies need to be developed to attract graduates back to the village clinic.
33. There is a desperate need to first train and certify existing village doctors.
  - a. Instructional delivery models need to be developed.
  - b. Incentive plans need to be developed e.g. higher per diems for certified service
34. How do you ensure health service equity for urban and rural citizens?
35. Existing instructors require professional development in current pedagogical practices.
36. Schools need to develop upgrading programs for existing health personnel to meet current certification standards.
37. Schools have to review and/or revise curriculum to ensure that it provides the skills and knowledge necessary to work in the rural clinics.
38. Service quality needs to be monitored.

39. Are the elderly aware of the medical insurance policy and do they understand it.

#### **4. Public And Private Employers(Institutions)**

##### **Survey of 38 Nurses**

40. Nursing staff<sup>122</sup> reported that they felt that elder care is a profession that satisfies social responsibility and is challenging but rewarding work and if they were given another opportunity they would switch from hospital based nursing to this profession. Four of nurses surveyed think that the profession is demanding, and geriatric management is challenging due large number of elderly related diseases., Also, they stated that it is difficult to communicate with the elderly people because of personality changes and for this reason, they are not willing to continue the current profession.
41. To meet the demands of their daily work, the surveyed nurses stated that the most important areas of training are: knowledge of humanitarian care to the elder people, psychological care, safety protection, rehabilitation skills, and disease prevention. Among the courses they had in the school, they believe that the most useful ones were: basic nursing skills, activities of daily living (ADL) skills, mental health care, geriatric management, psychological care, rehab care, and communication skills. 11 of sample believe that: the current curriculum need not be simplified or condensed and that biochemistry can be condensed or simplified. 38 respondents wished to receive training in practical elderly care skills. Suggested curriculum reform would include an improved knowledge of basic theories, increase in practical application skills, increased knowledge of professional ethics, and a knowledge of how to use social resources.

##### **Survey of 15 workers**

42. Of the 15 surveyed<sup>123</sup>, seven people are satisfied with the elderly care work, and eight others ranked it as 'average'. They believe that in their daily work, health care, dietary management, face-to-face communication, elderly daily life care are most helpful to the elderly people. They stated that the skills needed to work with the elderly are basic nursing skills consisting of: fall-prevention, ADL training geriatric management including oral nursing, elderly mental health care, disease prevention and first aid. They also believe that junior high school with at least one month of extra trainings is all that is required as preparation for the profession, however, they are prepared to participate in an upgrading program.

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<sup>122</sup> ibid

<sup>123</sup> Zhang Mingwu, Elderly Care Questionnaire Analysis, consultancy Report, Part IV, 2013/03/2

## 5. Private Facility Visit

43. Due to the severe time constraints on field work only one facility was visited:

Jai Li Yi Yuan Xin Kang  
Private Care Home for the Elderly  
Nanning City, Guangxi Province, PR China  
21 February, 2013

### Care Description

44. Unlike a public facility which only caters to the handicapped or individuals who are indigent and have no family the private facility has no admittance criteria. Costs for the private facility are approximately 1,000 ¥ per month but will increase if a higher level of care is required.

45. There are three levels of residential care offered:

Group 1                      One Half Care

Individuals who primarily live at home or are looked after by the children but require a limited amount of service.

Group 2                      Full Care - Mobile

Individuals who reside in the facility full time. These individuals are mobile and may be treated for chronic health , intermittent health or psychological problems.

Group 3                      Full Care – Non Mobile

46. Individuals who are bed ridden and may have more serious health care problems. Care at this level can continue until the resident dies.

### Facility Description

Total capacity	200	beds
Current no of residents	0	in Group 1
	130	in Group 2
	50	in Group 3

## 6. Program Content and Suggestions To NNHS

47. A component of the training is how to educate the children of individual in needing care in providing elder care.
1. First priority is to develop a “stand-alone” elder care program
  2. Second develop a part time program to allow support staff to upgrade to a elder care worker
  3. Third develop a part time program for nursing elder care workers.



4. A subject that needs to be taught is psychology in order to help provide care to the Group 3 residents.

### **Home Care Programs**

48. China, like most countries is searching for affordable solutions to the challenge of caring for the elderly. Also, like most countries they are examining various ways to keep an individual at home for as long as possible. On such innovation is  
  
“...The practice of old people taking care of each other posed a simple and attractive solution. Labelled "mutual assist eldercare", the Feixiang model is set to be expanded to the rest of rural China, with 3 billion [yuan](#) (\$490 million) set aside by the central government to get it started over the coming three years.”<sup>124</sup>
49. Although home care is a good solution for many people for a period of time, it does not address the long term problem of ageing and progressive deterioration of one's health as individuals trained to work as home care workers have little or very basic health care training. Accordingly, this project will look at elder care workers who are functioning beyond this level.

### **Survey result of 10 elderly persons:**

50. Elderly individuals<sup>125</sup> are willing to participate in institutional care when there is a reduced ability to function independently as a result of aging, and when their children are not able to provide them with care because they are busy with work. If a home-based or community-based program were available, this would be their preference form of care as it would allow them to live in a familiar environment where they can chat with their family members, visit neighbors and have an enriched life. However, when health care is more about health, daily life care, dietary management and personal communication then they believe they might be better served by institutional care.

## **7. Merits & Weakness Of Nanning Elder Care Nursing Program**

### **Nanning Health School (NNHS)**

#### **Nursing Faculty Descriptive Statistics:**

Context and data source: material provided by Education Bureau of Nanning City, and health school in Nanning City

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<sup>124</sup> RPT-Greying China taps rural elderly to care for those even older. Li Hui and Maxim Duncan, Reuters Edition US, 19 May 2013

<sup>125</sup> Consultancy Report Part IV: Elderly Care Questionnaire Analysis, Zhang Mingwu, 27 March 2013

**Table 1. Teachers' Age Distribution**

Age	N	%
< 30	48	20.2
31 – 40	71	29.8
41 – 50	79	33.2
51 – 60	40	16.8
61+		0.0
	238	100

51. A teacher who has training but no experience is called a teacher without title and the title is given after the candidate has successfully completed a probationary period.

**Table 2. Teachers Title.**

Title	N	%
No Title	0	0.0
Assistant Lecturer	59	24.8
Lecturer	124	52.1
Senior Lecturer or Associate Professor	55	23.1
	238	100

**Table 3. Teacher Education Background**

Title	NNHS	%	Nanning City
Junior College or less	21	8.8	8.9
Baccalaureate	212	89.1	86.2
Master	5	2.1	4.9
Ph. D.	0	0.0	
	238	100	

**Table 4. Teachers Professional Development 2012**

Training Type	N	Percent
Teaching master and core teacher training	30	31
Teaching Capacity (Methods and Approach)	15	16
Course and Learning Resource Development	5	5
Nursing Skill Matching	4	4
Health Education	2	2
Vocational Education Development	14	15
Other (non education related)	26	27
	96	100

## **Nursing Program Structure**

### **Nurse Training**

52. Nurse training comprises 1 year = 2 Semesters. Contact hours are 16 hours per week (over 5 days). The nurse training program 2800 hours and takes place over three years.
  1. Year 1 is primarily academic with field work (clinical) consisting of observation only
  2. Year 2 is also academic with practice in clinical laboratory and a limited amount of patient contact in the field
  3. Year 3 is exclusively field work

### **Nursing Curriculum**

#### *Nurse qualification examination*

53. The examination scope according to the syllabus of 2013 for nurse qualification covers the following areas:
  1. the major nursing tasks;
  2. nursing knowledge necessary for completing the tasks;
  3. completing a specific task related to common diseases.

#### *Major nursing tasks:*

54. The major nursing tasks include caring for patients to meet their basic needs and special nursing operations such as daily life care, placing catheters and intravenous infusion.
55. They also assist treatment-related tasks such as administering medication and providing treatment assistance including:
  - communicating with the patients to meet their psychological needs
  - asses/evaluate patients including physiology and observing the effect of treatment;
  - provide patients with safe and effective environment for treatment and rehabilitation;
  - provide education to patients and their family members;
  - maintain ethical/legal activities to protect the patients privacy,
56. The knowledge component of the examination includes the:
  - basic knowledge of modern medical science including human life process; anatomy, physiology, pathology and pathological

physiology, pharmacology, psychology, immunology, microorganisms and parasites, nutrition, preventive medicine;

- basic nursing skills including clinical manifestation of diseases, principle of treatment, health assessment, nursing professional skills, health education; and some knowledge and skills of Chinese medical nursing;
- fundamentals of social and humanities related to nursing including laws and regulations; nursing management; nursing ethics, interpersonal communication knowledge.

## 8. Elder Care Curriculum

### Program Content

57. The Elder Care curriculum consists of an **optional** course of 1.5 hours per week for 17 weeks or 25.5 hours including practical training. The curriculum consists of the contents of one book. The course outline is shown in ANNEX
58. Annex 1. Contents of the Elderly Nursing.

### Faculty Survey

59. According to a survey of 40 nursing faculty<sup>126</sup>, the teachers believe that a solid theoretical knowledge is good for the future development of student nurses. They also believe that a lack of resources such as teaching equipment and a limited clinical training base leads to students having an insufficient amount of practical application. The faculty believe that the current offerings are insufficient to meet the demands of teaching activities. The NNHS administration agrees with this position and would like to revise the nursing program and expand the elder care curriculum to meet the elder care challenges while at the same time adhering to current government certification policies. The faculty surveyed believes that within the current elderly care curriculum the following are the most useful subjects and need to be strengthened. :
  - physiology;
  - psychological health;
  - dietary management and health preservation,
  - rehab care;
  - nursing of common chronicle diseases of the elderly;

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<sup>126</sup> ibid

- deathbed care;
  - ADL, and improvement of quality of life;
  - safety protection;
  - laws and social protection,
60. If the plan is to strengthen the courses by introducing content related to elderly care but keep the student workload the same, then it is suggested that anatomy, physiology, microbiology, parasite and immunology, health assessment and some content related to caring of some diseases and first aid, be condensed or be incorporated into other courses.

### **Students Survey**

61. According to a small (N=8) student survey<sup>127</sup> students were asked about entering the elder care profession. They stated that they can see the trend of an aging society, the government's increasing attention, and that there is a promising future in the elderly care profession. However, only 5 of the 8 students said that they would choose the profession after graduation while the remaining 3 said that they are concerned that their skills and experiences acquired during their training are insufficient to meet the job requirement. Consequently, they would postpone entering the profession for many years. This perception of the current elder care curriculum is consistent with what was mentioned above.

### **Methods Of Teaching**

62. Teaching in the NNHS consists of primarily of lecturing which is the traditional approach. However, it has been reported that:
1. There is a shift from traditional teaching methods towards nurse 'task.-oriented' teaching and learning [something like competency-based curriculum], as determined by a job task analysis.
  2. Teaching and learning materials are being developed consistent with 'task-oriented' teaching, However difficulties have been encountered in how to merge knowledge and skills in subject-matter into task-orientation teaching and learning.
  3. Currently, there are only a few teachers able to teach and develop materials and until more teachers receive upgrading movement towards 'task-oriented' teaching will be very slow.
  4. There is a shortage of equipment necessary for teaching which when available will also require additional teacher upgrading.
63. which indicates that there is a 'readiness' for change.

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<sup>127</sup> ibid

## **9. Clinical (Field) Arrangement**

64. The NNHS has contractual arrangements with the facilities where the students undertake their field work.

### **Summary Of Issues**

#### **Curriculum Change**

65. The offerings in elder care with the NNHS nursing curriculum are extremely limited and worse, are optional. While a graduate from the nursing program is certified to work with the elderly, and the nurse qualification examinations are much more difficult than those confined solely to elderly care, it does not mean that nurses are automatically capable of providing proper elderly care or for that matter, interested in pursuing a career in Elder Care. Without change, the NNHS will not be capable of rising to the challenge to meet the increasing demands of caring for the elderly. On the positive side, there appears to be a willingness of students to enter elder care nursing as a career path if the program was modified to provide the necessary skills and knowledge to do the job competently. At the same time, both the faculty and administration want to make the necessary changes. This favorable climate means that curriculum development, revision and implementation will likely be successful.

#### **Potential Student Supply**

66. There is a potential group of trainees who are graduates of junior middle school who can qualify as primary level elderly care givers after receiving minimal training. This in combination with low admittance requirements means there is a large pool of potential student applicants which makes it possible to train large numbers of elderly care givers. In terms of rural/urban and gender balance, the nine-year compulsory education also opens up opportunities for rural women when they reach employment age as they too generally have a junior middle school education level thus meet eligibility requirements.

### **Recommendations**

67. To address curriculum shortfall issue it will be necessary to perform a program analysis to identify which competencies should be:
1. incorporated into the nursing program; and/ or
  2. incorporated into the certified Doctor training programs; and/or
  3. incorporated into the rural doctor training program; and/or
  4. developed into a stand-alone program cored with nursing and rural Doctor training; and/or

5. grouped together to form a subset of marketable skills which could be used to upgrade non certified workers providing care for the elderly.

## **Best Practices**

68. For the purposes of this report, best practices will be confined to government policy trends related to caring for the elderly and the impact on programs of study leading to the training of elder care workers.

## **10. Government Policy on Elder Care: Selected Quotes**

### **United States**

69. "Although the pattern of service use among the elderly in the mid-1990s was largely similar to past patterns, surveys comparing the mid-1990s with the mid-1980s found two shifts: a reduced use of nursing homes and, if at home, a higher likelihood of receiving paid help. These changes are consistent with a policy goal of substituting home care for nursing home care. However, a closer look at experience calls into question whether paid home care has truly substituted for nursing home care, whether service levels are adequate, and whether greater support for home care will continue."
70. Changes in service use. A comparison of surveys shows that 4. 2 percent of the elderly population resided in nursing homes in 1995, compared with 4. 6 percent in 1985 This means that about a quarter-million elderly persons who, based on age and sex, would have been in nursing homes in 1985 were not in nursing homes in 1995. Nursing home residents and stays also looked different in 1995: Residents were older and more severely impaired, and stays were shorter..."<sup>128</sup>

### **Canada**

71. As Canada's society ages, more personal care and health support will be needed for people who, either as a consequence of disability or aging, require assistance to function independently. As this happens, policymakers face the daunting challenge of balancing the fiscal burden on taxpayers with the need to ensure that all individuals with long-term needs receive proper care. But this is a challenge best confronted immediately, before the first wave of baby boomers begins to draw heavily on long-term care programs in about 15 years' time.

"In an environment where tax rates are projected to rise because of demographics and growing health costs, the cost to the economy from raising additional tax revenue will be high. For this reason, we believe that the bulk of subsidies for long-term care services should go to those who lack the means to pay for it. This means that public

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<sup>128</sup> Judith Feder, Harriet L. Komisar, and Marlene Niefeld, *Long-Term Care In The United States: An Overview*, Health Affairs. 2000;19(3)

subsidies would diminish with individuals' ability to pay – defined so as to reflect both income and, at least to some degree, assets as well. Such a targeted system of benefits could be designed so that the public gets more out of each dollar spent on long-term care services”.

72. Reforms should insist on measures that eliminate the waiting lists that currently exist for many services and improve the location of care around patients' preferences. Following the examples of some European and Nordic countries, provinces are more likely to get better value for money if they channel more subsidies for long-term care to patients – in the form of cash or vouchers – rather than directly to the suppliers of services. This would allow patients a greater role in choosing among competing suppliers, including the option of using vouchers for home care or other services rather than for institutional care. A well-designed voucher system would, however, need to overcome legitimate concerns that it would increase total cost and that the quality of care could be at risk because elderly individuals might not be well informed about their best options for care.”<sup>129</sup>

## China

73. “First, population ageing will lead to structural change in human resources. Taking China as an example, it is estimated that the elderly-support ratio is projected to decline drastically. Right now, for every elderly person (aged 65 and above) there are nine working-age adults (ages 15 to 64); but by 2050, this ratio will be one elderly person per 2.5 working age adults. In other words, while the ageing population will triple in the next four decades, the total number of working adults will be reduced by three-quarters.
74. In China, Thailand, Malaysia, Indonesia, Bangladesh, India and Pakistan, the massive demands of ageing populations will rise at fast rates though their economies are not yet fully developed and, therefore, without the funds necessary to meet demand for care of the aged. The challenge is how to allocate limited financial resources among competing needs, such as education, health care, agriculture, and the environment, while still maintaining economic growth.
75. As of 2011, China had a total of 3.2mn nursing home beds, while the number of elderly people who were considering living in a nursing home reached nearly 12mn, according to China's National Committee on Ageing. That means the total number of beds in the existing nursing homes equals only 1.8% of the total ageing population in China, much lower than the 5-7% in Western countries. The fact that 5% of Chinese over-65 suffer from dementia, makes this gap even more serious.
76. The difference between well-developed nursing homes and those that are closing lies mainly in the quality of service, which is due to the massive lack of qualified care professionals. It is estimated that China alone requires approximately 10mn caregivers to meet the needs of its ageing population. However, there are only 300,000 people currently

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<sup>129</sup> A Blomqvist and C Busby, C.D. Howe Institute, *Long – Term Care for the Elderly: Challenges and Policy Options*, Commentary No. 367 November 2012



working in the field, of which less than 100,000 are professionally qualified.”

77. There are 3 training models in China:
1. Elderly Care national occupation qualification training;
  2. Vocational and Technical College’s Elderly Service And Management Major;
  3. Elderly Care training for the field nurses.

## **11. Elderly Care national occupation qualification training**

78. In 2007, the Social Welfare and Social Affairs Department of the Civil Affair Ministry issued the national standards of Elderly Care. Before 2013 January, there were 189 Elderly Care Training Classes in China, and 5 in Guangxi (total 239 people have obtained primary elderly care national occupation qualification certificate in Guangxi).

### **A. PROGRAM DELIVERY MODEL DEVELOPMENT**

#### **1. Background**

79. Preliminary analysis indicates that there is a dire need for health care personnel who are willing and able to work with the elderly and who are prepared to work in either the rural areas or urban setting. To address this challenge, it was proposed that changes be made to existing instructional programs such as nursing and, to a lesser extent, doctor preparation. A second option was to develop ‘standalone elder care program’. As well as these two options it was recommended that upgrading programs be developed to raise the skill level of unqualified doctors, nurses and other workers currently caring for the elderly. The question to be decided was which option or combination of options should be pursued.
80. Regardless of the model or combination of models selected the most flexible way to address the challenge is to divide the content into a modular format. To do this one must:
1. Conduct an occupational analysis to identify the range, depth and breadth of knowledge and skills required to provide the desired elderly care.
  2. Reorganize the content according to pedagogical logic into self-contained module outlines.
81. It should be recognized at the outset that modules need not be the same length and they should address a relatively small group of related competencies. Modules, therefore, become the building blocks to develop courses and programs. A sample of a small module for Quality Assurance can be found in Appendix 2: Sample Module.

## **2. Assumptions**

- 82. At the present time, China is addressing the challenges presented by an aging population at all levels of government and therefore are open to innovation and demonstration projects.
- 83. The Nanning Health School is prepared to undertake a pilot project which involves a deviation from traditional training methods.
- 84. The Nanning Health School is willing to offer a qualifications framework in elder care.
- 85. A sample Township hospitals and associated village clinics can be found which are willing to participate in a pilot project.

### **3. Proposed Curriculum Model**

#### **Elder Care Qualifications Framework**

86. For the purpose of the starting the discussion the following Elder Care qualifications framework was put forward for discussion:
- a. Certified Nurse
    - Graduate Nurse: Medical Specialty
    - Graduate Nurse: Elder Care Specialty (Geriatric)
    - Graduate Nurse: Community Care Specialty
  - b. Eldercare Worker
  - c. Homecare Worker
87. where a Certified Nurse would include all three specialties and would allow them to work anywhere. However, each specialty would allow them to practice within that venue. Under this system each level would contain a set of skills and theory that would allow a graduate to be employed.

#### **The Model**

**A model was proposed as presented in Figure 4 Comprehensive Model which allows students to enter the nursing program via two routes: Nanning Health School and from a township or village.**

- 88.
89. Route 1: Nanning Health School
90. Currently, the existing route through the Nanning Health School is where a student completes years 1 and 2 within the institution and a third year in a field setting. However, in this model, the content in the first and second year has been modularized and reorganized. In the first year the skills common to medical care nursing, elder care nursing and community care nursing have been organized into a common core. During the second year the student would rotate through each of the three specialties. It is also expected that students would have short, i.e. two weeks, observation field work in various settings during the first year and three beginning 'hands-on' experiences during the second year. The first two years of field work would take place in Nanning. The third year would consist of three intensive field work experiences – one in each of the three specialties (Medical: Nanning; Community Care: Township; Elder Care: Village).

**It should be mentioned that hospital based medical nursing specialties such as operating room , trauma or cardiac, would take place as a post certification specialty.**

- 91.

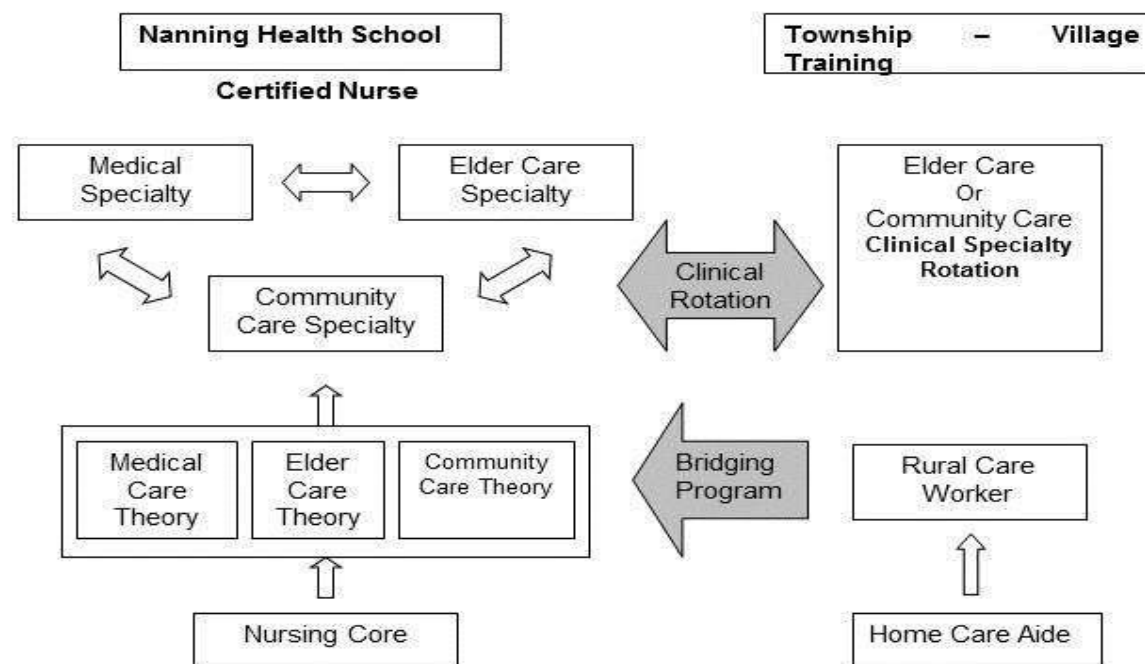
92. Route 2: Township – Village Training

93.

94. A student opting for Route 2 would begin their training by taking a short 3 to 3 month course leading to certification as a Home Care Aide. This program would be designed to train workers in personal care to assist people who are older adults who require assistance as well as those that are disabled, chronically ill, or cognitively impaired. Activities would include bathing and dressing, and the provision of services such as light housekeeping. Consideration could also be given to allow the Home Care Aide to give a client medication or check the client's vital signs under the direction of a certified nurse or other healthcare practitioner. Graduates of this program would immediately enter the work force.

95.

96. Figure 2. Comprehensive Model



97.

98.

99. Once a Home Care Aide had documented worked experience for a specified period of time such as a year, they would become eligible to take a series of short modules designed to upgrade their skills and be certified as a Rural Care Worker which would allow them to work in a residential care setting. Graduation from this program and having a specified period of documented work experience the would allow the student to undertake a bridging program which would prepare them to enter the second year of the nursing program.

100.

101. Incentives
102. This list of incentives should not be considered as exhaustive but rather illustrative.
103. The benefit of adopting the modular approach to curriculum development accruing to the Nanning Health School is that it allows it to:

**tailor programs of study that cater to the different needs of both students and employers without undergoing massive and constant curriculum revision;**

104. experiment with alternative instructional strategies; and
105. tailor instructional materials to overcome learning barriers such as an inadequate level of primary or secondary education
106. A very significant incentive of this approach is that the Township – Village training route offers:
107. individuals who have limited financial means or an inability to committed to a 3 year training program an avenue to employment:
108. a training scheme that does not 'dead end' graduates;
109. a training scheme that allows students to remain within their community for a longer period of time;
110. graduates to meet the basic health care needs of rural communities in a timely manner;
111. a means whereby individuals whose responsibilities for caring for young children or elderly parents have ended, to enter the workforce in an affordable and meaningful manner.

#### **4. Final Curriculum Model**

A focus group discussion of stakeholders took place on the suggested qualifications framework and program model discussed above. The participants were:

112. Dr. Terry Clement( Curriculum Specialist for Elderly Care) ;
113. Zhao jun (Deputy Sector Chief NN Ministry of Health ) ;
114. Ma ying(Teaching Director NN health school) ;
115. Xia yangge(Teaching Director Litang Branch Campus of NN health school);
116. Yi xuelong(Teaching Sector Chief NN health school) ;
117. Su huan(Charge Nurse NN Santang Hospital) ;
118. Ms Helen Drinan(Teacher Training Specialist) ;

119. Dr. Wenjin Wang(Teacher Training Specialist) ;
120. Zhang Mingwu ( Curriculum Specialist for Elderly Care)。
121. About elderly care professional qualification exam,
122. The following topics summarize the conclusions of the meeting.

### **Qualifications Framework**

123. To adjust the qualifications framework to coincide with that listed above is not within the authority of the individuals who would be working on the project. However, what was proposed and what exists are not far apart if the current Elder Care framework is used in place of the Homemaker and Rural Care Worker.
124. Certified Nurse who can work in any of the following areas:
125. Medical Specialty
126. Elder Care Specialty (Geriatric)
127. Community Care Specialty
128. Eldercare Worker which has 4 levels and can work in public and private facilities:
  - Level 4 Elderly Care Technician; 090 hour course after 5 years of field experience
  - Level 3 Senior Elderly Care Worker; 120 hour course after 4 years of field experience
  - Level 2 Medium Elderly Care workers;150 hour course after 2 years of field experience
  - Level 1 Junior Elderly Care workers; 180 hour course
  - These levels correspond to the National Occupational Standards. In order to qualify candidates are subject to theoretical knowledge test and practical skills assessment. The primary contents of the exam: include:
    - basic professional conduct and code of ethics;
    - basic psychology and physiology of the elderly; elderly care skills; common diseases of the elderly;
    - the nutritional needs of elderly people;
    - basic knowledge of relevant laws and regulations.
    -

- 5. Program Model
- There was strong support for the model shown in Figure 4. Comprehensive Model as it allowed students to move between the two different career paths and it lessened the educational barrier of student cost by allowing them to enter the work force and return to school. However two major National Policies were listed which have a major impact on the program model. They were:
- Students over the age of 20 are not eligible for training as a physician or nurse; and
- Student records may only be kept on file for 6 years.
- These policies produce the following constraint: a student must begin their studies before they are 20 and complete them within 6 years. With this in mind a new model employing the elder care worker certification system was developed and shown in **Figure 2. Revised Program Module.**
- Under the revised model a new student wishing to become a nurse has two options which lead to certification:
- The first is the traditional route which is full time study in the NNHS. However, if financial resources are a problem for the student they have the option of entering the work force as an Elder Care worker Level 1 after successfully completing the first 3 months of the nursing program.

**The second option is for the student to take the Elder Care worker training program which is 180 hours in length under the auspices of the NNHS (provided that they are not more than 20 years old). If the Junior Elder Care worker decides that they want to be a nurse then they must complete the “Stepping Stone Module” which allows them to enroll in the Bridging Program.**

**The Bridging Program is envisioned to be a series of modules developed either as distance education courses or short intensive off-campus courses which are equivalent to the first year of the nursing program. Alternatively, the Jr. can take the 150 hour course after two years of experience and become a Medium Elder Care Worker. If this approach is selected then they can enter the Bridging Program directly but they must complete it within 2 years in order to graduate from Nursing with the 6 year constraint.**

129. The most obvious areas where new curriculum development/revision will need to take place are shown as shaded areas in Figure 2. **Revised Program Module Error! Not a valid bookmark self-reference..**

Development of the new program would allow students to qualify for 3 certificates (graduation certificate, elderly care national occupation qualification certificate, certificate of registered nurse) and establish a flexible training method to suitable for students who have limited financial means or an inability to committed to a 3 year training program.

Additional Consultation

Discussions also took place with Mr Ding Zhen Hui who is the Section Chief of the NN Civil Affairs Bureau Social Welfare and Charity Development Department. In summary, it was reiterated that elder care workers are very scarce in NN, especially high quality professional and technical personnel. He indicated that for this project to include elderly care would be very good and in line with the national policy orientation. In terms of certification, the NN Civil Affairs Bureau will manage the primary exam in the near future so the students who get 180 study hours elderly care training will be eligible to take part in this exam.

Mr. Ding hopes that the ABD project could include establishing two types of elderly care bases: the first as the practice base for the elderly care students; the second as the work bases for students of poor rural families who have limited financial means or an inability to commit to a 3 year training program. Additional discussions also took place with Mr. Liao from the NN Education Bureau: (M director of Vocational Education and Adult Education Division)

After a detailed presentation of the ADB project with a specific emphasis on the Elder Care component was provided to Mr. Liao he confirmed that the project was very important, and the curriculum model was very creative and practical. He stated that he would like to provide additional support for the project.

Mr. Liao suggested that a bridging program from the main nursing program back to the Elder Care Training (Path 2 to Path 1) would also be good as a few students may have difficulties in their second and 3rd schooling year.

Mr. Liao confirmed that the NN Health School can arrange their curriculum autonomously and if there are any problems the NN Education Bureau will help them. About GX Education Department, NN Education Bureau would communicate with them to ensure the smooth implementation of the project if need. In addition, Mr.Liao suggested the advance module could be an elective course at the beginning. Also, if there are any difficulties between NN Health School the professional qualification examination the NN Health Bureau would coordinate with Nanning Civil Affairs Bureau and GX Civil Affairs Department to resolve any problems.

There is a recruitment project for the NN city's junior high school graduates by NN Education Bureau every year. and the NN Education Bureau will help NN Health School to recruit new students if required.

Mr. Liao also mentioned that there is a league for student's practice and employment called "Professional Group" which is organized by the Education Bureau. Members include the vocational education schools, industry associations, enterprises but not hospital and elderly care facilities. He asked if the NN Health School would be willing to help in this initiative.

#### Teacher Capacity

As a result of overlapping terms of reference the bulk of this section of the report has been included in Teacher Training Report. However , professional development upgrading for faculty will be required to enable them to do Learning Resource and Assessment Tool development.

#### 130. Building



131. A realistic replication of a residential care facility would make an excellent laboratory for the Elder Care Training program as well as for the components of the nurse training program related to elder care. Ideally this would be a stand-a-lone building situated on the campus of the new NNHS, Alternatively, it could be incorporated into the main building. The specifications for the laboratory can be found in Annex 6 Physical Requirements for a Residential Care Laboratory.
132. Practical Training
133. Every health care program includes both simulated and real clinical experience which is integrated into the program usually starting with observation during the first year and gradually increasing the amount of hands-on experience. The third year frequently includes a long term fielding sometimes referred to as a preceptorship. There are many difficulties to overcome during this phase of the training. The main one is matching the skill level of the student with acuity level of the patient and finding patients who are available when the student is in the field. This is also the most expensive aspect of training as the Faculty to student ratios are very high. To mitigate against these costs the preceptorship was conceived.

#### **Preceptor**

***“An experienced RN who functions as a role model for a nursing student and provides transitional role support via a collaborative, collegial relationship. In conjunction with a nursing faculty advisor, the preceptor is responsible for mentoring, supervision and evaluating the nursing activities of a nursing student during the final clinical preceptorship.”***

134. Figure 3. Revised Program Module). The training content(from primary level to technician see Figure 3. Revised Program Module Elder Care Levels 1 to 4) includes: Life care (including personal hygiene, sleep care, diet care, urination or defecation care, safety protection), nursing technology (including drug, observation, disinfection, hot and cold applications, nursing records, hospice care, emergency nursing of common diseases, health education, elderly care environment design); Rehabilitation Nursing (including rehabilitation, leisure activities); psychological Nursing (including communication and coordination); nursing supervision.

## **12. Curriculum features**

### **“Level 1 certificate” model :**

135. short-term technical training courses to meet the elderly care national occupation qualification certificate. The courses include life care, nursing, rehabilitation nursing, psychological nursing, nursing management and clinical practice.

### **Level 2 certificate ” model :**

136. includes courses in gerontology, geriatrics, TCM nursing, rehabilitation therapy technology, nursing care and health care, the elderly psychological nursing, diet and health, elderly sports health, elderly activity organization and planning, interpersonal communication, modern service etiquette, elderly social work, elderly policies and regulations, practical elderly care organization management, community service and management. These courses are required for the qualification examination.

### **Advantages and Disadvantages**

137. Level 1 certificate” model The major advantages are a short training time, suitable for the students who have limited financial means or an inability to committed to a long-term (3 years) program; and can obtain an elderly care national occupation qualification certificate. The disadvantages is that the course content is very basic and limits the care one can provide..
138. Level 2 certificate ” model The advantages are a graduate qualifies for a level 2 certificate and an elderly care national occupation qualification certificate such as Vocational and Technical College’s Elderly Service and Management Major; and the curriculum is very relevant so graduates can easily to adapt to the elderly care job requirements. The disadvantages are a graduate’s are restricted to providing elderly care; the employment opportunities are currently limited; lack of medical knowledge will restrict the one’s professional development; and full-time study is a will be a challenge for the students who have limited financial means or an inability to committed to a long-term program.

### **Vocational and Technical College’s Elderly Service And Management Major**

139. In China, many Vocational and Technical Colleges have “Elderly Service And Management Major” such as Fujian Hwanan Women’s

College, Dalian Vocational Technology College, Changsha Social Work College.

### **Fujian Hwanan Women's College**

140. "Elderly Service And Management Major" began to recruit students in 2010, 3 years of schooling, recruit 15 people each year (female only). The main professional courses including: Gerontology introduction, elderly social work, leisure Kangle event planning and organizing, elderly policies and regulation, the aged industry management, social welfare and social insurance, the elderly psychological counseling and guidance, elderly care and health, diet and health, gerontology, administrative management knowledge, community service and management etc.

### **Dalian Vocational Technology College**

141. "Elderly Service And Management Major" began to recruit students in 1999, 3 years of schooling, recruit 80 people each year. The main professional courses including: Gerontology foundation and application of elderly policies and regulations, the elderly psychological nursing, diet and nutrition, massage, physiotherapy technology, common Senile disease prevention and care, elderly care institutions operating and management, the elderly activity organization and planning, elderly fitness, TCM nursing, social welfare policy and application, elderly service marketing, interpersonal communication, modern service manners.

### **Changsha Social Work College**

142. "Elderly Service And Management Major" began to recruit students in 1999 for a 3 year program with an intake of 50 students each year. The main professional courses include: introduction to gerontology, elderly health care, elderly interpersonal communication, traditional geriatric rehabilitation care, elderly mental nursing, elderly care institutions management, elderly social work, traditional Chinese medicine health, nutrition and diet, elderly sport health care, elderly activity planning, elderly policies and regulations.

### **Elderly Care training for Field Nurses**

Elderly Care training for field nurses began at Southern Medical University Zhujiang Hospital's clinic in 2012. The objectives of training is to understand the social demand of elderly care; understand the theory and practice related to the clinical nursing of elderly; establish a clinical thinking path and method of elderly nursing. The target of the training is senior nurses who are working with the elderly for more than 3 years and nurses with an eldercare nursing professional background. The duration of the training is approximately 40 hours with clinical practice arrangements in Neurology Department, Endocrine Department and Respiratory medicine.

## Course Content

course	Content
1	The thinking in elderly clinical nursing and nursing procedure
2	The nursing of elderly inpatients and the continuity after discharge
3	The elderly caring case management / group project
4	Elderly patients ADL assessment and rehabilitation guidance
5	Elderly patients 's nutritional evaluation and improve guidance
6	Assessment and treatment of elderly nursing problems (dysphagia, constipation)
7	Assessment and treatment of elderly nursing problems (pressure ulcers, incontinence)
8	Assessment and treatment of elderly nursing problems (intelligent, sleep)
9	Assessment and treatment of elderly nursing problems (pain, fall)
10	Evaluation of nursing problems common in elderly patients before and after operation and treatment
11	Nursing Countermeasures of elderly patients with chronic disease (hypertension, diabetes)
12	Nursing Countermeasures of elderly patients with chronic disease (chronic obstructive pulmonary disease, stroke)

## Advantages and Disadvantages

143. The training time is short and flexible model which focuses on improving nursing skills. The disadvantage is that it is only suitable for field nurses who have an elder care professional foundation and corresponding experience. Graduates do not qualify for any of the elderly care national occupation qualification certificates.

## General Conclusions

144. Given that the percentage of elderly is increasing worldwide all policymakers be they politicians or bureaucrats must face two major policy questions. First, to what degree should the government take responsibility for financing long-term care verses the extent to which the private sector should provide long-term care? Second, how can the cost of long-term care service be made more efficient regardless if it is publicly or privately funded?
145. As a possible response to both of these questions there appears a growing consensus that it is more cost effective to encourage seniors to remain in their homes as long as possible and delay the entry into residential care as long as possible. This has led to the development of numerous government programs to facilitate this and, in British Columbia (BC) Canada this would include:
- Medical Services Plan Premium Assistance
  - Cash Back for Energy Efficient Home Improvements
  - Home Owner Grant for Seniors
  - Home Adaptations for Independence
  - Shelter Aid for Elderly Renters

- Transit Seniors' Fare Discount
  - Bus Pass Program
  - Taxi Saver Program
  - Ferry Discount
  - Seniors' Vehicle Insurance Discounts
  - Old Age Security Pension
  - Guaranteed Income Supplement
  - Allowance for Survivor Benefits
  - Canada pension Plan
  - BC Seniors Supplement
  - BC Income Assistance for Seniors Not Receiving Old Age Security
  - Employment Insurance
  - Veterans' Benefits
146. An outcome of this policy is that seniors entering residential care now tend to be older and more chronically ill. This in turn means that the level and type of skills required for elderly care workers staffing the residences has increased. The emerging financial burden of rising long term care costs is substantial regardless if it is publicly or privately funded.

### **III. ELDER CARE CURRICULUM RECOMMENDATIONS**

#### **A. PROGRAM DELIVERY MODEL DEVELOPMENT**

##### **1. Background**

147. Preliminary analysis indicates that there is a dire need for health care personnel who are willing and able to work with the elderly and who are prepared to work in either the rural areas or urban setting. To address this challenge, it was proposed that changes be made to existing instructional programs such as nursing and, to a lesser extent, doctor preparation. A second option was to develop 'standalone elder care program'. As well as these two options it was recommended that upgrading programs be developed to raise the skill level of unqualified doctors, nurses and other workers currently caring for the elderly. The question to be decided was which option or combination of options should be pursued.
148. Regardless of the model or combination of models selected the most flexible way to address the challenge is to divide the content into a modular format. To do this one must:
3. Conduct an occupational analysis to identify the range, depth and breadth of knowledge and skills required to provide the desired elderly care.
  4. Reorganize the content according to pedagogical logic into self-contained module outlines.
149. It should be recognized at the outset that modules need not be the same length and they should address a relatively small group of related competencies. Modules, therefore, become the building blocks to develop courses and programs. A sample of a small module for Quality Assurance can be found in Appendix 2: Sample Module.

##### **2. Assumptions**

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153. A sample Township hospitals and associated village clinics can be found which are willing to participate in a pilot project.

### 3. Proposed Curriculum Model

#### Elder Care Qualifications Framework

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#### The Model

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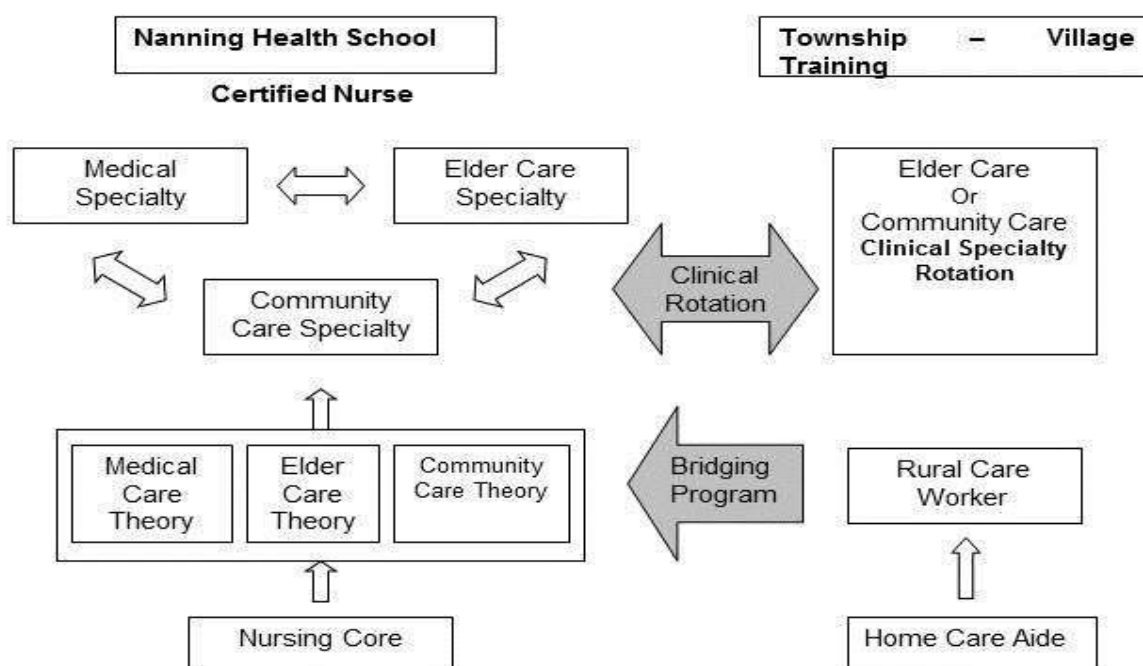
##### *Route 1: Nanning Health School*

157. Currently, the existing route through the Nanning Health School is where a student completes years 1 and 2 within the institution and a third year in a field setting. However, in this model, the content in the first and second year has been modularized and reorganized. In the first year the skills common to medical care nursing, elder care nursing and community care nursing have been organized into a common core. During the second year the student would rotate through each of the three specialties. It is also expected that students would have short, i.e. two weeks, observation field work in various settings during the first year and three beginning 'hands-on' experiences during the second year. The first two years of field work would take place in Nanning. The third year would consist of three intensive field work experiences – one in each of the three specialties (Medical: Nanning; Community Care: Township; Elder Care: Village).
158. It should be mentioned that hospital based medical nursing specialties such as operating room , trauma or cardiac, would take place as a post certification specialty.

##### *Route 2: Township – Village Training*

159. A student opting for Route 2 would begin their training by taking a short 3 to 3 month course leading to certification as a Home Care Aide. This program would be designed to train workers in personal care to assist people who are older adults who require assistance as well as those that are disabled, chronically ill, or cognitively impaired. Activities would include bathing and dressing, and the provision of services such as light housekeeping. Consideration could also be given to allow the Home Care Aide to give a client medication or check the client's vital signs under the direction of a certified nurse or other healthcare practitioner. Graduates of this program would immediately enter the work force.

**Figure 2. Comprehensive Model**



160. Once a Home Care Aide had documented worked experience for a specified period of time such as a year, they would become eligible to take a series of short modules designed to upgrade their skills and be certified as a Rural Care Worker which would allow them to work in a residential care setting. Graduation from this program and having a specified period of documented work experience the would allow the student to undertake a bridging program which would prepare them to enter the second year of the nursing program.

## Incentives

161. This list of incentives should not be considered as exhaustive but rather illustrative.



162. The benefit of adopting the modular approach to curriculum development accruing to the Nanning Health School is that it allows it to:

1. tailor programs of study that cater to the different needs of both students and employers without undergoing massive and constant curriculum revision;
2. experiment with alternative instructional strategies; and
3. tailor instructional materials to overcome learning barriers such as an inadequate level of primary or secondary education

163. A very significant incentive of this approach is that the Township – Village training route offers:

1. individuals who have limited financial means or an inability to committed to a 3 year training program an avenue to employment;
2. a training scheme that does not ‘dead end’ graduates;
3. a training scheme that allows students to remain within their community for a longer period of time;
4. graduates to meet the basic health care needs of rural communities in a timely manner;
5. a means whereby individuals whose responsibilities for caring for young children or elderly parents have ended, to enter the workforce in an affordable and meaningful manner.

#### **4. Final Curriculum Model**

164. A focus group discussion of stakeholders took place on the suggested qualifications framework and program model discussed above. The participants were:

- Dr. Terry Clement( Curriculum Specialist for Elderly Care) ;
- Zhao jun (Deputy Sector Chief NN Ministry of Health ) ;
- Ma ying(Teaching Director NN health school) ;
- Xia yangge(Teaching Director Litang Branch Campus of NN health school);
- Yi xuelong(Teaching Sector Chief NN health school) ;
- Su huan(Charge Nurse NN Santang Hospital) ;
- Ms Helen Drinan(Teacher Training Specialist) ;
- Dr. Wenjin Wang(Teacher Training Specialist) ;
- Zhang Mingwu ( Curriculum Specialist for Elderly Care)。

165. About elderly care professional qualification exam,
166. The following topics summarize the conclusions of the meeting.

*Qualifications Framework*

167. To adjust the qualifications framework to coincide with that listed above is not within the authority of the individuals who would be working on the project. However, what was proposed and what exists are not far apart if the current Elder Care framework is used in place of the Homemaker and Rural Care Worker.
- a. Certified Nurse who can work in any of the following areas:
- Medical Specialty
  - Elder Care Specialty (Geriatric)
  - Community Care Specialty
- b. Eldercare Worker which has 4 levels and can work in public and private facilities:
- Level 4 Elderly Care Technician; 090 hour course after 5 years of field experience
- Level 3 Senior Elderly Care Worker; 120 hour course after 4 years of field experience
- Level 2 Medium Elderly Care workers; 150 hour course after 2 years of field experience
- Level 1 Junior Elderly Care workers; 180 hour course
168. These levels correspond to the National Occupational Standards. In order to qualify candidates are subject to theoretical knowledge test and practical skills assessment. The primary contents of the exam include:
- basic professional conduct and code of ethics;
  - basic psychology and physiology of the elderly; elderly care skills; common diseases of the elderly;
  - the nutritional needs of elderly people;
  - basic knowledge of relevant laws and regulations.

## 5. Program Model

169. There was strong support for the model shown in Figure 4. Comprehensive Model as it allowed students to move between the two different career paths and it lessened the educational barrier of student cost by allowing them to enter the work force and return to school. However two major National Policies were listed which have a major impact on the program model. They were:
1. Students over the age of 20 are not eligible for training as a physician or nurse; and
  2. Student records may only be kept on file for 6 years.
170. These policies produce the following constraint: a student must begin their studies before they are 20 and complete them within 6 years. With this in mind a new model employing the elder care worker certification system was developed and shown in **Figure 2. Revised Program Module**.
171. Under the revised model a new student wishing to become a nurse has two options which lead to certification:
- The first is the traditional route which is full time study in the NNHS. However, if financial resources are a problem for the student they have the option of entering the work force as an Elder Care worker Level 1 after successfully completing the first 3 months of the nursing program.
  - The second option is for the student to take the Elder Care worker training program which is 180 hours in length under the auspices of the NNHS (provided that they are not more than 20 years old). If the Junior Elder Care worker decides that they want to be a nurse then they must complete the "Stepping Stone Module" which allows them to enroll in the Bridging Program.
172. The Bridging Program is envisioned to be a series of modules developed either as distance education courses or short intensive off-campus courses which are equivalent to the first year of the nursing program. Alternatively, the Jr. can take the 150 hour course after two years of experience and become a Medium Elder Care Worker. If this approach is selected then they can enter the Bridging Program directly but they must complete it within 2 years in order to graduate from Nursing with the 6 year constraint.
173. The most obvious areas where new curriculum development/revision will need to take place are shown as shaded areas in **Figure 2. Revised Program Module Error! Not a valid bookmark self-reference..**
174. Development of the new program would allow students to qualify for 3 certificates (graduation certificate, elderly care national occupation qualification certificate, certificate of registered nurse) and establish a flexible training method to suitable for students who have limited financial means or an inability to committed to a 3 year training program.

## **Additional Consultation**

175. Discussions also took place with Mr Ding Zhen Hui who is the Section Chief of the NN Civil Affairs Bureau Social Welfare and Charity Development Department. In summary, it was reiterated that elder care workers are very scarce in NN, especially high quality professional and technical personnel. He indicated that for this project to include elderly care would be very good and in line with the national policy orientation. In terms of certification, the NN Civil Affairs Bureau will manage the primary exam in the near future so the students who get 180 study hours elderly care training will be eligible to take part in this exam.
176. Mr. Ding hopes that the ABD project could include establishing two types of elderly care bases: the first as the practice base for the elderly care students; the second as the work bases for students of poor rural families who have limited financial means or an inability to commit to a 3 year training program. Additional discussions also took place with Mr. Liao from the NN Education Bureau: (M director of Vocational Education and Adult Education Division)
177. After a detailed presentation of the ADB project with a specific emphasis on the Elder Care component was provided to Mr. Liao he confirmed that the project was very important, and the curriculum model was very creative and practical. He stated that he would like to provide additional support for the project.
178. Mr. Liao suggested that a bridging program from the main nursing program back to the Elder Care Training (Path 2 to Path 1) would also be good as a few students may have difficulties in their second and 3rd schooling year.
179. Mr. Liao confirmed that the NN Heath School can arrange their curriculum autonomously and if there are any problems the NN Education Bureau will help them. About GX Education Department, NN Education Bureau would communicate with them to ensure the smooth implementation of the project if need. In addition, Mr.Liao suggested the advance module could be an elective course at the beginning. Also, if there are any difficulties between NN Health School the professional qualification examination the NN Health Bureau would coordinate with Nanning Civil Affairs Bureau and GX Civil Affairs Department to resolve any problems.
180. There is a recruitment project for the NN city's junior high school graduates by NN Education Bureau every year. and the NN Education Bureau will help NN Health School to recruit new students if required.
181. Mr. Liao also mentioned that there is a league for student's practice and employment called "Professional Group " which is organized by the Education Bureau. Members include the vocational education schools, industry associations, enterprises but not hospital and elderly care facilities. He asked if the NN Health School would be willing to help in this initiative.

## **Teacher Capacity**

182. As a result of overlapping terms of reference the bulk of this section of the report has been included in Teacher Training Report. However , professional development upgrading for faculty will be required to enable them to do Learning Resource and Assessment Tool development.

## **Building**

183. A realistic replication of a residential care facility would make an excellent laboratory for the Elder Care Training program as well as for the components of the nurse training program related to elder care. Ideally this would be a stand-a-lone building situated on the campus of the new NNHS, Alternatively, it could be incorporated into the main building. The specifications for the laboratory can be found in Annex 6 Physical Requirements for a Residential Care Laboratory.

## **Practical Training**

184. Every health care program includes both simulated and real clinical experience which is integrated into the program usually starting with observation during the first year and gradually increasing the amount of hands-on experience. The third year frequently includes a long term fielding sometimes referred to as a preceptorship. There are many difficulties to overcome during this phase of the training. The main one is matching the skill level of the student with acuity level of the patient and finding patients who are available when the student is in the field. This is also the most expensive aspect of training as the Faculty to student ratios are very high. To mitigate against these costs the preceptorship was conceived.

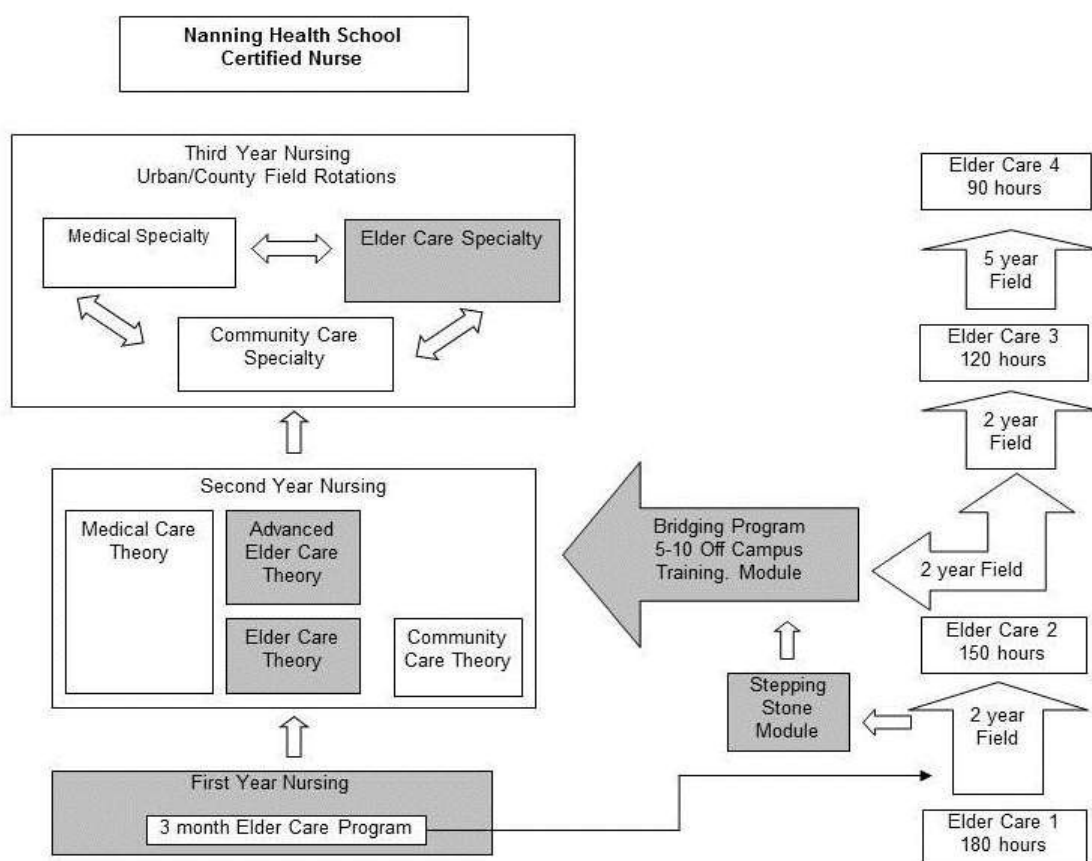
## **Preceptor**

185. "An experienced RN who functions as a role model for a nursing student and provides transitional role support via a collaborative, collegial relationship. In conjunction with a nursing faculty advisor, the preceptor is responsible for mentoring, supervision and evaluating the nursing activities of a nursing student during the final clinical preceptorship."<sup>130</sup>

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<sup>130</sup> NEPAB (Nursing Education Program Approval Board", *Standards for Alberta Nursing Education Programs Leading to Initial Entry to Practice as a Registered Nurse*, September 2005, P 8

**Figure 3. Revised Program Module**



## Preceptorship

186. A preceptorship is “A teaching and learning method involving a formal, usually one-to-one relationship between the preceptor and a nursing student (preceptee). The learning occurs as the nursing student practices full time (as defined by the clinical facility) alongside the expert nurse. The preceptor assists the student to consolidate theory with the roles, functions and competencies of the graduate about to enter practice.”<sup>131</sup>

## Staffing

187. The most common standard followed by schools of nursing in North America employs the following staff to student ratios:
- 1 Faculty:8 -10 students in non clinical
  - 1 preceptor :1 student in clinical preceptorship
  - 1 Faculty :16 student in clinical preceptorship

<sup>131</sup> Ibid

## Job Skill Requirements For Elderly Care In Nanning

188. Due to the dearth of curriculum pertaining to the care of the elderly it will be necessary to:
  1. Conduct an occupational analysis to identify the range, depth and breadth of knowledge and skills required to provide the desired elderly care.
  2. Determine the 'relative weights' of the occupational profile objectives according to continuous and discrete skill types.
  3. Develop a training delivery model that can be offered ideally at the 'administrative village' level but at the very least, the township level. (Townships include several 'administrative villages' which in turn include several 'natural villages')

## Occupational Analysis

189. Acquire a list of National Standards for elderly care workers and/or other health care professions caring for the elderly.
190. Conduct an occupational analysis workshop (DACUM) to determine the skills needed to competently function as a health care provider for the elderly.
191. Conduct a "perception check" of the first draft of the performance objectives (competencies) with the participants in the workshop referred to in "2." above.
192. Conduct validation workshops of the revised task analysis with a different group of health care representatives.
193. Develop a variety of scales to indicate the level of skill a student must demonstrate in order to be declared competent. The following would be considered minimum:
  - a. **Age Scale** which indicates the age range of the patient upon whom the learner must demonstrate the clinical skill in order to achieve competency.
  - b. **Proficiency Level** which classifies each clinical competency in terms of national level of proficiency expected of an individual entering practice.

## Learning Resource Development and Instruction

194. Provide in-service training to faculty of Nanning Health School on how to:
  1. match types of learning resources to learning objectives;
  2. determine the most effective teaching techniques to achieve a learning objective(s);
  3. develop different types of learning resources;

4. utilize learning resources in the classroom, laboratory and field’;
5. develop e-learning resources;
6. evaluate the effectiveness of a learning resource;
7. employ current instructional techniques to maximize the effectiveness of learning resources; and
8. develop field skill (Clinical) training modules.

### **Assessment Tool Development**

195. Prior to developing the assessment tools it would be necessary to determine the Evaluation Method to be used as the final level of evaluation required for each clinical competency or academic objective. The classification would be as follows:
  - O** Observed throughout the course of study (intended to apply principally to attitudes and behaviour
  - Dc** Demonstrated clinically - formal evaluation in a field setting
  - Ds** Demonstrated through simulation - formal evaluation in a simulated setting allowable, although whenever possible and practical evaluation at the Dc level is encouraged
  - W** Written examination - item may be specifically tested on the Certification Examination
  - Wi** Written examination by institution - item will be specifically tested only by the educational institution
  - Ø** Formal evaluation not required for entry to practice
196. An indicated level of evaluation for a competency/objective generally assumes it has been evaluated by some or all of the methods listed below it. That is, a Dc item will probably have been evaluated by the institution (Wi) and by simulation (Ds) prior to being evaluated at the clinical level (Dc).
197. The Consultant will need to provide workshops on how to develop the specific Assessment Tools such as check list, clinical templates and item banks.
  - workshops on how to establish validity and reliability (including inter-rater reliability) of each tool or test item.
  - Establish a security system for all assessment tools.
  - Develop an “appeal system” to handle complaints.



## **Graduate Follow-up**

198. In order to monitor the effectiveness of the programs established to meet the elderly care health needs it will be necessary to develop a student follow-up system. Features of the system should include:
  1. data separated according to gender;
  2. data collection designed to establish student satisfaction with their schooling;
  3. data collection designed to establish student satisfaction with their work;
  4. employment tracking system to determine how long the graduates working in the rural remain and where to move to.

## **IV. COST AND FINANCIAL ANALYSIS**

199. A curriculum is a broad description of every aspect of the program from the philosophy down to the final assessment. Within this spectrum, curriculum development takes place at every level and for existing programs, curriculum revision can take place at every level and because it is hierarchical in nature (general to the specific) changes at the top end can have a profound impact on the details at the lowest level. In the case of the NNHS a high end philosophical change has been made, namely, the shift from traditionally delivered instruction to a competency based participatory instruction and this will change to one extent or another every component of the nursing program.
200. Under the current law, the courses that cannot be changed without permission are those falling into the Culture Basic Module. They include:
  - Occupational Career Planning;
  - Occupational Morals and Law;
  - Mental Health;
  - Political, Economic and Social;
  - Philosophy and Life;
  - Sports and Health;
  - Chinese;
  - English;
  - Basic Medical Chemistry;
  - Basic Mathematics;

- Foundation of Computer Applications;
- Safety Education.

201. Curriculum development costs cannot be accurately be estimated until the curriculum analysis has been developed. However, for the purposes of the PPTA, a best practices typical program developed by the WHO for Europe Annex 8 Sample Elder Care Program will be used to identify the **elder care component** of the nursing program.

#### A. ESTIMATED DEVELOPMENT TIME

202. The most common unit to measure learning resource develop time is the ratio of the: *number of development hours per hour of instruction*. What creates the huge diversity of estimates is the number of elements included in the term “development” For the purposes of the PPTA the following values will be used in conjunction with the program listed in Annex 8 Sample Elder Care Program

**Table 5. Development Time per Hour of Instruction**

Technique	Hours / Hour of instruction
Develop Seminar and Group work	2
Develop a lecture	4
Develop a very detailed course blueprint with learning modules- objectives - detailed activities – assessments	40
Develop a detailed case study	60
Develop a Distance course	200
Standard e-learning, including presentation, audio, some video, test questions, and 20% interactivity	220
3rd party courseware	345
New simulations from scratch.	750

203. The specific modules related to elder care nursing taken from Annex 8 Sample Elder Care Program were reviewed and a percentage of time utilizing different teaching techniques was estimated and show in Annex 4: Development Time and Cost Estimates. The steps are as follows:

1. The Elder Care Module Outlines were reviewed and expected teaching techniques were assigned by percentage.

#### The learning resource development times shown in

2. Table above were assigned to arrive at a total development time for each technique by module.
3. The totals for each module were distributed by development activity.
4. These were summarized and shown in Table .

204. Based on the total length of the Module (hours of instruction), percent of teaching technique, and development time ratio a total number of development hours was ascertained for each technique ( see Table ). This number was subdivided further according to development activity (see Table ) and summarized in Table under the column titled 'Summary'. The last column 'Yrs' was derived by estimating the number of working days in a year to be:

Year=Days-weekends-stat holidays-vacation

Year=365-104-11-20=220 working days

Year=220 x 8 hrs x 90% efficiency = approximately 1600 hrs

205. and dividing the values under 'Summary' by 1600 yields the person years required to complete the task.

**Table 6. Summary of Development Activities by Hours and Years**

Development Activity		Summary hrs	Yrs	Cat.Summary
Needs Assessment		268	0.17	
Prepare Project Plan		178	0.11	
Conduct Course Content/Learning Analysis		446	0.28	0.56
Develop Instructional Media Design Package		892	0.56	
Develop Prototype Lesson		446	0.28	
Develop Flowcharts		268	0.17	
Develop Script/Storyboards		1695	1.06	2.62
Produce/Acquire Media (Photos, audio, video)		1160	0.72	
Author Course		2676	1.67	2.40
Evaluate the Course (In-Process Reviews)		892	0.56	
		8920	5.58	
DACUM Specialist	Content Specialist	Learning Resource Technologist		

206. Although the estimated time of approximately 5½ years may seem excessive it is a fair representation of the real time spent in development as it accounts for the entire out of class time teachers spend developing their lessons. One must remember that the addition to the development of what amounts to a major in elderly care the entire nursing program will be changed to reflect the new philosophy of competency based participatory training which is over and above that identified here. However, for the purposes of budgeting, the cost for much of this time is accounted for in the salary of the teacher and does not represent an additional expense. For example; according to Table there are 238 Teachers in the Nursing program and if each one spends 2 hours per week on learning resource development this would amount to
- $$\left( \frac{2 \text{ hrs} \times 40 \text{ wks} \times 238 \text{ teachers}}{1600 \text{ hrs}} \right) = 11.9 \text{ years}$$

207. or almost 12 person years each academic year. What is required is to provide the faculty with the expertise to do the job.

### **1. External Personnel Required**

208. As a result of the Teacher Training being separated into an independent component of the project running concurrently, the development activities listed in Table can be grouped into 3 distinct areas which complement this base. They are:
- program and competency development;
  - subject matter expertise in elder care (geriatric, gerontological nursing); and
  - multimedia technical expertise to develop high end learning materials
209. These will require consultants in each area. It is proposed that key NNHS faculty who have an interest and aptitude for curriculum and learning resource development be trained by the Consultants to do the work. In this manner, when the project is finished the school is left with the expertise to continue to revise and develop curriculum as well as act as a resource to other schools if they want to replicate the project. This would meet the sustainability criteria of the project.
210. It is expected that the NNHS will designate a counterpart identified from the cohort of special teachers trained under the Teacher Training component of the project. Also, these individuals will serve the entire nursing program and not just the Elder Care component.

### **2. Budget**

211. The following budget represents the anticipated curriculum and learning resource development for the nursing as a whole and Elder Care in particular. It does not include funds for Rural Doctor training although much of what is developed for Elder Care will be useful for Rural Doctor training.
212. Note: This budget does not include the design and equipping of simulation laboratories in the new facility. To develop the specification for nursing simulation laboratories would require an experienced expert in this field. Notice has been sent to Civil works indicating that the design of the new health school should include this. However, the basic equipment for the nursing and Elder Care programs is included in Annex 5 Equipment but has not been priced as this task will be taken up by a consultant in the next fielding. It should further be noted that this is not the Project Budget but is included as a guideline to those charged with drawing up an Elder Care Development Program for Guangzi.

Category	Unit Cost	No. of Units	Sub Total	Total
<b>Personnel</b>				<b>\$ 250,050.00</b>
<i>International Consultants</i>		Months		
Program Development Expert	\$ 12,000.00	1	\$ 12,000.00	
Cur Dev Specialist Geriatric Nursing	\$ 12,000.00	12	\$144,000.00	
Per Diems	\$ 100.00	640.5	\$ 64,050.00	
International Travel	\$3,000.00	2	\$ 6,000.00	
<i>National Personnel (Backfill)</i>				
NNHS Nursing Faculty(2 positions)	\$1,000.00	24	\$24,000.00	
<i>National Consultants</i>				
Media & Instruc Tech Specialist	\$2,000.00	8	\$16,000.00	
<b>Local Travel</b>			\$-	<b>\$ 6,300.00</b>
Air	\$ 350.00	12	\$ 4,200.00	
Vehicle Rental	\$ 100.00	12	\$ 1,200.00	
Accommodation/Per Diems	\$ 75.00	12	\$900.00	
<b>Development Hardware</b>			\$-	<b>\$ 24,401.00</b>
Clinical Simulation Mannequins	\$ 4,100.00	1	\$ 4,100.00	
Computer Peripherals	\$ 1,000.00	1	\$ 1,000.00	
Computers	\$ 1,500.00	6	\$ 9,000.00	
TV Monitors	\$ 1,500.00	3	\$ 4,500.00	
Audio, Video, Data, Voice (AVDV)	\$1.00	1	\$ 1.00	
Printers	\$ 300.00	3	\$900.00	
Cameras	\$ 300.00	10	\$ 3,000.00	
			\$-	
Scanners	\$ 150.00	2	\$300.00	
Photocopier	\$ 800.00	2	\$ 1,600.00	
<b>Software</b>			\$-	<b>\$ 22,000.00</b>
Office Products	\$ 500.00	6	\$ 3,000.00	
Multi Media Authoring Tools	\$ 1,500.00	6	\$ 9,000.00	
Simulation	\$ 1,000.00	10	\$10,000.00	
			\$-	
<b>Office Equipment</b>			\$-	<b>\$ 4,800.00</b>
Desks	\$ 500.00	4	\$ 2,000.00	
Chairs	\$ 200.00	8	\$ 1,600.00	
Work Tables	\$ 150.00	4	\$600.00	
Telephones	\$ 150.00	4	\$600.00	

Category	Unit Cost	No. of Units	Sub Total	Total
<b>Consumables</b>			\$-	<b>\$ 99,000.00</b>
Office Supplies	\$ 300.00	132	\$39,600.00	
Media	\$ 300.00	132	\$39,600.00	
Photocopying	\$ 150.00	132	\$19,800.00	