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Employment and Empowerment

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List of acronyms

ACC	Accreditation Committee of Cambodia
ADB	Asian Development Bank
AEC	ASEAN Economic Community
ASCC	ASEAN Socio-Cultural Community
ASEAN	Association of Southeast Asian Nations
CDRI	Cambodia Development Resource Institute
D&D	Decentralisation and Deconcentration
DTMT	District Training and Monitoring Team
ECCD	Early Child Care and Development
EFA	Education for All
EMIS	Education Management Information System
ESP	Education Strategic Plan
GDHE	General Department of Higher Education
GDP	Gross Domestic Product
HEI	Higher Education Institution
ICT	Information and Communications Technology
ILO	International Labour Organization
JICA	Japan International Cooperation Agency
KOICA	Korea International Cooperation Agency
MAFF	Ministry of Agriculture, Forestry and Fisheries
MOCRA	Ministry of Culture and Religious Affairs
MOEYS	Ministry of Education, Youth and Sport
MOI	Ministry of Interior
MOLVT	Ministry of Labour and Vocational Training
MOOC	Massive Open Online Course
MOU	Memorandum of Understanding
MOWA	Ministry of Women's Affairs
NEA	National Employment Agency
NGO	Non-governmental Organisation
NQF	National Qualifications Framework
NSDP	National Strategic Development Plan
QA	Quality Assurance
SSC	School Support Committee
STEM	Science, Technology, Engineering and Mathematics

TVET	Technical and Vocational Education and Training
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund

Preface

What kind of a future do Cambodians envisage for their children, their society and their country? How might they prosper not only economically, but in ways that build a strong national identity that allows them to emerge from a painful and fractured past with renewed hope and vitality? How do we bring together the building blocks of a society, drawing on research from other nations, while attending to the core of what we value in Cambodia? It is these questions and more that we explore in this edition, as we seek to develop the full potential of the young and ambitious for true socio-economic progress.

Improving the education system is one of the most significant challenges facing Cambodia today. In light of committed education leadership and sweeping education reforms, the Cambodia Development Resource Institute (CDRI) initiated a major research project to investigate the issues besetting Cambodia's education system, with a primary focus on skills development. As the new Executive Director, I was pleased and felt extremely blessed to have joined CDRI just after the launch of this flagship project. One may call this serendipity, or perhaps destiny: twenty years ago, out of personal interest and passion, I wrote a doctoral dissertation titled "University and Human Capital in the ASEAN Perspective: The Case of Cambodia." I also taught for five years at the National University of Singapore, where I played an instrumental role in a major and successful medical education reform. For a Cambodian who has lived abroad for forty years, CDRI's very timely and socially meaningful initiative is indeed the best mission one could ever dream of leading.

The key objective of this project is to produce a volume on the theme "Anchoring Education for Employment and Empowerment." Released annually, this CDRI flagship publication offers a snapshot of Cambodia's educational landscape. The study encompasses several main topics: getting to grips with the skill gap; aiming high through higher education; shaping and scaling up TVET; securing secondary education; meeting basic learning needs through primary education; and lifelong learning through preschool and early childhood development. This volume was prepared with the interests of top policymakers, especially from the Ministry of Education, Youth and Sport, and their development partners in mind.

This research project is the result of consultation and collaboration with national executive and legislative institutions, education institutions, development partners and the private sector that have provided a repository

of significant skills, knowledge and experience. Contributing authors use various primary and secondary sources to support their claims. A multi-authored volume brings a diversity of views and, inevitably, disagreement or variation in interpretation as one might well expect in a research community. Even so, such variation itself can be a valuable resource, ultimately ensuring robust conclusions.

Through our research and analysis, many research gaps have been identified, with a few conflicts in the data also appearing. This baseline project will allow us to prioritise and conduct further studies in order to strengthen and validate our data, ask good probing questions and generate new and different kinds of knowledge to inspire and inform policy and practice that lead to improved education outcomes for all.

A strong educational system alone is not sufficient to build a united and prosperous nation that reflects the cultural values of a society. Our commitment as a research and development institute includes activities that help stimulate collective dialogue for visioning and thinking through our very important next steps. Social and economic transformation requires us to work collaboratively to enable strong policy formulation that can serve as the backbone for our social systems to progress, while also ensuring we respond to the demands of economic transformation in ways that build a prosperous society. As we consider the education of our future generations, we must attend to both quality and relevance while we work hard to remain forward looking. It is our hope that investment in quality, systemic educational reforms will provide a stable building block that can serve our long-term goals. We are a nation on the move. Sound policies and research will help us chart a prosperous course for our future.

Dr Chhem Rethy
Executive Director, CDRI

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Chapter 1
Why Focus on Cambodia's Education and Why Now?

1. 1 Background

Cambodia has achieved strong growth in the past two decades and the country is now on the verge of graduating to lower-middle-income status with a per capita income of about USD1000, a feat that neighbouring Vietnam realised in 2010 and Laos in 2011 (CDRI 2013; Madhur and Menon 2014). Building on this success, the government's aspiration is for Cambodia to break through to the upper-middle-income range (with per capita income of about USD4000, comparable to that of Thailand in 2010 and Indonesia in 2013) by 2030 and reach the high-income ranks (with per capita income of above USD12,000) by 2050 (RGC 2014).

As the country traverses its middle-income path, several factors could constrain growth and development. There is broad consensus among Cambodia's policymakers, the private sector, development experts and development partners (bilateral and multilateral) that an emerging skill gap is one such factor. Skilled human resources even for low-to-medium skill intensive industries are in increasingly short supply. Moreover, the gap between the human resource skills that industries and businesses need and what the education institutions, whether academic or vocational training, are producing is widening almost every year (Madhur 2014). Cambodia will have to tackle this growing skill gap if it is to achieve its vision of becoming an upper-middle-income country in the next two decades and subsequently move up the development ladder.

Interestingly, a skill gap is emerging for the industrial and the service sectors, even as the country has uneducated surplus labour in the countryside and educated but unemployed and underemployed youth in the cities. A poor education system seems to provide the missing link that explains this conundrum of the co-existence of labour surplus and skill shortages (Madhur 2014). Unless the country addresses a whole gamut of issues besetting the development of a robust education system, it will run the risk of being caught in a slow growth middle-income trap. Getting Cambodia's education system right is critical in closing the skill gap.

Srinivasa Madhur, Director of Research, and Dr Chhem Rethy, Executive Director, CDRI.

Worldwide experience shows that from a long-term perspective education is both a determinant and a component of socio-economic development, or what is now referred to as human development. True, an educated society (combined with robust health of the people) provides a country with a productive and skilled workforce for strong and sustained economic growth. At the same time, access to quality education and achieving educational potential, especially among youth, who form the bedrock of future growth and development, are important ends in themselves. Not only does education contribute to income growth and help lift people out of poverty, it also enables them to take advantage of economic, social and political opportunities and puts individuals in control of their own destiny, allowing them to better enjoy their lives.

Reforming Cambodia's rather nascent education system then is crucial to both enabling the country to move up the income ladder and reduce poverty, and to empowering its people to contribute to and benefit from the country's economic growth, social progress and democratic development. On both counts, a critical examination of the country's education system and identifying the kinds of education reforms that policymakers need to pursue over the coming years and decades is crucial. This study attempts to make a modest start towards that objective.

1.2 The study and its objectives

The study aims to provide a bird's eye view of past trends and emerging policy issues in the entire education system, ranging from early childhood development (ECD) and preschool through primary and secondary education to higher education and technical and vocational education and training (TVET). The objective of the study is not to carve out specific education policy prescriptions but to identify the broad sets of issues that the country's policymakers in particular and society more generally may have to grapple with and find pragmatic solutions for in the future. The study is thus more about raising a set of relevant questions than about providing answers to each of those questions. That in itself is expected to contribute to constructive discussion and debate about the country's education reforms. In many ways, therefore, the study identifies a set of issues to be explored in more depth through further research.

The next chapter (Chapter 2) provides an overview of Cambodia's emerging skill gap. The subsequent chapters then encompass and outline past trends and emerging issues in the six segments of the country's education system: higher education (Chapter 3), TVET (Chapter 4), secondary education (Chapter 5), primary education (Chapter 6), and ECD and preschooling

(Chapter 7). Chapter 8 concludes by drawing together the important issues for the different parts of the education system and collating them into broad sets of questions that need to be discussed and debated in more depth in the effort to find workable policy solutions.

1.3 Methodology and sources of data and information

This study employs an eclectic methodology. First, it takes the existing work on Cambodia's education system and skill development as a starting point and builds on it. Second, it uses available secondary data and information—both quantitative and qualitative—from national and international sources. Third, it factors in the key messages that came up at the February 2014 Cambodia Outlook Conference on the theme "Skilling Cambodia and Education Reforms" and the September 2014 Symposium on "Getting Education Right for Cambodia's Changing Labour Market Needs: Reform and Policy Research Priorities" (CDRI 2014; Madhur 2015); panellists and speakers at both events were drawn from government ministries, the Royal University of Phnom Penh (RUPP), the private sector, and multilateral institutions. Fourth, it deciphers the key issues of major concern to the government that are set out in the National Strategic Development Plan 2014-18 and the Education Strategic Plan 2014-18. These efforts to collect information were complemented by semi-structured consultations and key-informant interviews with representatives from government ministries and departments, development partners, education institutions, private sector and non-governmental organisations, as well as students and parents. In all, about 100 key informants were consulted and interviewed in the period June-August 2014. About one-third of the interviewees were drawn from education institutions (both public and private). The remaining two-thirds were more or less equally divided among five categories: ministries and departments, the private sector, development partners, NGOs, students and parents.

1.4 Limitations and caveats

CDRI is beginning a multi-year *Research and Policy Dialogue Programme on Cambodia's Education Reforms,* and this study is a prelude. The programme will run until 2018 and has a two-fold objective: to produce rigorous policy-relevant research products, and to contribute to evidence-based education reforms. This study should therefore be seen as a "learning by doing" exercise which forms part of CDRI's longer and larger research programme.

As an initial exploratory study, the different chapters should be seen as a collection of papers rather than cohesive components of an integrated volume. They each cover broad sets of issues encompassing enrolment and access to education (quantity of education); quality of education; financing education; private-public composition; and institutional framework and governance. Even then, a few limitations need to be highlighted at the outset.

First, not too much effort is exerted to bring in tight consistency in the sources of data used across the chapters, prepared by different authors. Second, within the five broad sets of issues mentioned above, individual chapter authors are given flexibility or a high degree of latitude in choosing the sets of issues they investigate without necessarily imposing a uniform format across chapters. Third, the way policy issues are treated varies across the chapters. As a result, some chapters have raised quite specific policy implications and others have outlined generic sets of issues, while yet others focus on past trends and current status and pay much less attention to policy. Finally, the higher education chapter (chapter 3), comprising four subchapters by different authors, perhaps is the least consistent in the aspects covered and the policy issues identified. The greater variety in its composition means that it is perhaps the least harmonious chapter of this volume.

That said, many of the key issues that still plague Cambodia's higher education are somewhat similar to those identified by Chhem (1997, ix) more than a decade and half ago:

> … [it] is elitist … its management is centralised, … it is of little relevance, and … its performance is inadequate … Given its present state and its new political, economic, and national environment, the tertiary education in Cambodia faces difficult challenges ahead. It will have to balance social demand and its ability to adapt to change with the development of its human resources by providing a well-rounded education for its graduates …

Cambodia's higher education system is still bound by many of these same constraints, "but the best is yet to come" (William Shakespeare).

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Chapter 2
Cambodia's Skill Gap: An Overview

2.1 Skill: A multidimensional concept

Skill is commonly understood as the ability to do something well. Definitions that are more formal largely echo this idea. "Skills are capacities to act" (Heckman and Mosso 2014, 6). Skill, therefore, is a multidimensional concept. "Skills are multiple in nature and encompass cognition, personality, preference parameters, as well as health" (Heckman and Mosso 2014, 6).

Skills are also largely context-specific. What are considered highly relevant skills for one profession may not even meet the minimum standards expected in other professions. Within the same profession too, the magnitude as well as the nature of skills required in a low-income country or a poor society may not be the same as that needed in a middle-income or a rich country. Even within a country, educational institutions (one of the major developers of various kinds of skills) may be satisfied with the skills they impart to youth, but employers may find those youth lacking in workplace skills—the well known disconnect between education and work.

Building on this basic definition, the World Bank uses a three-dimensional concept of skill that goes beyond mere educational attainment to cover much broader human capital dimensions (World Bank 2013, 8). A typical individual or worker's skills are divided into three broad components: cognitive, socio-emotional and behavioural, and technical (Figure 2.1). All three sets of skills are required in varying degrees for individuals to develop the capacities to act, or for workers to do what they are supposed to do in the workplace.

Figure 2.1: A three-dimensional concept of skill

Cognitive	Social and Behavioral	Technical
Involving the use of logical, intuitive and creative thinking	Soft skills, social skills, life-skills, personality trails	Involving manual dexterity and the use of methods, materials, tools and instruments
Raw problem solving ability vs. knowledge to solve problem	Openness to experience, conscientiousness, extraversion, agreeability, emotional stability	Technical skills developed through vocational schooling or acquired on the job
Verbal ability, numeracy, problem solving, memory (working and long-term) and mental speed	Self-regulation, perseverance, decision making, interpersonal skills	Skills related to a specific occupation (e.g. engineer, economist, IT specialist, etc)

Source: World Bank 2013

Chhom Theavy, Research Associate, and Srinivasa Madhur, Director of Research, CDRI.

Cognitive skills are the ability to understand complex ideas, adapt effectively to the environment, learn from experience, engage in various forms of reasoning, and take corrective actions to resolve problems. Literacy, both language and computer/IT literacy, and numeracy are part of cognitive skills. Socio-emotional skills, also referred to as behavioural or soft skills, relate to traits embracing many domains such as social, emotional, interpersonal, behavioural and attitudinal. These include openness to new experiences, conscientiousness, extraversion, agreeability and emotional stability.

Technical skills range from manual dexterity for using complex tools and instruments to more specialised knowledge in various fields such as science, engineering, medicine, economics, finance, accounting, sociology and political science (World Bank 2013, 15). Technical skills, the acquisition of which is enabled by a solid foundation of generic (cognitive and socio-emotional) skills, can be divided into job-relevant and job-specific skills (Madhur 2014). Combined with cognitive and socio-emotional skills, job-relevant technical skills contribute to a person's employability. Yet, once hired, employees may have to acquire job-specific skills so that they can perform their tasks well and fulfill their job responsibilities. Job-relevant skills enable employees to do well in their work but are not a substitute for job-specific skills.

Figure 2.2: A taxonomy of employability skills

Personal skills	People skills	Applied knowledge	Workplace skills
Integrity	Teamwork	Reading	Planing and organising
Initiative	Communication	Writing	Problem solving
Dependability and reliability	Respect	Mathematics	Decision making
Adaptability		Science	Business fundamentals
Professionalism		Technology	Customer focus
		Critical thinking	Working with tools and technology

Source: National Network of Business and Industry Associations (www.actfdn.org/wp-content/uploads/2014/08/National-Network_EmployabilitySkills_July2014.pdf. Last updated 22 July 2014)

Another somewhat similar definition of skills used by the United States (US) National Network of Business and Industry Associations that places a special focus on youth employability comes up with a four-way topology of skills—personal skills, people skills, applied knowledge and workplace skills (Figure 2.2). This was compiled in close consultation with US business organisations representing employers from major economic sectors. Except

for some minor differences, the first two components of the skills in this framework broadly correspond to the soft skills of the World Bank definition. Similarly, the last two components together correspond to the cognitive and technical skills components of the World Bank definition.

A taxonomy developed for UNESCO's *Education for All Global Monitoring Report 2012* puts forward a similar list of skill sets that employers around the world look for in prospective employees, although some of the skills listed in Figure 2.2 are subsumed in a cross-cutting category called "cultural skills" (Aring 2012).

Viewed from the perspective of these definitions, skill development starts from birth (or even from conception) and continues through early childhood, primary and secondary education all the way to vocational and tertiary education and on-the-job training and learning (World Bank 2013, 17)**.** A country's skill development strategy should therefore take a holistic life-span approach. Certain skills are easier to acquire in early life, whereas other skills develop later (Figure 2.3).

Figure 2.3: The process of skill formation—a simplified model

| 0 to 3 | 3 to 5 | Primary school | Secondary school | Post secondary | Life long learning |

Behavioural skills

Technical skills
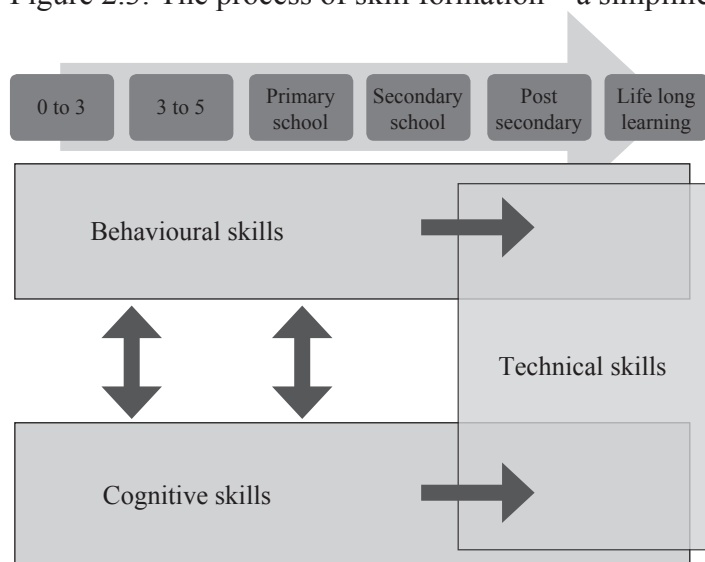
Cognitive skills

Source: World Bank 2013

A growing volume of multidisciplinary work encompassing economics, epidemiology and psychology comes to one key conclusion: cognitive skills and, to some extent, socio-emotional skills begin to form very early in life (Heckman and Mosso 2014). Research highlights the critical importance of early childhood development to be able to make the most of one's abilities (World Bank 2013, 7). Even behavioural skills begin to form in the early years and continue to evolve throughout adulthood.

Technical skills are acquired in the later stages of life. These are acquired mostly through college- and university-level technical and vocational education and training (TVET) and on-the-job learning, although some basic technical skills are learned in earlier stages of education. The process of technical skill acquisition builds on, and interacts with, the process of cognitive and behavioural skill accumulation that begins much earlier in life (World Bank 2013, 17).

Acquisition of a core set of skills—cognitive, soft and technical—endows young people with job-relevant skills that allow jobseekers to find appropriate employment in the labour market. These skills are the main entry-ticket to the labour market. Imparting job-relevant skills is the responsibility of a country's education system. Note, however, that employers are still required to impart job-specific skills—skills that are unique to a particular firm or the industry in which the firm is operating—to their employees through both pre-employment and in-service training and orientation (Madhur 2014).

The fact that cognitive and behavioural skills begin to form from conception, however, does not mean that these skills are genetically determined. "There is mounting evidence that gene expression is itself mediated by environments" (Heckman and Mosso 2014, 7). That the environment is critical for skill formation gives hope to people, societies and countries: those who do not have these skills today can build them over time, as the environment can be changed through well designed and effectively implemented public policies, programmes and projects.

Against the backdrop of skill formation and development analytics, this chapter provides an overview of the emerging skill gaps in Cambodia. It analyses the skill shortages faced by potential employers across a number of industrial and service sectors (Section 2.2), the skill gaps faced by the tourism industry—a major source of growth and foreign exchange earnings for the country (Section 2.3), the likely impact of the emerging skill gaps on the country's growth and development (Section 2.4), and the country's skill gap in a global context (Section 2.5). The main conclusions are summarised in Section 2.6.

2.2 Cambodia's emerging skill gap

There is an increasing consensus that Cambodia is facing a growing gap between the skills that industries and businesses require and what young people in education institutions, whether academic or vocational training, acquire (CDRI 2013, 2014; Madhur 2014; World Bank 2010, 2012). The main sources of information on the country's skill gaps and shortages are enterprise/employer surveys. The reliability of these survey results,

however, very much depends on the sampling method (including the representativeness of the sample), questionnaire design and the response rate of the target respondents. It is important to keep these potential limitations of employer surveys in mind with a view to arriving at strong conclusions on the extent and nature of critical skill gaps. That said, employer-survey-based assessments of skill gaps are common in most countries. Indeed, such surveys are often the only source of information for identifying and measuring skill gaps. Overall, they do give a broad indication, if not a precise measure, of the extent and nature of skill gaps.

In a 2011 survey of 78 employers done by a local human resources services firm, HR Inc. (Cambodia), 73 percent of employers reported that university graduates in Cambodia do not have the right skills (HRINC 2011 cited in World Bank 2012, 1). More than 62 percent of the employers also noted that vocational training graduates do not have the right skills either. In comparison, while only 12 percent said that there are not enough university graduates, as many as 38 percent suggested that there are too few vocational training graduates. It seems that skill mismatches are greater for university than for TVET graduates. Moreover, 31 percent of employers pointed out that it is difficult to train or upgrade the skills of their existing workforce, reflecting the low quality of available training programmes as well as the weak foundational skills of their employees (World Bank 2012, 8). These findings strongly suggest that Cambodia's education system is not imparting to its youth appropriate employability skills. It is not just a question of the quality of the graduate supply or the skills mismatches but also that jobseekers lack core foundational skills without which it can be difficult to strengthen workplace skills through on-the-job training (See Box 2.1 for a discussion of skill gaps at the higher end of the skills spectrum).

Similar conclusions emerge from a more recent survey sponsored by the International Labour Organization (ILO) of employers and business leaders from seven ASEAN countries—Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines and Singapore (EMC 2014). The proportion of survey respondents who said they "agree" ("agree plus strongly agree", in the terminology of the questionnaires) that the skills of graduates from different levels of education match enterprise needs was the second lowest for Cambodia, ahead of only Myanmar. For Cambodia, employer responses indicated that only about 20 percent of high school graduates and about 40 percent of university and TVET graduates had skills that match enterprise needs (EMC 2014, 13-16). Moreover, only about 10 percent of employers rated the quality of public education providers in Cambodia as "good or excellent". Again, only Myanmar had a lower figure, and the percentage of respondents rating the quality of private education providers as "good

or excellent" was higher at nearly 40 percent, better only than that for Laos (EMC 2014, 16-17).

Box 2.1: Cambodia's high-end skill gaps

Within this overall skill shortage scenario, Cambodia's skill gaps in high-skill occupations such as managers, engineers and doctors are well documented. In the 2011 HRINC survey, the sharpest skill shortages (and the ones that employers perceive as the greatest constraint) are in senior management: over 70 percent of employers reported a major shortage in management skills (HRINC 2011 cited in World Bank 2012, 9).

Another recent study estimates that if Cambodia wants to attract foreign direct investment in the range of, say, 6-8 percent of GDP between now and 2020, it would need about 35,000 engineers and another 46,000 technicians by 2018 (JICA 2012). The current as well as the projected supply of these personnel would fall far short of these figures.

It is common knowledge that Cambodia faces a serious shortage of qualified medical doctors. Cambodia has 2.3 physicians per 10,000 population (Campbell et al. 2013). This ratio of doctors is less than half the average figure for ASEAN countries; indeed it is the lowest (Kanchanachitra et al. 2011).

These skill shortages at the higher end of the skills spectrum are partly due to the low enrolments for these specialised courses. In 2009/10, among the students enrolled for graduate degrees in the country, about 10 percent enrolled for business management, another 6 percent for medicine, nursing and pharmacology, about 6 percent for computer science, less than 3 percent for engineering, 1.4 percent for science and 1.3 percent for mathematics (World Bank 2012). The inadequate quality of education that even these small numbers of graduates receive is another major problem leading to these skill gaps. For example, some private sector employers note that an engineer with a graduate degree from Cambodia has only skills comparable to a first or second year engineering student in some of the neighbouring countries (CDRI 2014).

That said, the country's unique historical context in which almost the entire education system including educated people were destroyed during the 1975-79 Khmer Rouge regime should be factored in when looking at the skill gaps, especially at the higher end of the skills spectrum. Rebuilding the education system and the skills of the workforce, therefore, has been a monumental task.

In addition to the near-complete destruction of educational hardware—schools, colleges and other educational buildings—during 1975-79, 75 percent of tertiary teachers and 96 percent of university students were killed (CDRI 2013, 34). In a similar vein, Cambodia had about 1000 qualified medical doctors by the mid-1970s (CDRI 2013, 28). It is estimated that only 45 of them survived the Khmer Rouge regime, of whom 20 soon left the country; moreover, only 26 pharmacists, 28 dentists and 128 medical students remained in Cambodia (Angkor Hospital for Children 2014). Given such huge skill destruction especially at the high end of the skill spectrum, replenishing highly skilled professionals has been a daunting task in the somewhat short period of three decades.

In a similar vein, the World Bank's 2013 Enterprise Survey for Cambodia, which interviewed business owners and top managers of 472 firms covering manufacturing (76 percent of the total), tourism (14 percent), and agro-processing (10 percent) reported that about 27 percent of the firms identified inadequately educated workforce as a constraint on their business—far

higher than the 16 percent average figure for East Asia and the Pacific (www. enterprisesurveys.org, accessed 16 January 2015).

More detailed surveys point to significant skill gaps for a variety of jobs across a large number of sectors. A 2012 employer survey done by the International Labour Organization (ILO) covered more than 500 business establishments in six sectors—three in manufacturing (food and beverages; garments, apparel and footwear; and rubber and plastics), two in services (finance and insurance, and accommodation), plus construction (Bruni, Luch and Houch 2013). About one-third of the establishments were foreign-owned, and more than 30 percent of them had more than 100 employees each. At the time of survey, the business establishments were seeking to fill 17,500 vacancies (or about 14 percent of their total job openings), of which about 90 percent were in garments, apparel and footwear industry. Around 60 percent of the establishments had hired first-time jobseekers coming directly from the education system—across the board, from upper secondary school graduates to college, university and TVET graduates.

More than one-third of the establishments surveyed reported that shortage of skills among job applicants made it difficult to recruit new employees (Figure 2.4). Fifty-one percent of the firms in the accommodation service industry—covering hotels and guesthouses—reported that skill shortages were constraining their capacity to recruit. The comparable figure for the construction sector was only marginally lower at 46 percent.

Expressed in terms of vacancies (as opposed to establishments), the percentage of hard-to-fill vacancies due to job applicants' inadequate skills was somewhat lower but still significant at nearly 30 percent (Figure 2.5). Garments, apparel and footwear industry had the highest share of hard-to-fill vacancies due to skill shortages (accounting for about 85 percent of skill shortages in all six sectors), while rubber and plastic production had the lowest shares.

Interestingly, more than 90 percent of skill shortages in garments, apparel and footwear industry were mostly for elementary occupations that require little formal education—manual labourers, cleaners, caretakers and doorkeepers. Another 7 percent of the skills in short supply for this industry entailed higher skill categories such as crafts and trade workers (Bruni, Luch and Houch 2013, 51). Skill shortages in the other five sectors were for somewhat higher skilled occupations but still for low-to-medium skilled jobs such as sales and service workers (mainly in hotels and guesthouses), clerical workers (mainly in finance and insurance, hotels and guesthouses), plant and machine operators and technicians (in construction, rubber and plastics, food and beverages), and professionals and managers (spread across all the six industry groups).

Figure 2.4: Percentage of establishments with skill shortages
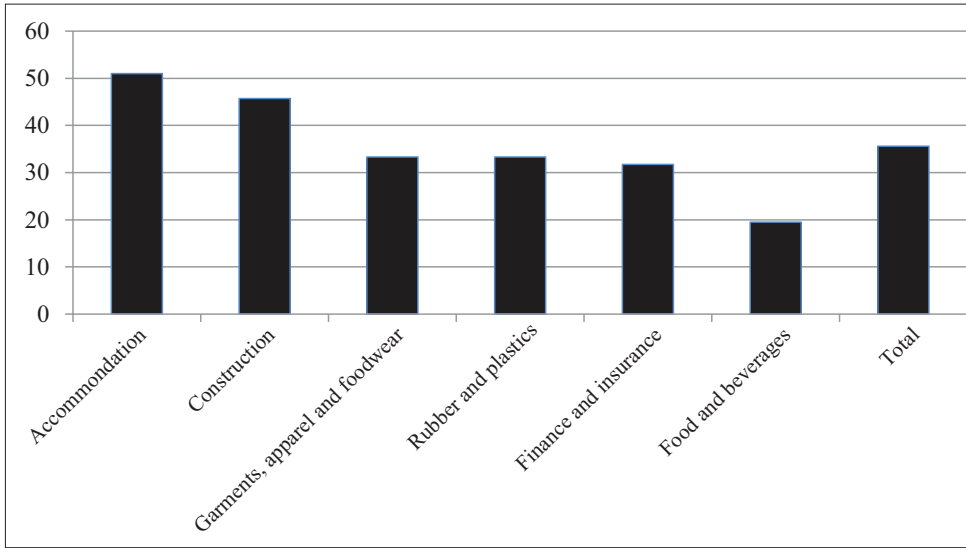
Source: Bruni, Luch and Houch 2013

Figure 2.5: Percentage of vacancies with skill shortages
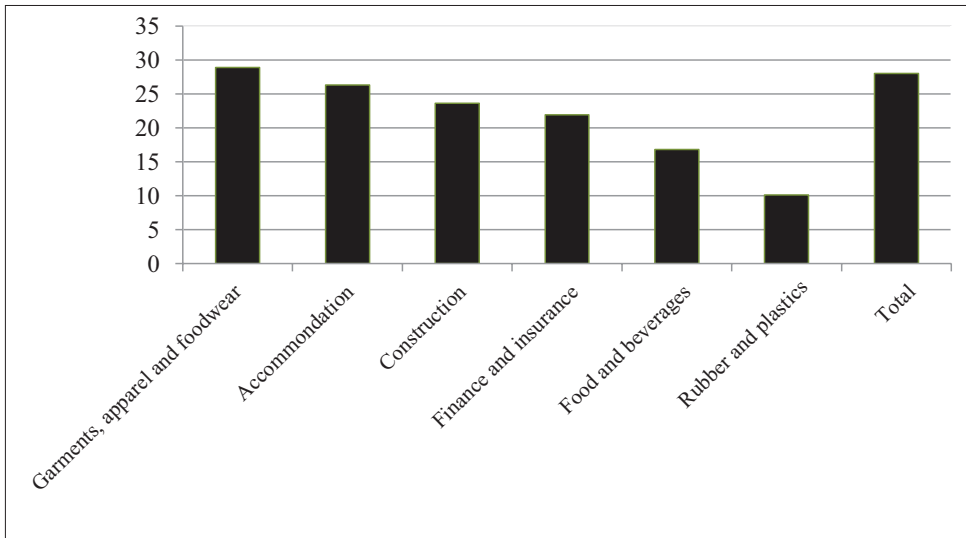
Source: Bruni, Luch and Houch 2013

Even for low-to-medium skill intensive jobs, gaps in technical skills—both job-relevant and job-specific—were the most pronounced. The skill gaps cited most by the firms as a recruitment constraint were overall technical skills, job-specific skills, computer and software literacy, foreign language proficiency, oral and written communication skills, and administration, planning and organisational management skills (Figure 2.6).

Figure 2.6: Percentage of establishments reporting shortages of difficult skills

Skill	Value
Technical or practical skills	45.3
Job-specific-skills	43.0
Foreign language skills	40.1
Oral communication skills	29.1
Basic computer literacy/using IT	24.4
Problem solving skills	23.8
Team working skills	23.3
Consumer handling skills	22.1
Written communication skills	18.0
Office admin skills	13.4
Planing and organisation skills	12.8
Strategic management skills	8.7
Advance IT or software skills	8.7
Numeracy skills	7.6
Literacy skills	7.0

Source: Bruni, Luch and Houch 2013

Inadequate soft skills for team-working and customer-handling were cited as the next most important constraint on filling job vacancies, followed by a lack of cognitive skills, especially problem-solving skills. About 24 percent of the firms cited both team-working and customer-handling skills as a notable constraint, while 24 percent of them also cited problem-solving skills as another constraint.

Moving away from new recruits to existing employees, more than half (55 percent) of the business establishments reported that their employees did not perform their jobs to the required standards. About two-thirds of the firms cited "lack of motivation" as the reason for their employees' underperformance; "being new to the job" and "lack of training" or "skill gap" were the other major reasons behind underperformance (Bruni, Luch and Houch 2013, 57).

A similar picture emerges in all six sectors. The types of skills that existing employees lack mirror the skill gaps among new recruits. Job-specific skills, oral communication capabilities, knowledge of a foreign language and manual dexterity were cited as the most important skill gaps among existing employees by about one-fourth of the firms (Bruni, Luch and Houch 2013, 58). Next in importance came soft skills (especially teamwork and customer service), followed by cognitive skills. Close to one-third of the businesses provided some form of training—induction, technical, occupational health and safety, IT and foreign language—to improve their employees' skills.

2.3 Skill gaps in the tourism sector

While skill shortages in the industrial sectors have received much attention in Cambodia, the presence of skill gaps in the country's service sectors,

especially in the tourism sector, has attracted somewhat less attention. The relative neglect of skill gaps in the tourism sector is unwarranted as it continues to be an important source of both overall economic growth and foreign exchange earnings for the country. With more than 4 million tourist arrivals in 2013, the tourism sector could contribute significantly to productive employment and income generation in the country (CDRI 2013).

The World Travel and Tourism Council estimated that in 2014 the direct contribution of tourism to Cambodia's GDP was nearly 11 percent and to employment more than 9 percent. However, factoring in the indirect effects of tourism earnings on a whole set of tourism-related economic activities (the well-known multiplier effects through the backward and forward linkages of tourism with other sectors in the economy), the total effects on income and employment are more than twice the direct contributions. The total contribution of the sector on income was about 24 percent of GDP and on employment about 21 percent of the country's total employment (WTTC 2014).

The relative economic importance of the tourism sector in Cambodia is much higher than in many of its neighbouring countries (CDRI 2013, 59). Identifying the constraints on the tourism sector, including any skill gaps the sector may be facing, and addressing them effectively has substantial potential to sustain strong growth and development for the country. Indeed, addressing skill gaps in this sector would be relatively easier unlike in the industrial sector (where the needed science, technology and engineering skills take longer to acquire).

A 2012 employer survey in the tourism sector conducted by the National Employment Agency (NEA 2013) gives an overview of the skill gaps faced by the sector. The survey was done in Siem Reap—the major tourist centre of Cambodia—and covered 300 business establishments in four tourism subsectors—accommodation or hotels and guesthouses (100), restaurants (100), travel and tour agents (50), and leisure or recreation and entertainment (50). About 60 percent of the establishments were small enterprises with less than 25 employees, about 30 percent were medium sized with 25 to 99 employees, and the remaining were large enterprises with more than 100 employees. At the time of the survey, the 300 establishments together had about 6200 vacancies.

Three-fourths of the establishments reported a lack of necessary skills among job applicants (Figure 2.7). The share of enterprises citing skill gaps as a major factor constraining recruitment was the highest in restaurants, hotels and guesthouses (about 86 percent). Travel and tour operators experienced much lower skill shortages (about 36 percent) among their new recruits.

Figure 2.7: Percentage of tourism sector establishments with skill shortages
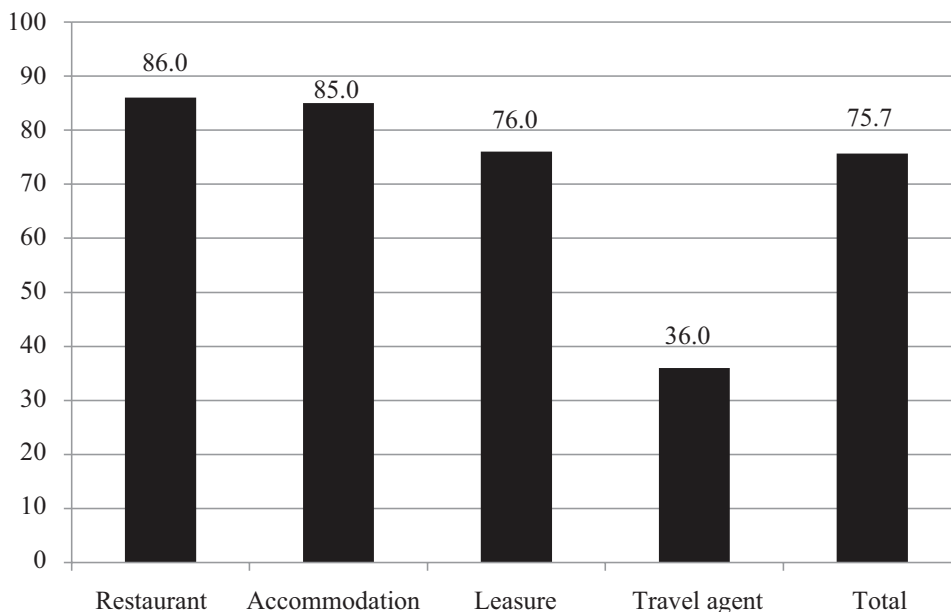
Source: National Employment Agency 2013

As within the garment industry, skill shortage in the tourism sector is predominantly felt in low-to-medium skilled occupations. Establishments reported that about 24 percent of the staff in elementary occupations such as cleaners, housekeepers and doorkeepers did not have the proficiency required to do their jobs; similarly, more than half of sales and customer service staff were also reported to have inadequate professional skills (NEA 2013, 27).

Figure 2.8: Percentage of tourism sector establishments reporting shortage of different skills
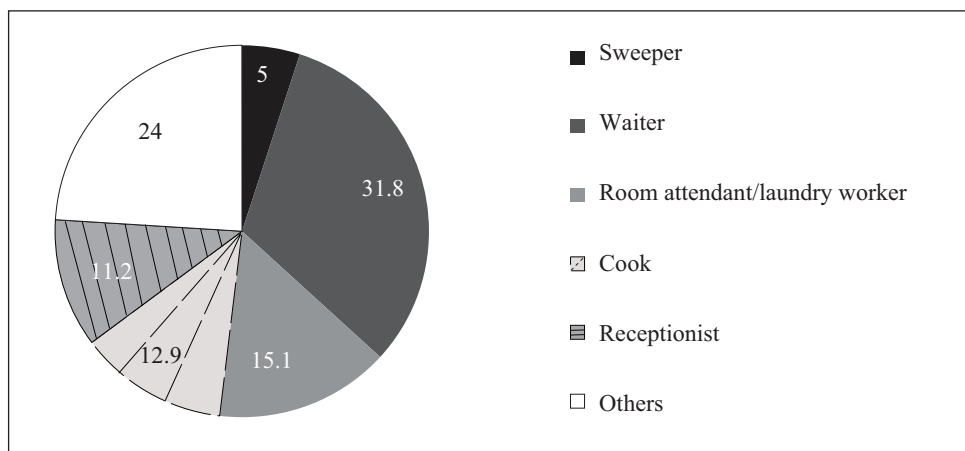
Source: National Employment Agency 2013

In the important segments of the tourism sector—hotels, guesthouses, restaurants, recreation and entertainment—establishments reported significant skill gaps across a wide range of jobs that require low to medium skills such as kitchen staff, room attendants, laundry staff, waiters and receptionists (Figure 2.8).

Job-specific skills were cited as the single most important skill gap among the employees in the tourism sector. Close to two-thirds of the tourism business establishments identified inadequate job-specific skills as a skill gap among their employees (Figure 2.9).

Lack of foreign language knowledge was the second important skill gap, cited by close to half of the establishments. Other cognitive-cum-technical skills cited as a constraint by significant proportions of the establishments were literacy and numeracy, problem-solving skills and communication skills. Lack of cognitive and technical skills is only part of the human resource problem in the tourism sector; a significant number of establishments also cited soft skills such as customer handling and team-working skills as lacking in their employees. Not surprisingly, therefore, Cambodian tourist businesses face difficulties finding qualified tour guides, receptionists and other hospitality staff.

Figure 2.9: Percentage of tourism sector establishments reporting shortages of different skills
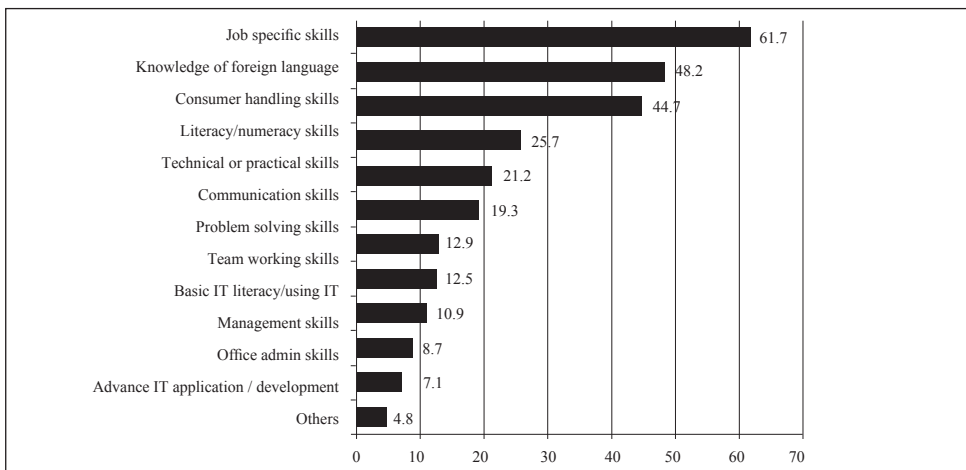
Source: National Employment Agency 2013

Luu Meng, President of the Cambodia Hotels Association, was recently reported as saying that the tourist hub of Siem Reap—where the hotel industry has about 11,000 rooms and is growing at around 10 percent per year—badly needs skilled staff (quoted by Sothear and Styllis in the *Cambodia Daily*, 14 May 2014). The lack of training facilities of hospitality

services staff seems to be one of the major constraints. Chhum Moniroth, the Education Director of Siem Reap's Hospitality School, summed it up well: "We receive about 1000 to 1200 applicants per year, but we only have the capacity to train about 250 because we don't have enough money or resources to expand" (quoted by Sothear and Styllis in the *Cambodia Daily,* 14 May 2014). These observations are in line with the broader results from the 2010 HRINC survey in which 64 percent of employers identified the lack of good training providers as the single largest constraint on closing the skill gap (HRINC 2010 cited in World Bank 2012, 9).

2.4 Impacts of the skill gap

The economic impact of skill gaps is easy to decipher. It should push up the wages of the occupations or sectors that experience skill shortages and pull down the outputs of those sectors. Which of these effects will dominate depends on the wage inertia in those segments of the labour markets. Labour markets are notorious for their stickiness in wage adjustment. Hence, it is more likely that the negative effect on output will dominate the immediate effect of the skill gaps. In the medium-to-long term, however, wages for skill-starved occupations will go up. As wages rise, profits fall. That, in turn, will affect the competitiveness of these sectors and hence investment in them. All these factors would ultimately lower the long-term growth of the country.

At the level of firms, skill gaps constrain their ability to grow, innovate, deliver products and services on time, and meet the quality standards of their products (Aring 2012, 12). Some indication of these adverse effects in Cambodia can be inferred from the impacts of hard-to-fill vacancies, as cited by the firms in the 2012 employer survey by the ILO (Bruni, Luch and Houch 2013). About two-thirds of the firms in that survey reported that the difficulties in recruiting new employees to fill their vacancies delayed their development of new products and services (Figure 2.10).

Other impacts that were cited include loss of business to competitors (more than 40 percent of the establishments), difficulty meeting customer obligations (30 percent), increased operation costs (20 percent) and difficulty in meeting quality standards (about 20 percent). Delays in developing new products and loss of business to competitors were the most serious impacts felt by the garments, apparel and footwear industries, while excessive workload for the existing staff, which in turn affected the quality of customer services, was the major problem faced by hotels and guesthouses (Bruni, Luch and Houch 2013, 54). In extreme cases, firms were even forced to withdraw certain products and services from the market.

Figure 2.10: Impacts of skill shortages on business (percent)
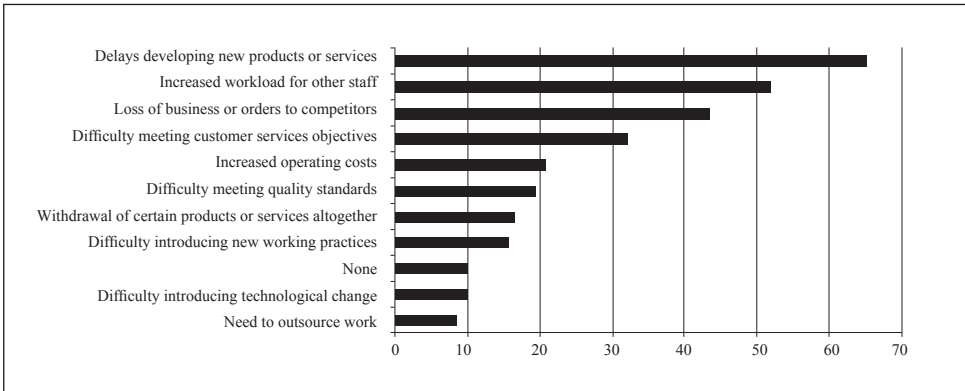
Source: Bruni, Luch and Houch 2013

For the tourism sector, the adverse consequences of skill shortages are more severe and widespread. The 2012 National Employment Agency Survey results vividly indicate this (NEA 2013). More than half of the establishments across the many tourism subsectors reported that employee skill shortages placed heavier workload on the other staff (Figure 2.11).

Figure 2.11: Impacts of skill shortages on tourism business (percent)
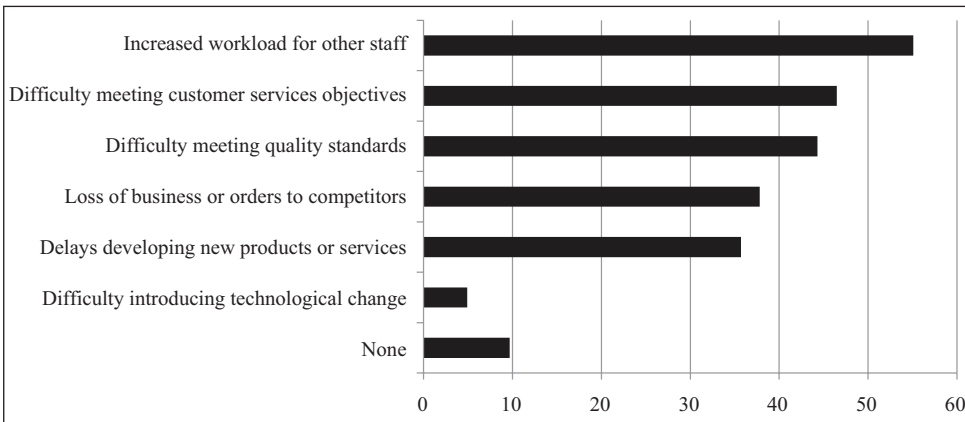
Source: National Employment Agency 2013

Nearly 50 percent of the employees also said that skill shortages affected customer satisfaction. Other major undesirable consequences reported included difficulties meeting quality standards (44 percent), loss of business to competitors (38 percent) and delays in developing new products and services (36 percent).

What is noteworthy is that the non-farm skill gap is emerging even as Cambodia's agricultural sector and the rural economy has a substantial surplus labour force, indicating that the "farm-to-factories" transfer of surplus rural labour that characterises industrial development still has a long way to go

(Madhur 2014). The country therefore faces: (i) a pervasive shortage of all kinds of skill shortage—ranging from low-to-medium skilled personnel to highly specialised professionals; (ii) a large pool of college-educated youth whose skills with an education in liberal arts do not match the emerging demands of a rapidly industrialising and modernising economy, and hence are either unemployed or underemployed; and (iii) a substantial pool of excess labour, especially unskilled labour, in the countryside. With more than 50 percent of the country's population in the 15-24 year age group, such a configuration of skill gaps and mismatches provides a situation that is ripe for large-scale youth unrest and its potential social and political fallouts (Madhur 2014).

Skill gaps mismatches are emerging at a critical juncture for Cambodia: at a time when the country is poised to graduate from low-income to middle-income status, and on the eve of the ten-member Association of Southeast Nations (ASEAN), of which Cambodia is a member, launching the ASEAN Economic Community (AEC). Experience elsewhere shows that for countries to smoothly graduate from low-income to middle-income status and then to successfully traverse the somewhat long and arduous middle-income journey, they have to gradually move away from predominantly labour intensive to a primarily skill intensive growth process. The skill mix of their workforce, in turn, will have to move away from unskilled and low-skilled to medium- and high-skilled categories. A simplified, stylised requirement for skill transformation is presented in Figure 2.12 (Del Carpio 2013).

Figure 2.12: Cambodia's changing skills needs
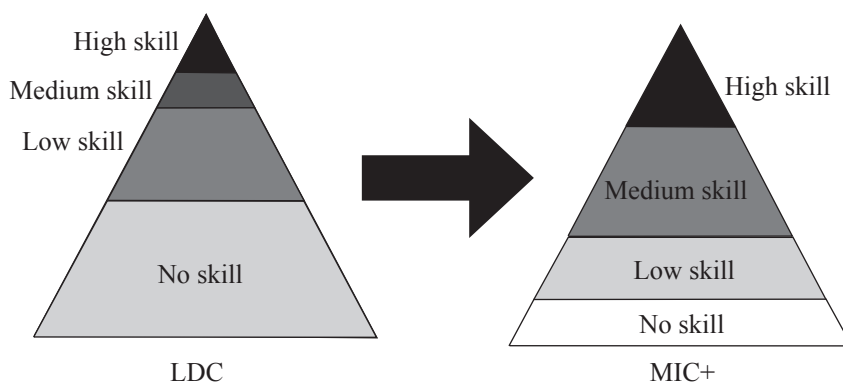
Source: Del Carpio 2013

As is true of most regional integration projects, the AEC will bring both opportunities and challenges for its member countries (Das et al. 2013). The AEC's provision for a freer movement of skilled labour in eight broad areas of expertise—medical doctors, dentists, nurses, engineers, architects,

accountants, surveyors and tourism industry professionals—is likely to have substantial implications for Cambodia's skill gap and the educational reforms. In general, ASEAN member countries could benefit from this freer movement of higher skilled labour to varying degrees, as they can bridge their national-level skill gaps and mismatches by more easily importing skills from and exporting surplus labour to other member countries.

Although the benefits to poorer countries within the ASEAN region are limited due to the exclusion of freer movement of unskilled labour, the limited movement of skilled labour under the AEC would still make it easier for countries such as Cambodia to import skilled professionals. That should enable Cambodia to tackle skill shortages and gaps at the higher end of the skill spectrum. Indeed, about 70 percent of the employers from Cambodia in the Emerging Markets Consulting Survey said that the freer mobility of high-skilled labour under the AEC will have a "positive" (sum of positive and very positive responses) impact on their enterprises—the highest figure among the seven countries covered. The corresponding share of positive responses to the freer mobility of semi-skilled labour is also significant, but lower at 40 percent (EMC 2014, 29-30).

However, without the necessary measures to shore up the skill-base of its young workforce, the freer mobility of skilled labour under the AEC could make the country perennially dependent on imported skills (Madhur 2014). Dependence on importing skills rather than producing them domestically could become a barrier to employment of large numbers of Cambodian youth and under-skilled workers who are inadequately equipped to compete with imported skilled labour. Speaking on behalf of business leaders, as quoted in the *Phnom Penh Post* of 1 March 2013, Rami Sharaf, CEO of RMA Cambodia, cautioned, "We need to upgrade these guys [Cambodian workers] because once the market becomes one big open border, if we don't do it, in 2015 you will have whoever from whatever other country. They can come to take the jobs of our local labor force."

From a broader socio-economic perspective, a skilled youth with productive employment and decent jobs, like a healthy society, is both a determinant and a component of human development or socio-economic development more generally. Tackling the emerging skill gap by imparting the right kinds of skills to youth is also an end in itself, in addition to being a means to achieving strong sustained growth.

2.5 Cambodia's skill gap in a global context

The lack of skills among youth is not peculiar to Cambodia. It is a global phenomenon, cutting across countries and continents. Both high-income

countries and poor nations face skill shortages (Madhur 2014; WEF 2014). A 2012 report by McKinsey pointed out that across the nine countries covered by that study (Brazil, Germany, India, Mexico, Morocco, Turkey, Saudi Arabia, the United Kingdom and the United States), only 43 percent of the employers surveyed could find enough skilled entry-level workers. Further, even as employers complained about significant skill shortages, more and more youth worldwide were either unemployed or underemployed, pointing to large skill mismatches between educated youth and labour market needs (McKinsey & Company 2012, 11). What is even more important, another report cautioned, is that the worldwide problem of skill shortage and mismatch is likely to get much worse in the next decade (McKinsey Global Institute 2012).

Similar conclusions emerge from other work on education too. Indeed, recent studies show how the neglect of educational quality has led to a global learning—and hence a skill acquisition—crisis (CGD 2013; Malone 2013; UNESCO 2014). One expert summarised the predicament well: "Schooling is the means to the goal of education. Are children around the world emerging from the schooling they get with the education they need? 'No … Schoolin' just ain't learnin'" (Pritchett 2013, 14). Education experts around the world are now in agreement that as the 2015 Millennium Development Goals Agenda comes to an end, we should move beyond the target of universal schooling to universal learning. A recent study by the World Economic Forum (Bloom et al. 2014, 10) underscores the "… need to take a leap to an entirely new order of education that is being facilitated by the advent of the digital age and much more interactivity than the classrooms of the past." The emerging theme is that nothing short of a "global education revolution" will be needed to address the worldwide skill gaps and mismatches (McKinsey Global Institute 2012, 57).

Take the case of Vietnam, one of Cambodia's neighbours. A recent report by the World Bank (2013, 51) noted:

> … many Vietnamese firms report a shortage of workers with adequate skills as a significant obstacle to their activity … Over 60 percent of international firms view the availability of labor with the right skills as an obstacle to their activity, and nearly half of these firms view it as a major obstacle. Nearly 40 percent of international firms see the general education of workers as an obstacle, and nearly 46 percent see vocational education as an obstacle.

The report (p. 54) went on to say, "Employers' concerns on skill constraints are mirrored by worker's view that their skills limit their ability to advance in the workplace." Similarly, another World Bank study on 12 Eurasian

countries highlighted, "Firms are unhappy about poor skills …. Many students have outdated specialities … Many job seekers lack the required soft skills" (Gill et al. 2014, 249-251). It is thus not surprising that surveys for other developing countries in East Asia show similar employer and employee perceptions of the skill gap

There are, however, major differences in the nature of skill gaps across countries. While developed countries face shortages mostly at the high-skills end of the spectrum, less developed countries face a more pervasive shortage of skills across a wider range of skills. Take the case of the US. It has a shortage of qualified talent in high-tech and knowledge-intensive industries and businesses driving innovation at the technological frontiers. In contrast, Cambodia and Vietnam have skill shortages across a much broader skill spectrum. As the previous sections highlighted, Cambodia has an acute shortage of well-trained managers, engineers and doctors; at the same time, it has a shortage of low-to-medium skilled personnel for both its industry and service sectors.

2.6 Conclusion

Cambodia is facing huge skill deficits even for relatively light-skill-intensive sectors such as garments, hospitality, tourism and construction. Skill shortages for the more skill-intensive sectors like automobile assembly, electronics, and information and communication technology are even higher, not to mention the acute shortage of highly skilled professionals such as managers, engineers and doctors.

Skill shortage for the industrial sector has received much attention in Cambodia. However, the shortage of skills for the country's tourism sector has received somewhat less attention. Interestingly, the tourism sector, which contributes hugely to income and employment growth (and has even bigger potential in the future), is facing as severe a skill shortage as the industrial sector.

The pervasive skill shortages encompassing the three broad types of skill sets—cognitive, technical and soft—are already adversely affecting businesses in a wide range of sectors (Figure 2.13). If the skill gap is not narrowed, the country's economic growth and business dynamism will be severely stunted in the future. Moreover, from a broader socio-economic perspective, skilling youth to improve their employability is especially important for their empowerment and achieving the larger objective of human development.

Skill gaps are only part of the problem. There are also substantial skill mismatches in the country. Even as businesses face a shortage of the kinds of

skills that are required in a rapidly industrialising and modernising economy, there is large pool of college-educated youth whose skills do not match the requirements of employers and enterprises. This skill mismatch mars the employability of educated youth and has the potential to cause youth unrest, threatening social and political stability.

Figure 2.13: Skill shortage and impact: A summary

Type of skill shortages	Low-to-medium skill (Economy wide)	Low-to-medium skill (Tourism)
Cognitive		
Oral communication	●	●
Written communication	●	N/A
Literacy/numeracy	●	●
Basic computer literacy/using IT	●	●
Problem solving	●	●
Soft or behavioural		
Team working	●	●
Customer handling	●	●
Technical		
Technical or practical	●	●
Job-specific	●	●
Foreign language	●	●
Office admin	●	N/A
Planing and organisation	●	N/A
Strategic management	●	●
Advanced IT or software	●	●

Impact of skill shortages	Low-to-medium skill (Economy wide)	Low-to-medium skill (Tourism)
Delays developing new products or services	●	●
Increased workload for other staff	●	●
Loss of business or orders to competitors	●	●
Difficulty meeting customer services objectives	●	●
Increased operating costs	●	N/A
Difficulty meeting quality standards	●	●
Withdrawal of certain products or services altogether	●	N/A
Difficulty introducing new working practices	●	N/A
Difficulty introducing technological change	●	●
Need to outsource work	●	N/A
None	●	●

Note: The bigger the circle, the larger the skill gap/or impact
Source: Authors

A serious rethinking of how to address the skill gaps and mismatches is needed if Cambodia is to successfully traverse its middle-income journey and to adjust smoothly to the AEC in coming years and decades. In essence, the issue boils down to one of imparting the right kind of education to the country's youth so that they are prepared with the right skills and knowledge to adapt to a fast-changing and competitive marketplace.

How the country's education system can contribute to narrowing the skill gaps and mismatches and what kinds of education reforms are needed—ranging from higher education to pre-school and early childhood development through primary and secondary schooling and TVET—are examined in the next five chapters.

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Chapter 3
Aiming High through Higher Education

The government's development vision is for Cambodia to attain lower-middle income status by 2018 and upper-middle income status by 2030. The draft Industrial Development Policy 2014-18 sets out the roadmap for the next phase of the sector's diversification, structural change and competitiveness. However, there are some challenges to be expected as the country embarks on its middle-income growth path. A critical issue is the need to address the low skill-level, underemployment and poor educational attainment of the workforce. While Cambodia has been highly successful in attracting foreign direct investment, the alarming skilled labour shortages and skill mismatches are a major concern as the ASEAN Economic Community (AEC) comes into effect at the end of 2015. Many studies, including this volume, have pointed to poorly equipped graduates produced by Cambodian higher education institutions. Even the qualified minority do not always possess the professional and core employability skills demanded in the job market. Other challenges in higher education include weak governance, lack of entrepreneurship education, lack of government investment and lack of academic preparedness of high school graduates.

This chapter serves several objectives:

- to provide a snapshot of the status and challenges of Cambodian higher education;
- to argue the case for building a culture of quality throughout the higher education system in order to improve curriculums and graduates' knowledge and skills;
- to present the concept of the entrepreneurial university; and
- to explore information and communications technologies that complement traditional teaching-learning to broaden access to knowledge not yet available in Cambodian universities due to shortage of qualified lecturers and limited library resources.

To fulfil the main objectives, the subchapter on "Higher Education – Trends, Issues and Policy Options", focuses on access, quality and relevance in the context of social and historical factors that continue to shape higher education. The study on "Roles of Quality Assurance in Higher Education" argues for the need to strengthen Cambodia's economy through high-quality higher

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education. The third paper introduces the concept of the "Entrepreneurial University" and its implications for Cambodia's higher education. It contends that developing an entrepreneurship mindset and skills can have considerable benefits for students and graduates, enabling them to earn income and create jobs rather than relying on government to help them find employment. The final subchapter discusses the potential of mobile technologies and devices for Cambodian young learners to engage in courses on online platforms.

This chapter draws on content analysis, secondary data, and information garnered from key informant interviews. Each of the four subchapters concludes with important implications for policymakers, higher education institution leaders and the private sector.

Subchapter 3.1
Higher Education—Trends, Issues and Policy Options

Cambodia's ambitious plans to educate its way to economic prosperity require a revitalisation of the entire education system, and that calls for a reorganisation of the higher education subsector. Higher education institutions should be able to offer a wide variety of courses, particularly in science and technology. Degree programmes should be relevant to the fast-changing marketplace. Graduates must have lifelong learning skills and be well-equipped to become the next generation of educators, trainers, researchers, scientists and administrators. Until now, the demand for highly trained professionals and specialists has been insufficient to leverage interest and resources for higher education, and government investment and donor funding has focused primarily on basic education. The bureaucratically inflexible governance of higher education institutions has left the subsector fragmented and poorly regulated. Allowed to select a relatively narrow range of "soft" subjects where quick profits can be made, private sector providers have ignored science and technology education leaving huge gaps in the curriculum and labour force skills. At the same time, competition for tuition fees and quest for profit have lowered the quality of undergraduate education, leading to poor quality graduates who are unable to find work in their field or confined to low-wage jobs. There is clearly much work to be done across the higher education subsector to achieve the country's ambition of creating a knowledge economy.

This section discusses the most pressing problems facing higher education development. It begins with an overview of the situation facing higher education, describes how history has shaped and continues to affect the subsector, then looks at current trends with a focus on access and equity of access, quality and relevance, finance and governance. Optimistic that political will can be found, this paper proposes a broad set of policy options that government might adopt to tackle the deep-seated problems hampering progress in higher education.

The study draws on a desk review of publications by international and local scholars, government reports and strategic papers, complemented by information garnered from key informant interviews with policymakers and practitioners in the higher education subsector. Fieldwork was carried out in August-September 2014.

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3.1.1 The situation facing higher education development

Pre-higher education failure. Cambodia faces a huge challenge in educating its young population in this era of globalisation and ASEAN regionalisation. Under the framework of basic education (enshrined in the Constitution as nine years of schooling), despite a net primary education enrolment ratio of 95.6 percent, only 76.8 percent of those completing six years of primary schooling continue to lower secondary education (MOEYS 2014a). This is due to a primary dropout rate of about 10.5 percent and the challenges students face in attempting to progress to the next level. In the academic year 2012/13, a mere 22.7 percent completed upper secondary education. This low graduation rate raises questions about the academic preparedness of students entering higher education. In a study on equitable access to higher education (ADB 2012a), Cambodia's upper secondary school gross graduation ratio of 7.5 percent is very low by regional comparison, for example with Indonesia (31 percent), the Philippines (64 percent), Thailand (40 percent) and Vietnam (12.5 percent). A challenge for Cambodia is to have more upper secondary school graduates furthering their studies in higher education.

Shortfalls in skilled workers and training providers are big issues. Cambodia needs more professionals and middle-skill workers. Skills development for youth is an urgent concern, and governments around the world are increasingly recognising the importance of a knowledge economy strategy to deal with unemployment and economic uncertainty (UNESCO 2012). Connected learning—connecting school to work and work to school—is becoming a common theme in the debate on 21st century skills. But because of the stigma attached to technical and vocational training, the programmes offered by training centres remain an unpopular option among Cambodian youths, even when their efforts to enter higher education fail. Instead, they tend to choose jobs that do not demand high skills or qualifications.

Youth employment and education have become strategic concerns for ASEAN leaders as their plans for economic integration and freer flow of skilled labour and professionals under the forthcoming ASEAN Economic Community will come into effect at the end of 2015. Low literacy presents a significant barrier to youth trainability and productivity. Among ASEAN member states, Cambodia (91 percent) was estimated to have one of the lowest youth (aged 15-24) literacy rates by 2015, just ahead of Laos (90 percent) and lagging behind Indonesia (100 percent), Thailand (99 percent), the Philippines, Malaysia and Vietnam (98 percent each) (UNESCO 2012).

Low adult literacy. Another challenge for Cambodia is literacy among its labour force. The Cambodia Socio-Economic Survey 2010 reveals that about 18 percent of the labour force (aged 15-64) are either illiterate or have only

basic literacy skills while 35 percent have not completed primary education. The adult literacy rate for the population aged 15 years and over is slow to improve, with a mere one percentage point gain from 75 percent in 2007 to 76 percent in 2010. Illiteracy poses a serious threat to economic growth, especially in Cambodia where only 2.1 percent of the workforce holds post-secondary education diplomas or higher education degrees.

Another concern for human capital development is school life expectancy, defined as the average number of years of formal schooling (primary to tertiary) that a child can expect to receive. Cambodian children and youth spend fewer years in school than their peers in other ASEAN countries at a similar stage of economic development. School life expectancy in Cambodia is 10.5 compared to Laos 10.1, Indonesia 12.9, Thailand 12.3, Vietnam 11.9 and the Philippines 11.7 (UNESCO 2012).

History has shaped and continues to affect higher education. Beginning in the 1980s, following the destruction of the national education system in 1975-79 under Khmer Rouge rule, and continuing through to today Cambodia has been restoring and expanding its higher education system. The rehabilitation and reconstruction of the 1980s enabled a return to university operations and the reopening of faculties of economics, law and medicine at higher education institutions (HEIs) such as the University of Phnom Penh. HEIs during the 1980s and 1990s offered only bachelor's degree programmes, all of which were sponsored mainly by the government: registration and tuition were free of charge. Admission was through competitive entrance exams for limited fields of study. Those who sought to study specialised fields in the sciences or pursue postgraduate studies during the 1980s had to go abroad, mainly to Vietnam, the former Soviet Union and other East European countries, and in the late 1990s a few managed to get study placements in Western countries, Japan or Thailand (Dy 2013; Sen and Ros 2013).

Despite the inflow of external assistance to the education sector after the UN-led 1993 general election, higher education during the 1990s was in bad shape and in urgent need of curriculum reform and system (management and finance) restructuring. During this period of Cambodia adjusting itself to the new distribution of power in the post-Cold War liberal democratic order, the subsector was uncoordinated, fragmented and poorly funded by government and external donors (Chet 2009; Duggan 1997).

In the wake of political change after the demise of the Soviet Union in the late 1980s, rapidly diminishing external assistance from socialist countries crippled government support for HEIs. The initiative in the mid-1990s to privatise public HEIs in a controlled manner, allowing private providers to enter the higher education market for the purpose of developing and

expanding access to higher education opportunities, led to local investment in the subsector and the establishment in 1997 of Norton University—the first private university in Cambodia. The boom in private HEIs in the 2000s demanded that government put in place regulatory frameworks and quality control mechanisms. Secondary school graduates found it easier to further their studies given the wider choice of options and lower competition for places than was the case in the 1980s and 1990s. After over a decade of expansion of higher education, especially during the 2000s, the issues of quality and relevance emerged because there was increasing market demand for professionals and skilled workers to serve the growing industries and enterprises (Madhur 2014, 10-11).

3.1.1.1 Existing mechanisms, policy and legislation

Public education administration in Cambodia is highly centralised and bureaucratic. The way in which HEIs are managed and regulated is unclear, with modes of control and delivery shaped by either French- or American-influenced education. Local administrative decisions and guidelines made at subnational and school levels are rare. Decentralisation and deconcentration reforms are expected to result in a restructuring of education delivery and management, but progress has been slow because educational leadership and management have long been deeply rooted in traditional top-down governance and administration. The new MOEYS leadership has outlined eight reform priorities. Reform priority six tackles higher education issues with a focus on improving the management of public HEIs and the regulation of private HEIs and strengthening cooperation with the world of work (Hang 2014).

Investment imbalances. The current administrative structure and policy framework are set out in the 2007 Law on Education, the National Strategic Development Plan (NSDP) 2014-18 and the Education Strategic Plan (ESP) 2014-18, all of which guide policy and strategy development for the education sector as a whole. The focus for many years was on investing in basic education rather than in higher education. The balance between a rights-based and a growth-based approach to development was neither well articulated nor analysed. The flow of funding from development partners during the 1990s and 2000s to rebuild the basic education system detracted the government's attention and resources away from post-basic education, leaving higher education largely neglected and under-prioritised. Instead, the development of the higher education system has relied on or been driven by international partners and donors.

Fine-tuning coordination mechanisms. Under the leadership of the minister of education, a Joint Technical Working Group (JTWG) has been formed to enhance policy dialogue and joint decision-making between the Ministry of Education, Youth and Sport (MOEYS) and its development partners. The JTWG meets every quarter. Within the JTWG there are subworking groups for (i) Teacher Training, (ii) Decentralisation and De-concentration, (iii) Public Financial Management Reform, (iv) Non-Formal Education, and (v) Higher Education. Members of the subgroups are from MOEYS and its development partners. These subgroups meet regularly every month or every fortnight depending on issues and urgent needs, or as requested by the JTWG. Donor and development partner coordination takes place through the Education Sector Working Group (ESWG), which is composed of multilateral and bilateral donors and non-governmental organisations. The European Union, World Bank, Asian Development Bank (ADB), UNESCO and UNICEF are key players in the group especially in supporting and working with the emerging NGO Education Partnership (NEP). The ESWG meets every month, currently chaired by the lead facilitator, the UNESCO country representative.

Framework for guiding higher education development has been absent for many years. The Policy on Higher Education Vision 2030 was approved in April 2014, and the National Qualifications Framework (NQF) was enacted in March 2014. Under these two mechanisms, measures are being considered to improve legislation and policy formulation to strengthen implementation of the Vision and the NQF. MOEYS in the meantime is preparing a road map to reach the Vision. The ministry envisions that by 2030 the quality of teaching in higher education will ensure that students are fully equipped with excellent knowledge, skills and moral values to meet the needs of national development within the context of globalisation and a knowledge-based society (MOEYS 2014b).

Balancing equitable access and quality. Priorities for higher education development have focused on improving quality, institutional capacity and equitable access. New provincial public universities such as Chea Sim University of Kamchaymear in Prey Veng and Kampong Cham provinces, University of Battambang in Battambang province, Mean Chey University in Bantey Meanchey province, and Svay Rieng University in Svay Rieng province were established during the mid-2000s to enhance access for poor rural students. These public universities were aimed at equitable access rather than quality, as resources have been unevenly shared with universities in Phnom Penh. However, large public universities in the capital—the Royal University of Phnom Penh, Royal University of Law and Economics, Royal University of Agriculture, and Institute of Technology of Cambodia—are

improving their quality and relevance and strengthening their connections with the private sector and local communities.

Various discussion forums among different stakeholders including government agencies, development partners and the private sector have focused on finding ways to attract and select high-quality secondary school graduates for higher education, and developing a plan for the creation of a "model" high-quality autonomous university to serve the needs of building highly productive human capital. The Policy on Higher Education Vision 2030 aims at labour-market responsive strategies for Cambodia's socio-economic development and transition towards upper-middle-income status. Strong political, financial and institutional capacity and sustained attention to planning are crucial for this subsector's development.

The five-year plan. MOEYS developed its new Education Strategic Plan (ESP) 2014-18 under the NSDP 2014-18 framework. The issues and policy actions set out in the ESP for the higher education subsector suggest that the following action plans be prepared within certain timelines.

Table 3.1.1: Strategic actions for 2014-18

Timeline	Plans, policies and other outputs
2014	• National policy on scholarships, subsidies and loans for higher education students • Plan for increasing the number of students majoring in science, technology, engineering, creative arts and mathematics • Establishment of Faculty of Education at the Royal University of Phnom Penh • Structure and mechanism to implement research and development policy • Results-based higher education plan • Plan for improving the accreditation system for the establishment of higher education institutions • Ethical principles and guidelines for tracer studies • Manual for library management • Manual for laboratory management
2015	• Policy on human resource development at higher education level • Guidelines for entrance and exit examinations • Guidelines for regular classroom evaluation • Manual for research proposals • Guidelines for practicum programme development • Mechanism to implement the Royal Decree on Professorship • Standards and guidelines on internal quality assurance • Guidelines for results-based monitoring and evaluation system
2016	• Guidelines for curriculum development • Plan for expanding regional HEI services and resources • Policy on HEI governance and financial management
2017	• Guidelines for minimum higher education learning costs by subject
2018	• Master plan for the establishment of a national flagship university

The above policy actions indicate the administration and coordination challenges at the central level; and the many pending tasks for institutional strengthening reflect the political commitment to resolve governance issues.

3.1.1.2 Institutional capacity of higher education

The General Department of Higher Education (GDHE) of MOEYS is the regulatory body for higher education in Cambodia. Two departments under the GDHE are the Department of Higher Education (DHE) and the Department of Scientific Research (DSR). The DHE covers the regulations, institutional registration and supervision of associate and bachelor's degree programmes while the DSR covers the master's and doctoral degree programmes. The 22 action points listed in Table 3.1.1 are on the "to-do" list of the GDHE's priorities for 2014-18. At technical level, the GDHE is led by a director general and assisted by one or more deputy directors-general. At political level, an undersecretary of state and a secretary of state assist the minister of education in controlling and directing the GDHE.

Enduring low enrolment. Higher education opportunity relies heavily on secondary education enrolment and completion rates. The gross enrolment ratio in higher education is just over 10 percent—the lowest in the region. A total of 56,419 students enrolled in the foundation (first) year of a bachelor's programme in 2010/11, and grade 12 graduates in 2009/10 numbered 74,548. This implies that roughly 75 percent of high school graduates across the country continue to bachelor's degree programmes.

Student enrolment in private HEIs is higher than in public ones due to the growing number of private HEIs and the flexibility of their teaching timetables. Some private HEIs offer four to five shifts including weekend and evening programmes. There are cases of students enrolling twice in both public and private HEIs or sometimes in different shifts at the same HEI. They might be double or triple counted in terms of the number of enrolees in HEIs.

The opening of ten new private HEIs over the past four years indicates the active involvement of the private sector in higher education expansion. Of the 255,791 students enrolled in HEIs in 2012/13, private HEIs absorbed 150,336 and public HEIs only 105,455 (see Table 3.1.2). Among these, the doctoral enrolment rate in private HEIs is 78 percent compared to only 13 percent in public HEIs. In total, 41 percent of the students enrolled in public HEIs and 59 percent enrolled in private HEIs. Roughly 38 percent of the total number of students enrolled in both public and private HEIs are female. Female enrolment rates in Cambodia's HEIs are still low compared to those in other ASEAN countries.

Table 3.1.2: Distribution of students by degree level and education
provider, 2012/13

Education provider	Associate	Bachelor's	Master's	Doctoral
Public HEI	5456	96459	3402	138
Private HEI	18222	119594	11595	925
Total	23678	216053	14997	1063

Source: MOEYS Department of Higher Education 2013

Associate degree programmes are for those who complete grade 12 but fail the national grade 12 exam. The programme is for two year's duration and students are allowed to continue to a bachelor's degree programme on condition of passing the exams and spending six months or one semester studying preparatory courses.

All HEIs provide bachelor's degrees; some private and small HEIs provide associate and bachelor's degrees only. Large private universities such as the University of Cambodia, Pannasastra University, Norton University and Build Bright University provide programmes at all levels from associate to doctoral degrees. Many public HEIs provide mostly bachelor's and master's degree programmes and some such as the Royal University of Law and Economics (RULE), National University of Management (NUM) and Royal University of Agriculture (RUA) offer doctoral degree programmes. Interestingly, the largest and the oldest, the Royal University of Phnom Penh (RUPP), which aims in its Strategic Plan 2014-18 to have transformed itself by 2018 to be Cambodia's Flagship University, has no provision for a doctoral degree programme yet.

The total enrolment rates at all degree levels have increased in the last three academic years 2010/11 to 2012/13. But the sharp increase in enrolment in bachelor's degree programmes from 185,918 in 2010/11 to 216,053 in 2012/13 possibly reflects the high pass rates of over 80 percent for grade 12 exams in recent years (see Table 3.1.3). Interestingly, the enrolment rates in masters and doctoral programmes remained relatively stable.

Table 3.1.3: Distribution of enrolments by degree level, 2010/11 to
2012/13

Academic year	Associate	Bachelor's	Master's	Doctoral
2010/11	22024	185918	14274	1006
2011/12	22123	207666	14918	1083
2012/13	23678	216053	14997	1063

Source: MOEYS Department of Higher Education 2013

Investment in science and technology education by private HEIs is low due to high cost and low demand from students. Even though the market place demand for engineers and skilled workers is high, many high school graduates are not interested in enrolling in science and engineering courses due to admission requirements and the rigorous demands of such programmes. Private HEIs offer mostly social sciences and foreign languages such as English language, accounting, banking and business management, as well as a limited range of courses in agriculture, technology, tourism and hospitality.

3.1.1.3 Supply and demand in higher education

Deep-seated reform of the higher education system and its administration is needed to deal with issues concerning quality and relevance. Rapid growth of HEIs has challenged the government's supervisory bodies to strengthen their monitoring and evaluation capacity and ensure the effectiveness and quality of higher education provision. The challenges faced by management bodies include shortage of resources and ineffective governance and management systems. Further, MOEYS (2011) highlights a growing mismatch between graduate skills and labour market needs; for instance, undergraduates studying business administration accounted for 47 percent of total enrolments compared to agriculture (4 percent), engineering (3 percent), health (5 percent) and law (6 percent). The higher education subsector clearly needs major reform to bring it fully in line with economic and human capital development strategies (MOP 2012).

The mismatch between graduate labour supply and demand stems from a lack of overall guidance from higher education administrative bodies. Absence of a clear vision and policy direction for higher education has long been a concern. However, the Higher Education Quality and Capacity Improvement Project (HEQCIP) 2010-15, funded by the World Bank, is expected to regulate and improve quality and efficiency in the higher education subsector. The objectives of the project are twofold: to improve the quality of teaching, management and research, and to better target students from disadvantaged backgrounds to enhance their access, retention and success in higher education. The HEQCIP comprises four components: (i) strengthening the capacity of the higher education system, (ii) provision of competitive development and innovation grants, (iii) provision of scholarships to disadvantaged students, and (iv) improved monitoring and evaluation of project management (MOEYS 2013). Although an assessment of the outputs and outcomes of the HEQCIP is not yet available, funding and technical guidance under the project has spurred research in many HEIs.

Matching the demand and supply for skills in the dynamic world of work is a challenge for Cambodia, even the soft skills badly needed in the booming

tourism and hospitality sector. Foreign language proficiency, interpersonal skills and technical skills are still difficult to find among high school and higher education graduates. In addition, higher education graduates are also lacking information technology skills, practical job skills and business sense (D'Amico 2009).

Another booming sector in Cambodia is the construction industry. Construction workers are found to be lacking teamwork skills, self-motivation and commitment (World Bank 2010). The Cambodia Construction Association, formed three years ago under the umbrella of ASEAN and comprising construction materials firms and construction companies, has highlighted the shortage of skills and professionals to serve the sector. Large construction companies use highly qualified engineers for big projects and some 10 percent are brought in from abroad, particularly from the ASEAN region. Local engineers are also recruited but, owing to their low skills and qualifications, they are paid roughly USD300 to USD400 per month while foreign engineers are paid USD3000 to USD4000.

Few high school graduates are academically strong enough to further their education in engineering and architecture. Most students instead opt for social sciences such as banking, accounting, foreign languages and management. Even potential salary is not an incentive to study technical subjects since science graduates are paid almost the same wages as arts graduates, making it hard to attract even those students who are keen on pursuing a major in engineering or architecture.

Large companies need more skilled and responsible workers. But highly skilled workers prefer to work abroad, even if they are not culturally or linguistically competent living in their host countries. Without a mechanism to attract and retain highly skilled workers or to match skilled jobseekers with the demand for educated workers, private companies face huge challenges. Large companies with huge investment projects prefer to employ high-quality engineers and architects, often from abroad. At the other extreme, construction workers in Cambodia earn USD3-10 dollars per day and many therefore choose to work in Thailand where they can earn double that amount or more. To address the skills shortage plaguing the sector, the Cambodia Construction Association is discussing with the Ministry of Labour and Vocational Training (MOLVT) plans to create a Construction School and satellite technical schools to train young and committed workers.

Most construction workers are from low socio-economic backgrounds, have no or little education and are either untrained or informally trained, and therefore can only command low pay. In recruiting them, employers often end up facing discipline issues. Youth are less interested in joining the

construction sector while those who do often find themselves unemployed and poor. On a more optimistic note, there are positive signs that returning migrant workers bring back skills.

3.1.1.4 Employment and income

Policy reform to ensure that higher education programmes promote work-related skills is emphasised in the Higher Education Vision 2030. The quality and relevance of the outputs and outcomes from higher education services have been found severely wanting by employers. Professional skills in the fields of science, technology and engineering are urgently needed to serve Cambodia's primary and secondary sectors, and strengthening education in related subjects is now of critical importance to Cambodia's prosperity (MOEYS 2014b).

About 59 percent of the labour force have no or only some years of primary education: of the current workforce, only 10 percent finished basic education, 4 percent completed upper secondary education and 2 percent hold tertiary qualifications. There is no doubt that workforce productivity is an issue in Cambodia.

Neither the Cambodia Chamber of Commerce nor the Cambodia Construction Association have conducted a survey on the skills needed to boost youth employability, but both institutions are aware of mismatches between young people's educational background and the skills and knowledge they need to secure decent employment in the workplace. To help fill this gap, many employment agencies organise induction or pre-service training, and large banking companies such as ACLEDA have their own training centres for pre- and in-service training.

Both large foreign and domestic companies have decried the low productivity and creativity of local professionals and skilled workers that often comes at a price to the brand image of construction firms and banks. At the same time, because domestic workers' wages are eight to ten times lower than those of foreign professionals and skilled workers, Cambodian skilled workers migrate en masse to Thailand and Malaysia for better pay. In Thailand, for instance, Cambodian workers are paid two to three times more than they would get for doing the same job at home.

Large companies generally do not trust the quality of education and training provided in Cambodia and are reluctant to pay tertiary graduates competitive salaries. For example, fresh bachelor's graduates working in the banking and construction sectors, including engineers and accountants, are paid USD300 to USD400 per month. The quality of teachers and trainers is another issue. Even if students want to do research, there is no professor to help them

because most faculty members have never done any research or had papers published. On the other hand, highly qualified professors are over-stretched through teaching too many classes and this has led to low quality lessons.

The mismatch between local employees' pay and workload may lead to low quality services and increased migration of professional workers following the launch of the ASEAN Economic Community in 2015. Private companies already face the issue of staff retention, especially of qualified and trained personnel. Several large companies in the service and industry sectors now have training budgets and institutions for their own in-company or professional development training programmes. For instance, the oil and gas company, Total Cambodia, has increased the salaries of local professionals and created an enabling environment for them to move around the company in other countries, yet the thorny problem of losing them to other firms remains.

Employment agencies consider university graduates' English proficiency and ICT competency important as means to further learning and adaptation in an increasingly interdependent and globalised world of work. Despite the new National Qualifications Framework, government regulatory agencies have so far failed to consider fully the economic values of local workers' skill-sets, in particular minimum wages and pay standards for different categories of workers, and labour protection and rights.

3.1.2 Current trends and issues

3.1.2.1 Access and equity of access to higher education

Higher education is the last block of the entire system, built on the foundations of basic and secondary education. The progress made by these blocks of the education sector, as well as their shortcomings (late entry, repetition, dropouts and regional discrepancies, with rural girls at a particular disadvantage), largely condition the performance of the higher education subsector. There is little doubt that the low enrolment and completion rates at the upper secondary school level will have to rise, bringing more youth to the doors of higher education in the near future. No further expansion of higher education can be expected if the survival rates in general education remain at their current level, particularly if lower and upper secondary school dropout rates are not curbed. Similarly, as long as upper secondary education remains largely exclusive, there will be little that the higher education subsector can do to improve its inclusiveness.

Like in any other country, higher education in Cambodia is not a stand-alone subsector and many of its performance traits are inherited to some extent from the pre-higher education subsectors. Given the country's unique history, there is no doubt that what has happened at the primary and secondary

education levels has had a particularly strong impact on the current state of the higher education subsector. Intakes in higher education are the outputs of the secondary education system. Social demand for higher education stems from students coming out of secondary schools every year, whose primary and secondary school experiences influence their route into further education—or away from it. The legacy of pre-higher education experiences can be summarised as follows.

Since the early 1980's enrolment trends at primary and secondary education levels have resembled a bell-shaped curve, meaning that they have increased to a point and then started declining (illustrates the pattern during the last 10 years). Enrolments at the lower secondary school level peaked in 2007/08 followed by a five-year lag, and those at the upper secondary school level reached their ceiling in 2010/11 with a three-year lag before starting to shrink. The recent rebound noted at the primary level is expected to persist for some time and will transfer to the lower and then upper secondary levels in 3 to 5 years' time. A similar pattern is likely to prevail at the higher education level too. Future patterns of higher education enrolments however will mostly depend on efforts to reduce and re-engage secondary school dropouts.

A second aspect of primary and secondary education that could affect higher education is the age of students. One out of three students outside the typical age range will enrol in upper secondary school. This phenomenon originates from late enrolment at the primary level where 20 percent of pupils are over-age, intensifies at the lower secondary level to 30 percent, leading to a staggering over-age rate of 34 percent at the upper secondary level. International experience suggests that starting school late is a strong predictor of educational underachievement and disparities and that finishing school late is linked to secondary school graduates either deferring or altogether forgoing higher education. In Cambodia, the root of the problem is indeed at the earliest stage, i.e. access to grade 1, and that is where it has to be addressed.

Repetition rates are kept at a healthy minimum with the exception of grade 1 and grade 2, which ideally should be close to nil but actually reach 10 and 6 percent, respectively. However, dropout rates are high and increase as students move up the grades, peaking at an unacceptable 22 percent in grade 7 and 15 percent in grade 12—the end of upper secondary school. The future facing these cohorts of young people left behind without a chance to access higher education and without even the basic skills to undertake productive activities or the ability to apply thinking skills in different situations is a critical question. Clearly, there are economic consequences (wastage of human capital) and potentially serious social repercussions which will have

to be overcome through a combination of vocational training and special programmes.

Because of the high early dropout rates in lower and upper secondary schools, the education system leaks approximately 150,000 youths every year. The earlier cycles of education therefore bear the burden of improving students' chances of accessing university and their admission into higher learning programmes. The higher education subsector cannot be responsible nor does it have the capacity to make up for the underperformance of earlier education cycles. The higher education system cannot grow or sustain quality without mending "downstream" education systems and increasing substantially the number of children completing 12 years of basic education.

Another point that deserves mention concerns equity aspects of pre-tertiary education. For data availability reasons only two dimensions are considered here: gender and location. Gender discrimination, although present, is relatively limited. While representing 47 percent of the total primary student population at grade 1 and retaining this share at grade 6, girls lose 2 percentage points when they reach grade 12. The situation for location is quite different. Overall, children from rural areas account for 85 percent of the grade 1 student population, but their share drops to 61 percent when they reach the last grade of upper secondary. The gap can be documented from several points of view. First, the proportion of over-age students is systematically higher in rural areas than in urban ones. Second, year-to-year completion rates are lower for students from rural areas: the gap increases with each grade, with a compounded rate at the end of upper secondary school for urban students more than twice that for rural ones (49 percent versus 20 percent). Again, this is a matter of concern for access, and equity of access, to further levels of study, as it means that the pool of potential candidates for higher education is indiscriminately—and in most cases, definitively—skewed. Consequently, while the share of female graduates between grade 6 and grade 12 remains almost the same (at about 48 percent), the share of rural children drops significantly between these two grades. Rural girls are the most discriminated against subgroup. This has a direct effect on the demand for higher education places.

Little seems to be known about the quality of student learning in the critical area of science subjects when students leave the system at grade 12. This is due to the absence of a national assessment test at that level (MOEYS 2014c). Cognisant of the failure to achieve several efficiency targets, the ESP 2014-18 sets out a number of measures to upgrade quality in primary and secondary education including revision of the curriculum, establishing a school quality assurance system and revision of teacher training systems.

Lastly, the pre-university sector in Cambodia is overwhelmingly part of the public domain. With the exception of preschools where around 13 percent of children attend private centres, no more than 3 percent of students are enrolled in private schools, be they at the primary, lower secondary or upper secondary level. Most other ASEAN countries call more on the private sector in delivering quality general education for their children and youth.

In sum, the enrolment patterns and student flows in the pre-tertiary sectors inevitably shape the patterns of access and equity in the higher education subsector. This alone is sufficient reason to ensure that the primary and secondary education systems are well synchronised. Of course, quality and relevance—discussed in the next section—are also very good reasons for harmonising these subsectors.

Sitting at the top of the education pyramid, higher education can be accessed mainly by those students who have passed the grade 12 exam and compete to enter bachelor's programmes, usually by taking entrance exams or meeting the basic requirements set by HEIs. Another entry point exists though for students who have failed this exam and/or for those who have gone further than grade 9 through the technical and vocational education training stream. After passing placement assessments, these students can access programmes leading to associate degrees or technical diplomas. Together, these two streams constitute what could be labelled the ''general and technical'' avenues of the higher education subsector, which fall mostly under the auspices of MOEYS.

Importantly, higher education supports the entire education system as it produces high-quality teachers, capable educators and school administrators. Moving up the pyramid, enrolments in primary education number around 2.0 million, in lower secondary around 0.53 million, in upper secondary around 0.26 million and in higher education around 0.25 million. This indicates that upper secondary graduates are likely to continue to higher education. Thus, before improving access to higher education, the focus should be on ensuring the relevance and quality of the higher education offered in public and private tertiary institutions, and then access to upper secondary education will follow suit.

3.1.2.2 Quality and relevance of higher education

The disconnection between labour markets and fields of study is fast becoming a more critical challenge than low enrolment ratios in higher education. Cambodia's higher education institutions supply a relatively large number of graduates in accounting, finance and management. Despite agriculture and off-farm rural activities being Cambodia's main industries in need of improvement, only 2.3 percent of students study related disciplines. This can

be partly explained by the findings from recent youth surveys that students do not understand the skills demanded by employers and lack access to reliable information on study and career opportunities (World Bank 2012).

Cambodia is an agricultural country with 80 percent of the population living in rural areas relying on the agriculture sector for their livelihoods. Employment shares by sector as cited in the General Population Census 2008 reveal that 69 percent are employed in agriculture, 20 percent in services and 11 percent in industry. Against this backdrop, recent debates on human capital raised the issue of a lack of engineers for the booming construction and oil and gas sectors. Civil engineers and architects are badly needed to keep pace with the evolving ASEAN economic integration and the anticipated inflows of skilled labour from neighbouring countries.

The quality of services in HEIs depends on institutional management and leadership capacities. Meetings with HEI leaders in Phnom Penh, Battambang, Banteay Meanchey, Svay Rieng and Prey Veng provinces revealed capacity gaps between HEIs in the capital and those in the provinces in terms of the qualifications of rectors, vice-rectors, deans and faculty members. Full-time faculty members holding a doctorate are very rare in provincial universities. Highly qualified faculty members divide their time between public and private HEIs and also between teaching in the capital and the provinces.

Institutional status and scope of autonomy remain unclear, especially for public HEIs. The recruitment of rectors, vice-rectors and deans is often a political process without enough weight given to the professional qualifications required to manage HEIs effectively. Conflicts of interest frequently arise between managerial or ownership positions in private universities and official positions in government. The capacity of universities to raise funds and generate income from the services they offer is low. All public universities still rely heavily on central government support and tuition fees.

Fostering high-level research-based teaching and guidance presents both public and private HEIs with great challenges related to the quality of teaching, research activities, service delivery and innovation management. MOEYS advises that all HEI lecturers should at least hold a master's degree yet about 29 percent of them have a bachelor's degree only. That said, as Figure 3.1.1 indicates, the number of lecturers holding a master's degree rose by about 56 percent between 2008/09 and 2012/13. The increase in the number of lecturers with a doctorate is also a promising sign for the quality of services delivery and research at HEIs. Foreign lecturers in academic year 2011/12 accounted for a mere 5 percent of total HEI teaching staff.

Figure 3.1.1: Qualifications of lecturing staff in HEIs

	2012/13	2011/12	2010/11	2009/10	2008/09
■ Bachelor's	3812	3655	3677	3421	3068
■ Master's	6524	6292	6212	6053	4183
■ Doctorate	835	811	822	789	603
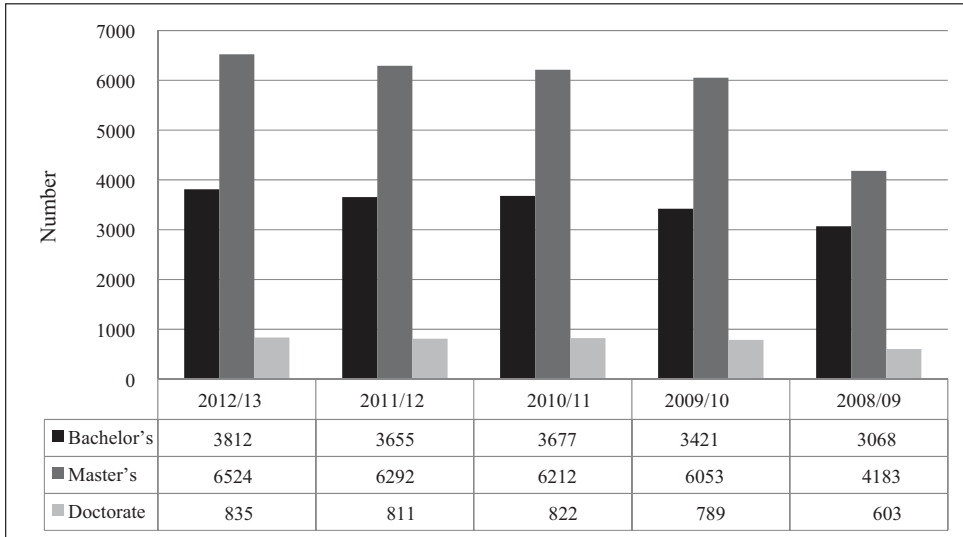
Source: MOEYS Department of Higher Education 2013

At the same time, regular salaries are completely unrelated to performance and therefore do not encourage improvements in teaching, student support or research. Thus, the system gives faculty staff an understandable justification to strategise how to complement their meagre remuneration instead of doing their best to meet their teaching commitments. The first option is to work "supplementary hours" in their university for extra pay. Once they have delivered their mandatory number of hours, faculty staff are paid for the extra hours they work. The hourly rate is not set by the government but is at the discretion of the university. It varies from USD6 to USD8 for bachelor's degree holders, USD8 to USD10 for master's degree holders and USD12 to USD15 for doctorates. Informal arrangements allow teachers to work between four and ten supplementary hours a week. Based on an average of eight hours overtime per week, they can increase their monthly salary by USD200 to USD500. As these extra hours are paid exclusively from tuition fees—the practice commonly adopted by qualified/entrepreneurial faculty—the system tends to advantage better-off students who benefit from the teaching of the best faculty members.

The Accreditation Committee of Cambodia stipulates that at least 25 percent of faculty members in every programme and higher education institution should work full-time. The aim is to reinforce institutional obligations, especially of private HEIs, to employ highly qualified teaching staff and ensure faculty members' full commitment to teaching and research. But because of the lack of incentives or rewards such as fair remuneration and promotion, few lecturers conduct research or have any publications.

MOEYS covers most of the public and private HEIs. It issues various policy and regulatory frameworks to guide and manage the large number of HEIs, which increased from 97 in late 2012 to 104 by the end of 2013. The higher education subsector has grown rapidly but progress in key indicators has been slow. Worse still, education quality has not kept pace with increasing enrolment while relevance lags far behind the demands of the fast-changing marketplace. Government capacity to manage and improve the quality of HEIs is low. Although establishment regulations and quality control mechanisms exist, they are poorly implemented.

Cognisant of the difficulty of quality control by the 14 ministries tasked with HEI governance, in 2003, the government established the Accreditation Committee of Cambodia (ACC), chaired by the deputy prime minister. It was to create a platform for HEIs to compete with each other thereby obliging them to review their institutional and programme quality and relevance but the ACC has so far only assessed foundation year programmes. The process of institutional accreditation is ongoing. Originally set up under the Office of Council of Ministers, management of the ACC was transferred to MOEYS following the ministerial reshuffle after the 2013 national election.

Two key ministries in charge of education are MOEYS and MOLVT; they regulate 64 private HEIs together with the ACC. The growing number of HEIs has widened access for students in provincial cities and injected some flexibility through weekend and evening courses that enable the working population to develop their knowledge and skills, thus creating a space for professional development. The regulation of private HEIs is unevenly divided between the two ministries, with MOEYS providing general direction and guidance to 54 of them and MOLVT overseeing just ten.

The level of **autonomy** given to large public universities is limited. One of the main reasons for this is their capacity to generate and manage resources. Qualifications of institutional leaders and faculty members to provide quality services and effective teaching are vague, and limited research work by faculty has been produced and published in peer-reviewed journals.

Curriculum issues also affect the number and quality of graduates. Curriculum development pays scent attention to engaging employers and businesses or consulting industry, and takes a supply-oriented approach to education rather than a learning outcomes or competencies-based one with a focus on knowledge, skills, attitudes and values. Consequently, the core abilities of tertiary graduates have rarely been formally assessed and the general perceptions employers have suggest that most graduates lack key employability skills. However, movement at some HEIs considering

the United States model for quality development in education, and the new leadership of MOEYS, have put quality improvement and relevance in the higher education subsector at the centre of the policy agenda and a road map for curriculum reform is being prepared.

3.1.2.3 Financing higher education

Quality is strongly associated with finance and human resources. Low investment in research and teaching facilities handicaps progress towards quality in the entire education sector. Balancing investment across all subsectors of the education system is the only choice. Continued low government investment in public HEIs and poor compensation for faculty in public HEIs will inevitably have a detrimental effect on the quality of services throughout the whole sector. Starting in the late 1990s, the creation of a level playing field to engage and encourage investment by private sector education providers widened access to higher education. More recently, movement in early 2014 regarding cooperation between the Cambodia Chamber of Commerce and selected HEIs (Royal University of Phnom Penh, Cambodian Mekong University, and Institute of Technology Cambodia) has opened doors to more linkages between industries and education providers to enhance the quality and relevance of higher education.

MOEYS allocates 4 percent of its annual budget to the higher education subsector and this share is expected to increase to 20 percent by 2018 (MOEYS 2014c). The limited government funding for research and institutional development has been a concern. A series of discussions exploring public-private partnerships in higher education to reduce the burden on government funding has so far led to limited action. In the meantime, owing to the high cost of facility investment, private HEIs continue to offer mostly courses in social sciences rather than in the fields of science and technology. In addition, there are issues of public HEIs such as the University of Battambang, Chea Sim University of Kamchaymear and Mean Chey University having luxurious facilities but qualified faculty members lacking capacity to make full use of them.

A few donors have been investing in higher education development in Cambodia. There is a division of labour in supporting the education sector between the World Bank and the Asian Development Bank (ADB). The World Bank is leading the higher education and public financial management (PFM) reforms and ADB is taking the lead in secondary education, TVET and decentralisation and deconcentration (D&D) reform. Both development banks have been active in building education infrastructure such as schools, university libraries and secondary resource centres, as well as building capacity for project administration, PFM and D&D to support the sector's development. Other bilateral donors such as the Japan International Cooperation Agency

(JICA), Agence Française de Développement (AFD) and Korea International Cooperation Agency (KOICA) are supporting public HEIs such as the Institute of Technology of Cambodia (ITC), Royal University of Law and Economics (RULE) and Royal University of Phnom Penh (RUPP).

The main source of funding for HEIs is tuition fees. Competition for private student enrolment among both public and private HEIs has a negative impact on the quality of the outputs from this subsector. Lecturers mostly divide their time between public and private HEIs.

Development partners' interest in higher education remains tentative. In spite of their similar objectives, political issues between the World Bank and ADB in managing resources for the development of Cambodia's post-primary education subsectors create uncertainty and support is lent on a conditional basis. The state of basic education is a major issue in promoting access to TVET and higher education.

3.1.2.4 Governance in higher education

Strengthening governance in higher education relies heavily on legislative framework, leadership and management. The challenges facing the governance of HEIs in Cambodia are deeply rooted in the traditional culture of the institutions supervising them and their political economy. The institutional and organisational environment and responses to external pressures shape the development of higher education and determine the resources for HEIs.

Optimising the balance of resources between general education and higher education has featured in several discussions on national development policy for Cambodia's education sector. The outcome of this policy debate is that access to quality basic education remains a top priority for government and its development partners, as it is a rights-based intervention. In higher education, on the other hand, the economic benefits accrue more to the individual.

There were 105 HEIs (39 public and 66 private) administered by 14 ministries in 2014. MOEYS regulates and makes policies and regulations for nine public and 54 private HEIs while MOLVT does so for nine public and ten private HEIs. Between them, the other 12 ministries supervise 23 public HEIs and no private ones: for instance, the Ministry of Health administers two public HEIs, Ministry of Culture and Fine Arts one, Ministry of Religious Affairs three, Ministry of National Defence five, and Ministry of Interior oversees two. This fragmented administration leads to low quality services and dilutes support from technical institutions such as the Accreditation Committee of Cambodia (ACC) and the General Department of Higher Education (GDHE).

Two main ministries supervise both public and private HEIs: Ministry of Education, Youth and Sport (MOEYS) and Ministry of Labour and Vocational Training (MOLVT). Guided by the National Training Board, the MOLVT provides training courses from post-basic education to postgraduate level. Currently, 106 students are enrolled in postgraduate courses and 10,453 enrolled in bachelor's programmes at public polytechnics (MOLVT 2014).

The Cambodian Higher Education Association (CHEA) was established in June 2004 to better coordinate and support new and old, large and small private HEIs. It began with 13 institutional members and now has 56: 27 universities, 12 institutes and 17 schools. Management and leadership are elected every three years. Fieldwork observations and discussions with representatives from several HEIs revealed that CHEA's ability to promote mutual benefit and help develop member institutions' capacity for growth and quality improvement has been limited and influenced by political leaders. When it comes to governance within the higher education subsector, some key issues stem from the subsystem and institutional factors. Arguably the most critical of these is the fact that a stronger higher education system would contribute to a stronger teacher training system and help to assure the quality and effectiveness of those serving the schools, public and private institutions and other development sectors, as well as strengthening HEIs themselves.

Financial investment for quality and relevance in public HEIs is essential. Public universities with more scholarships available for disadvantaged groups struggle to provide degree programmes that students are not highly motivated to pursue. Less preferred areas of study for students but important for the nation, such as philosophy, history, mathematics, literature, biology, physics and chemistry, face numerous constraints in attracting and retaining students. HEIs have failed to offer a comprehensive response to the challenges of transitioning to an industrialised and knowledge-based economy in which professional skills in science and technology are much needed (ADB 2012b)

Cambodia remains one of the world's least-developed countries. The overall performance of academic governance in the country's higher education system remains weak and highly fragmented. This underscores the importance of recognising the complementary roles of public and private HEIs and harmonising their investment activities. Public universities have still to develop a comprehensive learning environment though they have better comparative advantages in terms of resources than do private universities. Collaboration in research development and networking for mutual growth within the country and professional exchange between Cambodia's HEIs and HEIs in the region should be enhanced (MOEYS 2013).

3.1.3 Policy Options

Given the limited resources available to finance higher education development, the balance achieved in the past decade between public inputs in higher education and the role of the private sector in widening access to higher education has been remarkable. The private sector has invested heavily in both general and specialised fields particularly in social and human sciences. Private investment in science and technology education has been minimal, however. Long-term intervention strategies for higher education should focus on institutional management and governance reforms to build professional capacity that can deliver the scientific and technical skills badly needed to meet the growing needs of agriculture and industry in the competitive regional marketplace.

A broad set of policy options government might take to resolve the issues hampering the development of Cambodia's higher education subsector are outlined under the key elements of this discussion: access and equity, quality and relevance, finance and governance. These would support actions to improve human capacity (faculty staff and students), build institutional and organisational capacity and strengthen planning and management systems both in the subsector as a whole and within HEIs specifically.

Access and equity. The Education Strategic Plan (ESP) 2014-18 highlights four key areas for improving access to secondary and higher education in rural areas. It sets out guidelines to help develop the capacity of educators and institutions to improve the quality and efficiency of education services. Government actions to ensure the quality of higher education services, including strengthening quality assurance measures and increasing the subsector's share of the education budget to 20 percent in 2018, ought to be monitored and assessed. This would help keep the implementation of the ESP on track, enhancing access and transition rates in all education subsectors.

Majority of students enter HEIs directly from upper secondary school. Efforts to boost academic quality, access and student success in secondary school will boost enrolment in HEIs. Associate degree programmes offered in many HEIs (especially private HEIs) should focus on developing qualifications relevant to the labour market. Of the 90,000 students who completed grade 12 in 2013/14, some 50 percent passed the exams and qualified for admission to bachelor's programmes. This illustrates the scope for promoting enrolment in associate degree programmes. Students should be academically prepared and encouraged to take up such opportunities. Providing different entry points to TVET and associate degree programmes to open up access for students from different educational backgrounds is vital at this stage.

Quality and relevance. TVET and higher education play crucial roles in the country's development, helping to address youth unemployment and school dropouts as well as building the capacity of educators and trainers (UNDP 2011). A road map to higher education quality and relevance has to be designed and implemented. Specifically, higher education must respond to fast-changing national needs and pave the way towards economic modernisation especially in agriculture.

Since the quality of services relies on the quality of providers, the rights and responsibilities of lecturers and other staff should be clearly defined so that HEIs can boost university research and innovation. In building science and technology education to respond to market demands and ASEAN integration, education leaders should rethink and recognise the links between secondary and higher education.

Finance. Government must invest in higher education development especially in building facilities such as libraries and laboratories at public HEIs without further delay. Capacity building for management and lecturing staff should go hand-in-hand with meaningful remuneration and incentives. Exploring external investment, credit, technical support and private partnerships is essential for the growth of both public and private HEIs, otherwise the higher education subsector will fall behind as in the past decade.

Governance. A strategic framework to bridge the three blocks of upper secondary education, TVET and higher education is an imperative. MOEYS should exercise leadership in higher education development and improve the internal governance of HEIs, clarify the autonomy of universities and define the key roles of rectors. To strengthen governance and management in higher education, there would be merit in considering the following.

- Implement the Cambodian Qualifications Framework
- Consolidate HEIs into a single comprehensive system
- Improve coordination among regulatory bodies and HEIs
- Enhance institutional autonomy
- Establish a flagship university
- Promote internationalisation of HEIs

3.1.4 Conclusion

The organisational structure of the current education system has adopted elements of a centrally planned public administration. At the central level, tasks are divided among general and technical departments. Under MOEYS, the Department of Higher Education oversees and regulates all the public and private higher education institutions especially associate and bachelor's

degree programmes, and the Department of Scientific Research covers postgraduate programmes and research. The issues of access and quality in this subsector call for sound management and concerted efforts from government and development partners.

The challenges of narrowing quality gaps and sharing resources among HEIs have been explored with limited success. Low tuition fees, large classes and reliance on less qualified staff—common traits of small and large, private and public universities alike—lower the quality of undergraduate education, leading to poor quality graduates being unable to find work in their field or confined to low-wage positions. This particularly relates to the problem of underdeveloped soft skills—English language proficiency, ICT competencies and networking strategies—hampering employability and earnings.

The current trends and issues in higher education in Cambodia are strongly connected with political will and economic drive. The demand for highly trained professionals and specialists was insufficient to leverage interest and resources for many years and government attention and donor funding has focused primarily on basic education rather than post-basic education.

While enrolment in secondary education remains low, enrolment in higher education will also remain low, thus fuelling mounting concerns among stakeholders about how to increase access to higher education. The planned review of the upper secondary school curriculum and teacher qualifications must be put into action immediately. This has to be done in line with a review of the higher education curriculum and performance of HEI lecturers. The problems of quality, relevance and linkages between secondary education and higher education need to be resolved.

However, the time is ripe for bold, deep-seated reforms. Under the leadership of the new minister of education, the ambitious Education Strategic Plan 2014-18 and its prioritised reform agenda are major opportunities to revitalise and reorganise higher education in Cambodia. Strong political commitment (MOEYS Eight Reform Priorities) will ensure a steady flow of donor support and investment. The future of teaching and learning in higher education looks increasingly bright.

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Subchapter 3.2
Strengthening Cambodia's Economy:
Roles of Quality Assurance in Higher Education

This study presents a policy proposal addressing the roles of quality assurance (QA) in higher education in strengthening Cambodia's economy. To complement current policy and practice, it proposes strategies for tackling internal and external QA. In view of the imminent ASEAN Economic Community and Cambodia's aspirations to achieve upper-middle-income status by 2030 and developed economic status by 2050, the paper contributes to an ongoing discussion on how to allow the Accreditation Committee of Cambodia, the country's external QA entity, to accomplish its professional functions. This theoretical study draws on a doctoral dissertation, "Implementing Quality Assurance at the Royal University of Phnom Penh, Cambodia: Perceptions, Practices and Challenges" (Ros 2010). First it discusses the influence of international practice on regional QA practices. An analysis of the rationale for emphasising QA in Cambodian higher education follows. The study then examines a proposed national QA strategy and highlights some implications for policymakers and practitioners.

3.2.1 Introduction

The role of higher education QA systems in strengthening economies has been a central topic of ongoing international dialogue. As higher education institutions focus on accreditation and accountability, stakeholders demand evidence of value-added academic services and programmes from higher education suppliers. Since the mid-1990s, most suppliers have attempted to integrate lessons from business to enhance the quality of their services. The leadership in Cambodia, as in other countries in Southeast Asia, has been attempting to incorporate a culture of QA into its higher education system. These efforts could be reinforced by a sound higher education strategy (World Bank 2013; UNESCO 2006). This study provides suggestions on how to support national decision making that enhances Cambodia's higher education plans, focusing on what an authentic QA system could do to strengthen its economy while discussing how to foster a QA culture in its higher education institutions.

Throughout, I argue for a more harmonious strategy on internal and external QA at public and private higher education institutions and for meaningful input from international, regional, national, institutional,

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departmental and individual management. QA is becoming increasingly vital for higher education institutions in Southeast Asia due to the ASEAN Economic Community. Related to this is the call for a harmonised institutional strategy on internal QA, performance indicators, accreditation and a focused movement towards accountability while keeping in mind the increased internationalisation and regionalisation of external QA procedures.

3.2.1.1 Quality assurance practices in Asian higher education

In different parts of the world, there are different ways of implementing QA in higher education. QA practices in Asia are the focus of this study. QA is a result of globalisation that appears to offer positive changes, especially for countries that can take advantage of technological innovation and global markets. For many transitional economies in Southeast Asia, however, globalisation will unavoidably lead to another layer of regional competition. This will bring in its wake challenges to leaders in finding workable strategies to boost competitive advantages. Thus the shift from a labour-oriented to a more knowledge-oriented economy may in fact weaken some nations. In tackling this reality, Southeast Asian nations remain determined to catch up with the globalisation of educational governance structures, hoping to meet international standards. Expectations keep rising but with no clear end in sight for some nations. Cambodia and other countries with transitional economies clearly have little choice but to explore ways to develop their human capital by enhancing quality at all levels of education, especially higher education.

QA practices in the West have influenced those in Asia, specifically in Southeast Asian higher education (El-Khawas, DePietro-Juran and Holm-Nielse 1998). Self-review exercises prior to allowing external institutional reviews are an example of this influence.

3.2.1.2 Criticisms of quality assurance

QA involves extra paperwork (Rustin 2000). In countries where salaries are still limited, this can play a major role in demotivating individuals from fulfilling QA requirements. In addition, bureaucratic QA processes can inhibit a culture of creativity and innovation (Ellis 1993) because they require individuals to meet quality standards criteria that are often decided by QA leaders without consulting the frontliners or pacesetters in higher education. That, in turn, could slow down or work against the proactive nature of academic independence. It is important, therefore, to involve QA practitioners at all levels in creating a culture of quality (Ros 2010), especially in defining what "quality" means to an institution. If practitioners have a role in creating the institutional QA framework, they will be more

likely to implement it in a collective spirit. Enhanced QA procedures would then enable institutions to be better prepared for periodic evaluation (audit) leading to external accreditation.

3.2.2 Rationale for strengthening Cambodia's economy through quality higher education

In the wake of regionalisation, ASEAN leaders agreed to construct an ASEAN community based on three cornerstones: the ASEAN Economic Community, the ASEAN Political Security Community and the ASEAN Socio-Cultural Community (ASCC). The fundamental purpose of the ASCC is to create an ASEAN community that identifies priorities based on common values and the actual needs and capacities of the people and societies. Education, specifically higher education, has been considered key to promoting the ASCC and strengthening ASEAN economic harmonisation. Higher education development has long been recognised as essential to enhance human capital development in ASEAN. In 2009 an ambitious plan was hatched to establish a regionally harmonised platform to promote a network of universities across ASEAN. This harmonisation process involves 6500 higher education institutions and 12 million learners. The higher education leaders in the region have identified four priorities: QA, learner mobility, research collaboration and credit transfer. To implement this plan, higher education institutions in the region need to achieve at least five goals (Sirat, Azman and Abu Bakar 2014): regional internal and external QA including accreditation, a unified curriculum framework based on learning outcomes consistent with labour market needs, stronger emphasis on technical and vocational education and training programmes (Sen and Ros 2013), elevating the status of teachers and faculty members through regional exchange programmes and awards, and promoting the use of English as a workforce tool. Cambodia's Education Strategic Plan (ESP) 2014-18 includes some of these intentions, but how these will be translated into concrete actions remains to be seen. A curriculum framework based on learning outcomes is an example of how the new ESP is consistent with regional thinking, but local implementation is urgently needed.

Cambodia has recognised education as a priority for achieving sustainable and inclusive development since the third Consultative Group Meeting for Cambodia in 1999 (JICA 2002). The need for a national strategy based on a realistic resources plan for reforming Cambodia's higher education sector was emphasised by studies of the Asian Development Bank, the National Higher Education Task Force, the government, UNESCO and the World Bank (Ahrens and Kemmerer 2002). Ensuing reform efforts by the Ministry of Education, Youth and Sport (MOEYS) required all higher education

institutions to establish QA offices. To date, the Royal University of Phnom Penh (RUPP) and the Royal University of Law and Economics have become members of the university network in Southeast Asia (ASEAN University Network 2015). Now that the RUPP has become Cambodia's flagship university, there would be merit in MOEYS providing maximum support to its QA office. Any lessons learned from this process should be formally documented and used as procedural guidance to develop QA offices in other higher education institutions.

3.2.3 Examining the policy proposal

The policy proposal examined here aims to complement existing internal and external QA practices in higher education. For this purpose, the Ros (2010) gravitational theory[1] is suggested as a possible policy tool that might merit further consideration among researchers, policymakers and practitioners for further collaborative priority-setting. The theory, grounded in a doctoral research study on implementing QA procedures at RUPP, has been used to complement the quality of education and training programmes of the Division of Human Health, International Atomic Energy Agency (Ros, Pascual and Chhem 2014). It might be timely to see if this theory could complement existing QA practices in Cambodian higher education institutions, where financial and human resources are still limited. Other countries face similar limitations too. If Cambodia wants harmonious internal and external QA at higher education institutions (both public and private) badly enough, it will determine a pathway and solutions to attain its goal. The question is how to sustain and revitalise this effort.

At the heart of the Ros gravitational theory is a focus on the existing culture of quality in higher education institutions while embracing sound local, regional and global QA practices. To develop an effective QA culture, the reasoning and practices that pervade institutions first need to be identified and understood, not unlike a SWOT (strengths, weaknesses, opportunities and threats) analysis. In Ros' (2010) case study of RUPP, QA practitioners appeared to execute QA procedures through a non-linear interactive three-stage developmental cycle. They seemed to have different theoretical drives and experiences and therefore viewed and executed QA differently. Ros pinpointed three main aspects of the execution of QA at RUPP: learners' cognitive and social development was considered as important as their intellectual prowess; the QA system was adapted to intrapersonal awareness;

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1   "This theory focuses on the dual interaction dynamics among relevant stakeholders who must share a common goal of creating quality education and training programmes. The dual interaction dynamics involve willingness to integrate and implement quality assurance principles and strategies as agreed upon by a specific group of stakeholders" (Ros, Pascual and. Chhem 2012, 144).

and the use of QA was influenced by multiple interpersonal relationships. In summary, practitioners at RUPP continued to define QA while implementing it. This realisation indicates a need for a comprehensive internal QA system at RUPP. This finding is also valid for other public and private higher education institutions. Therefore, the Department of Higher Education (DHE) of MOEYS, which is responsible for licensing higher education institutions, needs to revive universities' internal QA offices. At the same time, the Accreditation Committee of Cambodia (ACC) (the external QA entity) needs to collaborate with the DHE, which can provide needed capacity development support to QA practitioners through workshops nationwide. In addition, the role of the ACC's external assessors should be expanded— from infrequent single events to continuous processes. If practitioners do not view accreditation as a continuous process, they may choose to complete the required paperwork simply for the sake of doing it rather than because they are willing to contribute wholeheartedly to an overall QA exercise. To reach a common purpose, MOEYS should coordinate existing and emerging QA efforts in higher education. In so doing, MOEYS should draw on the support of and collaborate with development partners (such as the Asian Development Bank, European Union, World Bank and UNESCO), the ASEAN University Network-Quality Assurance and the Asia-Pacific Quality Network. These actors, through the current technical working subgroup for higher education, should prepare a concept note on how best to achieve QA for submission to the minister of MOEYS.

The policy approach to QA should support internal QA processes by actively engaging staff and other key stakeholders from all levels to define quality and collectively agree on a comprehensive QA framework that best meets their institutional goals and needs. This framework should be consistent with the external QA criteria and procedures used by the ACC. The current restructuring of the ACC is being finalised under the auspices of MOEYS. To allow the ACC to fulfil its professional role, the head of the ACC should report directly to the minister of MOEYS. This reporting line corresponds to the requirements of ASEAN-QA and accreditation harmonisation. If the ACC head does not report to the education minister directly, the ACC would become less independent, meaning less pragmatic.

3.2.4 Policy implications

Internal and external QA mechanisms need to be strengthened simultaneously. In Cambodian higher education, internal QA refers to activities undertaken across an institution in preparation for external QA evaluation, which refers to accreditation activities carried out by the ACC. Until recently the ACC was under the authority of the Council of Ministers but is now being integrated within MOEYS.

This study is a call for action by leaders of higher education institutions to respond and adapt to changing realities, notably increasing demands for accountability, the expansion of a culturally diverse student body and increased mobility of talent, and competition from other local and regional institutions. MOEYS is aware of this situation, but the question is how to embrace regional collaboration and competition. It is imperative therefore that higher education leaders establish and strengthen an institutional QA framework based on best national and regional practice. More studies on national and regional higher education institutions that have not explicitly adopted quality principles and strategies, or are trying to incorporate QA into their structures, would benefit leaders of Cambodian higher education institutions with limited financial and human resources. One way that could encourage more higher education leaders to value institutional quality would be to establish a national discussion forum with the purpose of exploring the most appropriate QA models for Cambodian institutions. Through this national platform they could exchange experiences of best practice within their institutions and lessons from their visits to higher education institutions in other countries. Some leaders may have more opportunity than others to visit international higher education institutions. A national discussion forum would allow them to promote their institutional QA practices adapted from international experiences. Cambodia does not have to create a new platform for such a national forum because it can include explicit consideration of QA procedures in the Council of Cambodia University Rectors established by MOEYS (2014), keeping in mind the importance of securing the active involvement of the private sector and potential employers in the forum.

To contribute meaningfully to a national forum on higher education QA, each institution needs first to define what "quality" and "QA" mean to it. Guided by DHE and ACC regulations, they should identify institutional achievement indicators. Each institution must also consider creating or strengthening its internal QA model by adapting the Ros gravitational theory to fit its unique institutional setting. With this institutional culture in mind, the national forum should also consider formalising total quality management (TQM) for improving higher education institutions. TQM may be viewed as a fad, but higher education leaders consider it a systematic approach that helps embed continuous quality improvement practices into institutional culture and is directly linked to competency-based educational strategy (de Jager and Nieuwenhuis 2005). Higher education leaders can explore the benefits that TQM has to offer by working with QA officers to adapt TQM principles to fit their particular institutional and national settings.

A theme arising from the literature on QA in higher education is that the concept has been borrowed from business management and adapted for use

in assessing educational performance. In Cambodia, Budhist instruction plays a certain role in defining and translating QA into higher education (Ros 2010). This implies that, in implementing QA, policymakers should consider Theravada Buddhism. Importantly, the national forum on QA, if embedded within the Council of Cambodia University Rectors, should involve the Ministry of Cults and Religion in reorienting the mindsets of QA practitioners within higher education institutions. Without awareness of QA principles, practitioners might resist implementing them. The ministry can spiritually motivate faculty members, who may view themselves as subjects/citizens/beneficiaries/victims of QA.

3.2.5 Conclusion

This paper primarily interprets evidence from a cross-sectional research study on a public university (Ros 2010), and attempts to apply the research findings to both public and private higher education institutions. Recognising all stakeholder engagement is different and that consensus building takes time, there might be merit in monitoring stakeholders' perspectives, knowledge and capabilities as they develop and take on different roles through various forums. A qualitative longitudinal study, commonly used for subjective in-depth analysis of a continual process, could capture the perspectives and patterns of multi-stakeholder engagement in QA (Cohen, Manion and Morrisson 2000). Such an approach could be useful for verifying existing knowledge and adding new knowledge on innovation in higher education institutions and how their strategic plans, if any, are evolving. In addition, there should be a research study on the more overt features of Cambodian QA, including creating or updating an inclusive institutional QA structure that reaches out to employers, learners and parents where appropriate. Broadly speaking, these consumers of education are the ultimate recipients of improved quality; therefore, their views on quality and continuous quality improvement will be informative.

As Cambodia progresses towards economic prosperity, public and private higher education institutions should integrate TQM and QA systems, specifically continuous quality improvement activities, into their academic programmes and services to prepare students to enter and remain competitive in a fast-changing job market. The definition of QA will vary between cultures and differ substantially from the originating culture (Altbach, Reisberg and Rumbley 2009). Heeding this caution, Cambodia's higher education leaders and QA practitioners should be mindful of cultural and regional differences, institutional settings and levels of available resources. The effectiveness of QA in higher education ultimately rests on the restructuring and future performance of the Accreditation Committee of Cambodia.

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Subchapter 3.3
Transforming Higher Education Institutions
in Cambodia into Entrepreneurial Universities

This paper provides a theoretical grounding that aims to build knowledge and awareness of the concept of an entrepreneurial university as an emerging or even new notion in developing countries. Within the global and regional trends, challenges and transformation of higher education, this paper uses Cambodia as the lens through which to view how higher education institutions (HEIs) might implement and secure quality teaching and learning in an increasingly commercialised environment coupled with competition from a fast-growing number of HEIs. An introduction to broad perspectives of higher education in Cambodia is followed by a review of the literature on the role of universities in the modern knowledge economy. There is a conceptual discussion of the "third mission of universities" and the entrepreneurial university. The paper concludes by suggesting four features that could enable the transformation of Cambodian HEIs into entrepreneurial universities.

3.3.1 Introduction

As regional integration deepens with the impending ASEAN Economic Community (AEC), Cambodia risks being left behind unless it improves its higher education system, now considered crucial to secure the country's prosperity. Cognisant of the significant contribution of higher education to socio-economic development, the government is placing great emphasis on this sector. This is clearly reflected in the first comprehensive Higher Education Quality and Capacity Improvement Project 2010-15 (co-funded by the government and the World Bank), the National Strategic Development Plan 2014-18 and the Higher Education Vision 2030.

Problems and challenges are evident, however. Since 1997 when higher education provision was opened up to the private sector, there has been a rapid increase in the number of HEIs. This privatisation brought about two major changes: fee-paying programmes were authorised in public HEIs, and private suppliers were permitted to operate HEIs (Sam, Zain and Jamil 2012). This resulted in private HEIs increasing their role dramatically and becoming the dominant providers of higher education services in Cambodia (Chet 2009; You 2012). Even so, by 2013 less than 10 percent of high school graduates were participating in higher education (Dy 2013).

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The rapid expansion in the number of HEIs that have limited resources has implications for efficiency and teaching quality, despite the establishment of the Accreditation Committee of Cambodia (Ford 2003, 2006). Challenges include poor quality programmes, inadequate quality assurance, weak governance and management, lack of strategic leadership and planning, and lack of transparency in the selection of management and academic staff in public HEIs (Chet 2009). Public HEIs offer similar courses, such as business, economics and information technology, to those provided by private HEIs. Other fields, such as science, mathematics, agriculture and health tend to be overlooked by both public and private HEIs (Sam, Zain and Jamil 2012). In addition, most Cambodian universities are teaching-only institutions, and few have initiated research activities (Kwok et al. 2010). Private HEIs depend almost entirely on tuition fees (Un, Chuon and Ngin 2013). This pushes them to take in as many students as possible and to exceed their capacity. Further, it leads to ignoring the research knowledge and skills needed by the economy. This trend also applies to public HEIs, which are now up to 80 percent privately funded (Ahrens and McNamara 2013).

Overall, higher education programmes barely respond to today's rapidly changing labour market demands. It is important that HEIs take up new roles and that their interactions in society secure their future and improve the quality of their services. Clark (1998) suggested that all universities should become more entrepreneurial in style and operation. They should use their knowledge to seek funds from new external sources so that they can be financially independent of government and sustain themselves in a knowledge-based economy. Moreover, it is almost impossible for HEIs to work in isolation: as Etzkowitz (2003a) highlights, university-industry-government interactions are key to improving the conditions required for innovation at the core of a knowledge-based economy. This paper therefore explores the concept of an entrepreneurial university, a global trend in the 21st century. In so doing, it focuses on how the concept is applied in developed countries to uncover prior knowledge and identify areas where Cambodia can learn from their experiences in order to enhance both the quality of higher education and the performance of HEIs.

3.3.2 Role of universities in networking a knowledge economy

The role of universities worldwide has evolved, moving beyond their traditional functions of teaching and research to take up a role in promoting economic development and well-being (Etzkowitz 2003a). This academic revolution has taken two forms. The first is the change from a teaching-only institution into one in which research is integrated into teaching (Etzkowitz 2003a). Much of the research done in universities does not support the

creation of new enterprises since universities have been essentially perceived as providers of trained people for other institutions (Etzkowitz 2008). The second involves the relationship between teaching and research: combined, these factors contribute to socio-economic development (Etzkowitz 2003a, 2008). Unlike the academic revolution where research was solely for educational purposes, research findings and knowledge can be applied by government and industry to develop a country. Etzkowitz (2008) concludes that the first mission, teaching, inspired the second mission, research, from which emerged a third mission—socio-economic development (Etzkowitz and Leydesdorff 2000).

The third mission of universities is broadly defined as universities' activities to connect directly to the external world (e.g., society, business and industry), particularly to the economy. In narrow terms, this concept is described as "technology transfer" (Hackett and Dilts 2004) or "university-business cooperation" (Adamsone-Fiskovica et al. 2009). Whether defined in broad or narrow terms, the third mission is related to the involvement of universities in socio-economic development or wealth creation. This notion has been traditionally interpreted as "service to the community" and "outreach", but now a new dimension—"innovative entrepreneurship"—has been added. In implementing the third mission, universities embrace a range of activities such as patenting and licensing (Sampat 2006; Shane 2004), research-based spin-out ventures[2] (Etzkowitz 2008), contract research (Etzkowitz et al. 2000) and continuous professional development (Zukas 2012). In line with this thinking, the third mission has been likened to "the economic and social valorization of knowledge produced by researchers, creating the need for strategies, structures and mechanisms within universities that facilitate and intensify knowledge transfer to the private sector" (Fayolle and Redford 2014, 2). The expanded role of the university, from provider of education to generator of entrepreneurial activities in a knowledge economy, promotes dynamic interactions between government, university and industry (Mok 2005). Framed in terms of the third mission, entrepreneurial activities are increasingly becoming normalised in many universities in the US and worldwide (Etzkowitz, Asplund and Nordman 2001).

Despite many studies affirming no adverse effects of entrepreneurial activities on university teaching and research (see Van Looy et al. 2004), there is still much contention about the implications of third mission activities. Brooks (1994), for instance, cautioned that the commercialisation of universities poses a threat to the research system in that it might shift the focus of

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2   Universities' activities in commercialising their research outcomes through the transfer of their technology or product to a firm.

research towards more marketable areas of science and technology and distort traditional academic missions. Writing later, Etzkowitz et al. (2000) noted that academic entrepreneurship has influenced the traditional missions of HEIs. Criticism and caution aside, there has been a significant change in university-government-industry interaction. In fact, the rise of the knowledge economy is a driving force behind the third mission of universities and their closer links with government and industry for socio-economic development (Etzkowitz et al. 2000).

3.3.3 Understanding the concept of the entrepreneurial university

The incorporation of third mission activities has transformed the traditional university into an entrepreneurial university (Fayolle and Redford 2014). Etzkowitz (2008) asserts that universities need to develop a more entrepreneurial orientation and culture, transforming their research and capabilities into a crucial source of technology, human resources and knowledge to provide new ideas for existing enterprises and to create new firms. An entrepreneurial culture also encourages faculty to look at their research results for their commercial as well as their intellectual potential, and to seek external funds to conduct research (Etzkowitz 2008).

A related development is the inclusion of entrepreneurship education in university programmes (Sam and van der Sijde 2014). Universities aim to educate individuals and shape organisations through entrepreneurship education and incubation programmes (Etzkowitz 2008). In this model, entrepreneurship is taught to students in fields such as science, engineering, architecture, technology, business and the humanities (Levenburg, Lane and Schwarz 2006). The emergence of the entrepreneurial university has driven curriculum change (Sam and van der Sijde 2014); an example is the introduction of entrepreneurship education to nurture entrepreneurial spirit among students and graduates. This new university model places greater importance on interactions between university, government and industry (Fayolle and Redford 2014). The collaboration between these three spheres respects the entrepreneurial university as having a strong degree of autonomy. This allows universities to formulate their own strategic directions and collaborate with government and industry on equal terms (Etzkowitz 2008). Moreover, this model puts more emphasis on universities as leading institutions in promoting innovation and economic growth (Etzkowitz 2008; Mueller 2006). At the core of the entrepreneurial university concept is a connection between the "ivory tower" of academia and the "real world" of work. Etzkowitz writes (2003b, 111-112): "[J]ust as the university trains individual students and sends them out into the world, it is now doing the same for organisations … the university is a natural incubator, providing

support structures for teachers and students to initiate new ventures: intellectual, commercial and conjoint."

There are important differences between an entrepreneurial university and the entrepreneurial activities of a university. Most universities carry out entrepreneurial activities (Sam and van der Sijde 2014). Mass education, limited public funding, international competition and the changing nature of the knowledge economy have pushed HEIs to respond to economic development and engage in entrepreneurial activities. In turn, external engagement has implications for universities' strategic and organisational change as they respond to changing demands through commercial activities such as forming alliances, corporations and partnerships with the private sector (Yokoyama 2006). In order to create an entrepreneurial university, commercial activities need to create added value for the core functions of teaching and research and vice versa. Furthermore, entrepreneurial universities are expected to assume multiple roles in society and fill gaps in an innovation system (Sam and van der Sijde 2014). That is, they are expected to interact closely with government and industry to produce new knowledge and technology to enhance their role in the knowledge society and to diversify their income sources. Moreover, the university supplies qualified graduates and knowledge and provides incubation space for new enterprises (Marques, Caraça and Diz 2006). Laine (2008) asserts that entrepreneurial universities provide conducive environments to encourage students to explore risk-taking and opportunities (both protected and real world) and identify business opportunities. The changing roles of universities in emerging knowledge economies appear to move beyond teaching and research as they incorporate the new economic role of the third mission to produce and apply knowledge for society and industry. Sam and van der Sijde (2014, 901) conclude "An entrepreneurial university actively identifies and exploits opportunities to improve itself (with regard to education [teaching] and research) and its surroundings (third task: knowledge transfer) and is capable of managing (governing) the mutual dependency and impact of the three university tasks."

The advent of the entrepreneurial university has provided an opportunity for reflection on HEI development in Cambodia in comparison with the global movement (Etzkowitz 2008; Lo 2010; Mok 2005). The conclusion drawn is that HEIs in Cambodia mainly dedicate themselves to the traditional missions of teaching and research. They have yet to shift towards entrepreneurship oriented to secure their place by creating and retaining competitive advantages and to provide high-quality tertiary education and occupational preparation for a knowledge economy. The fact that most if not all HEIs in Cambodia depend almost entirely on tuition fees means that

their responses to the changing needs of the labour market have remained limited. The current labour market requires graduates equipped with generic competencies as well as functional skills. These competencies encompass the 21st century or so-called 7C skills: critical thinking and problem solving; creativity and innovation; collaboration, teamwork and leadership; cross-cultural understanding; communication and media literacy; computing and ICT literacy; and career and learning self-reliance (Trilling and Fadel 2009).

With the AEC imminent, HEIs are under great pressure to respond to labour market skill needs. Sen (2013) asserts that top universities in the region will open branch campuses in Cambodia once it is integrated into the AEC. This may lead to competition between international and national universities, forcing local universities to reform and improve their services and quality.

3.3.4 Conclusion

The entrepreneurial university engages in entrepreneurial activities that generate third stream incomes, enhance dynamic interactions with external stakeholders and promote entrepreneurship education with the corresponding value added to teaching and research. Although the model of the entrepreneurial university has been widely adopted in many developed countries, it is an emerging or even new phenomenon in developing countries. It may therefore appear unrealistic for a country like Cambodia to adopt this model as a solution to a shortage of resources. However, the role model of the entrepreneurial university in developed countries holds some general lessons for the development and strategic direction of HEIs in Cambodia. This model expands options for HEIs to sustain themselves financially and to improve the quality of their programmes and their effectiveness in equipping students with the skills and knowledge needed by the labour market. The author suggests that Cambodian HEIs wanting to transform into entrepreneurial universities could adopt four features of university entrepreneurship.

First, university-government-industry collaborations would improve the quality of HEIs and help address the education and skill mismatches in the current graduate labour market by improving the relevance of university curriculums. For collaborations to succeed, it is important that government provide policy intervention and financial support rather than leaving HEIs solely responsible for organising mutually beneficial engagement. Furthermore, a moderator might be needed to coordinate collaborations, as pulling all three spheres together is a big challenge in the local context. In addition, research could be used to bring external stakeholders and HEIs together in a single forum for common goals.

Second, university curriculums should be revised to include entrepreneurship education in order to encourage entrepreneurial spirit among Cambodian students and graduates. HEIs will have to be more focused on producing graduates with an entrepreneurial mindset and employability skills to meet the needs of the competitive ASEAN labour market.

Third, due to limited public funding, Cambodian HEIs will have to diversify their sources of income by becoming entrepreneurial. They should go beyond their traditional academic role of teaching and engage in corporate-sponsored research, consultation services and patenting. Local HEIs are at risk of collapse if their only income is tuition fees, particularly if there is competition with regional university branches in the AEC. The government and industry could be sources of funding through, for example, HEIs conducting contract research. This requires that HEIs develop the capacity to produce high quality research.

Finally, it is necessary to promote innovative research and development (R&D) as the economy moves towards a knowledge-based future. This will require a major investment from the government. Meanwhile, Cambodia and its development partners need to work cooperatively as a synergy to push R&D forward for the country's development.

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Subchapter 3.4
Mobile Devices: Tools for Complementing Higher Education in Cambodia via Massive Open Online Course Platforms

This study calls for a national campaign to promote usage of mobile devices (smart phones, tablets, laptops) by "Cambodian m-learners" to access massive open online courses (MOOC) to complement their learning in higher education in Cambodia. The proposed campaign may radically shift mobile device users' behaviour from using their devices mainly for entertainment to using them mainly for educational purposes. The proposed campaign can aim at all educational levels, but this theoretical study focuses on higher education. First, we identify who the Cambodian m-learners are, define m-learning and discuss the use of mobile devices for m-learning in less developed countries. Second, we analyse the rationale for accessing MOOC platforms and address sound education principles—connectivism, lifelong learning and heutagogy—that frame the study. Third, we examine how possibly to approach the proposed national campaign. Fourth, we suggest implications for higher education policies and strategies. Fifth, implications are drawn for policymakers, practitioners and learners.

3.4.1 Introduction

Advances in technology have transformed what is possible in accessing information and knowledge, regardless of status or access to educational institutions. This is particularly significant for developing countries, and this ubiquitous access can be strengthened by a well-formed educational strategy (Ally 2010). This study offers information that can facilitate national decision making on strengthening Cambodia's existing information and communication technology (ICT) plans, focusing on promoting use of mobile devices (smart phones, tablets, laptops) by "Cambodian m-learners" to access massive open online course (MOOC) platforms to complement their learning in higher education. The MOOC platforms available free of charge include Coursera, edX, FutureLearn, Iversity, Open2Study, Khan Academy and Udacity.

Since the mid-1990s, organisations such as the Asian Development Bank, UNESCO, UNICEF and the World Bank have shown interest in incorporating ICT into development programmes in Cambodia (Richardson 2014; UNESCO

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2006). Initial adoption of mobile devices largely serves user curiosity and engagement. However, it appears that people have now become familiar with the technology and are comfortable using their devices. It is time to make more productive use of mobile devices as potentially powerful learning tools. Since access to mobile devices is desirable, although still limited, this study is a "proof of concept" demonstrating how mobile devices should be used for enhancing higher education via MOOC platforms. In this spirit, this study contributes to Cambodia's existing ICT plans to support development aspirations such as becoming an upper-middle income country by 2030 and integrating into the ASEAN Economic Community in 2015. Cambodia's ICT plans, including ICT in education, are in line with the National Strategic Development Plan 2014-18 and the ASEAN ICT Master Plan for 2015. This study contributes to the Ministry of Education, Youth and Sport (MOEYS)'s operationalisation of the Master Plan for Information and Communication Technology 2009-13 in education, specifically in higher education, as stated in the Education Strategic Plan 2014-18.

The use of mobile technologies for learning faces some challenges. For example, Cambodia's policies, handling of economic and social problems and politics are not sustainably harmonised for a full implementation of the existing ICT education plans (Richardson 2014). Synchronisation of these three aspects still needs more work for ICT in education. In addition, some Cambodian m-learners cannot yet afford mobile devices. It is acknowledged that technical accessibility is an important aspect when discussing mobile devices as complementary tools for learning, but this study does not focus on the technical requirements for accessing MOOC platforms. Instead, it emphasises the positive influences of using mobile devices via MOOC platforms.

In Cambodian higher education, many strategies have been developed and implemented (MOEYS 2014a, 2009) to meet learners' diverse needs. Mobile technologies have been influencing ways of learning in both developed and developing worlds (Wong 2011). Learners have relied on mobile technologies to access various forms of information such as emails and social networks (Peterson and Low 2011). Mobile technologies enable learning in a more natural setting. Further, interactive mobile technologies have the capacity to enhance traditional school-based learning (Ramaley and Zia 2005). MOEYS (2014b) has collaborated with the private sector to use ICT to strengthen school quality. However, more scientific research into the influence of mobile technologies on education is still needed (Pozzi 2007). This should not prevent us from encouraging learners to complement their higher education via MOOC platforms.

3.4.1.1 Who are Cambodian m-learners?

"Cambodian m-learners" is used in this study to refer to higher education learners who are self-motivated to learn via an existing MOOC platform using internet-based mobile devices. Cambodian m-learners are adult learners who decide what content to learn and organise their independent learning as facilitated by an online instructor, free of charge. M-learning refers to a learning approach that draws on heutagogy (Beaven et al. 2014) and complements existing learning processes at higher education institutions. Cambodian m-learners bring personal learning needs and goals to their choice when registering for a course on an MOOC platform.

In this study, "adult learners" and "Cambodian m-learners" are used interchangeably and refer to those currently enrolled in higher education. In a larger context, adult learners are also those who are not enrolled in formal education, but they are not the focus of this study. If the proposed national campaign is accepted for implementation, adult learners within the higher education system and beyond may be redefined.

3.4.1.2 Defining m-learning

M-learning or mobile learning may have different definitions for different communities. In Cambodia, MOEYS (2010) recognises the significant roles of ICT in learning and teaching, in making educational outcomes more relevant to the labour market, in transforming educational content and in enhancing "information literacy". Mobile learning has not been explicitly defined by MOEYS. In the existing Master Plan, mobile learning tends to be viewed as a delivery mechanism, specifically known as "m-learning vans" (MOEYS 2010, 19), that physically transport ICT-based learning materials to remote areas. By 2013, marginalised young and adult learners in six provinces—Koh Kong, Mondolkiri, Preah Vihear, Ratanakkiri, Oddar Meanchey and Svay Rieng—had access to educational video resources on income-generating skills and other life skills through laptops, digital cameras and other ICT devices delivered to their communities via the m-learning vans. MOEYS, with support from development partners, produces the learning resources and delivers them using the vans.

In this study, m-learning is used to refer to the use of mobile devices to learn the contents of learners' choices anytime and anywhere (Crescente and Lee 2011). In other words, m-learning can be defined from a wider perspective as "any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies" (O'Malley et al. 2003, 6). Since there are different venues for m-learning,

we focus on opportunities through MOOC platforms such as Coursera, edX, FutureLearn, Iversity, Open2Study and Udacity.

3.4.1.3 Use of mobile devices for m-learning in developing countries

M-learning is still limited in less developed countries. However, it increasingly appears to be an efficient and effective element of distance education that can be adapted to respond to institutional settings and individual needs. Mobile devices are extensively available and more affordable than desktop computers (World Bank 2010; Traxler and Kukulska-Hulme 2005). Furthermore, mobile devices can offer educational benefits, including wireless accessibility to teaching and learning resources, equivalent functionality with desktop computers, and numerous communication channels in one device (Kukulska-Hulme and Traxler 2005). In addition, Facebook has been working on a project to simplify its contents, including a joint collaboration with an MOOC platform, edX, for all mobile devices, especially those in less developed countries, many of which "have skipped the 'desktop generation' and are already mobile-first economies where mobile devices are more ubiquitous than either land-line telephones, PCs, or fixed Internet connections" (NewsB3ta 2013). This means that Cambodian m-learners will soon be able to access edX from all types of internet-based mobile devices.

NGO Education Partnership, an umbrella non-government organisation in Cambodia, has produced a research-based video clip promoting the use of ICT in lifelong learning and non-formal education by emphasising how ICT can enhance skill acquisition of learners and societal development. The video shows that citizens can learn what they are interested in by browsing through contents on YouTube—for example, how to repair cars or find new make-up styles and tutorials. In this case, they may not need English language competency to make sense of the visualised content because they have some prior learning to assist their learning needs. According to NGO Education Partnership (2014), using ICT can add value to higher education, formal and non-formal basic education and lifelong learning.

3.4.2 Theoretical framework and rationale

The study draws on theories of connectivism and heutagogy. Since MOOC platforms offer predetermined resources with a determined timeframe and regular activities, they are informed by connectivism (Siemens 2012), which emphasises learning contexts, including culture, that shape learners' understanding and curiosity. Individual learners' understanding and contributions are shared through the networked MOOC platforms to develop understanding of a virtual community for each topic under investigation. When self-motivated Cambodian m-learners choose to complement personal

learning at a higher education institution via MOOC platforms, they are acting according to lifelong learning principles (Department of Education and Science 2000). For personal or professional reasons, Cambodian m-learners can benefit from learning resources that would otherwise be unavailable to them and are of the same quality as those available at their own education institutions (Siemens 2012). MOOC platforms can offer teaching and learning resources to a large group of learners worldwide at the same time.

The theories discussed above are situated in an emerging notion of heutagogy, an approach that illuminates the nature of learning through MOOC platforms based on fostering self-determination (Hase and Kenyon 2007) to achieve individual learning goals. Heutagogy views self-determined learners as the cornerstones of their own learning (Wheeler 2012) through MOOC platforms. The learners need to be highly independent to access learning materials with limited support from virtual facilitators.

Online education platforms clearly do not offer the same experience as higher education institutions. MOOC platforms do not replace but complement higher education institutions. MOOC platforms are not traditional online courses. MOOC platforms are open to anyone anywhere with access to reliable internet, and they have thousands of learners are registered in any one course at any time.

The existing MOOC platforms usually offer some courses free of charge, but charge fees when learners wish to receive a credential or certificate that documents their completion of a course of study or level of knowledge. This study encourages Cambodian m-learners to take advantage of learning that is available for free, and they can choose to pay for what else they need.

MOOC platforms are not online universities. MOOC platforms are created by prestigious universities that are willing to develop resources enabling millions of learners to upgrade their qualifications as they find it useful. Learners may find MOOC platforms that are individually or collectively grouped on the Apple App Store. GroupMOOC and MOOCs4U are two currently free applications found in the Apple App Store offering collective MOOC platforms: Coursera, edX, FutureLearn, Iversity, Open2Study and Udacity. Some MOOC platforms, such as Coursera and Udacity, can be found individually.

MOOCs are not without problems. The high number of learners in MOOC, low interactivity between learners and teachers, and the lack of "credit" for completion lead many to drop out of courses. Morris (2013) reports that these challenges, among others, have prompted Harvard University (Harvard Business Review 2014) to call for more oversight of MOOCs offered through

edX. A strong desire to learn and the ability to work independently are likely to drive success in the current MOOC context.

3.4.3 Approaching the proposed national campaign

A national campaign to promote MOOC platforms has been proposed. MOEYS, the Education Sector Working Group members (Asian Development Bank, UNESCO, World Bank, UNICEF and USAID), the private sector and other appropriate partners, through a commonly shared vision, should come together, perhaps through a series of consultative meetings to discuss strategies for this campaign.

For the time being, we suggest possible ways to move this initiative forward. Social media are one way of reaching the general public, particularly Cambodian m-learners. A concrete action would be to create a Facebook page for the campaign explaining the details of available MOOC platforms and how learners can access them. On the Facebook page, a segment can be devoted to questions and answers in which the general public and m-learners can interact with a campaign team member. Among social media tools, Facebook is one of the most influential, offering various educational advantages. The Facebook page may construct a social presence and sense of belonging that lead to educational benefits (Garrison, Anderson and Archer 1999) for higher education learners. According to Gunawardena and Zittle (1997), social presence brings about satisfaction with learning programmes. It may also provide a sense of community, which is often reported to be lacking within the current MOOC structure, and allow those studying similar courses to connect and support each other.

Regardless of the positive influences, the use of social media can create some ethical dilemmas. Social media are intended for rapid exchange and dissemination, but some adults are not used to making their opinions available to a wider public when doing so is not under their control (Cain and Fink 2010). Their information, originally intended for a certain social group, can reach other unintended groups. In addition, some users can manipulate social media for their individual or communal benefit. For these reasons, social media users need to be well aware of the side effects before judging the information they receive. Changes to privacy settings and the use social media made of personal information are ongoing. If social media are used, it may be prudent to create instructional tutorials to help those new to social media to be informed of both benefits and concerns.

3.4.4 Implications for higher education policies and strategies

Since this study calls for a national campaign to promote the use of MOOC platforms, we shall draw some implications for education, specifically higher education reform policies and strategies that may contribute to the Education Strategic Plan 2014-18.

In a participatory 21st century culture, learners are no longer passive consumers of knowledge but rather active co-generators of it (Gunawardena, Lowe and Anderson 1997; Hibbert and Rich 2006; Kilgore 2001) as they engage with each other or interact with materials provided through systematic databases such as the MOOC platforms. Since these platforms exist free of charge to learners worldwide, Cambodia can use them as a place to begin. Cambodians, as they become familiar with the content and develop their own technological skills, will generate knowledge and information appropriate to their own context, needs and culture. This central point remains: knowledge and information are no longer located only in textbooks or the minds of teachers. Technology has opened access to an overwhelming amount of information stored on databases and shared via the internet. As we reconceptualise new directions for Cambodia's teacher preparation programmes, we must rethink their role. Teachers in the 21st century must understand how to engage learners in thinking critically about the available knowledge. Learners must learn how to evaluate its authenticity, its voice, and its authority. They must learn how power works in and through texts, how the texts are being positioned and who is served by the position taken in the course materials. They must become learning facilitators (Knowles 1975), or "learning coaches" who can guide learners to ways to seek knowledge on their own. Teacher preparation courses need to become hybrid courses that straddle explicit teaching strategies of the past in face-to-face settings, with virtual or mobile learning contexts that learners can access to supplement and support outcomes set out in a national curriculum.

To be able to benefit the most from MOOC platforms, Cambodian m-learners shall have to develop at least two literacies: English and computer. Those who have already met the minimum requirements may immediately register for MOOC platforms through available mobile applications. However, those with limited English and computer skills may need additional support. Nationally, MOEYS should explore innovative ways to provide this essential support to learners. This is where the proposed call for a national campaign to promote usage of mobile devices is needed.

3.4.5 Conclusion

Heutagogy applies well to m-learning and m-learners. However, it makes several assumptions about the knowledge skills and abilities that learners bring to the task. For many Cambodians, access to MOEYS' "transition to MOOC" preparatory courses may be useful. Such courses can ensure that learners have the necessary English proficiency, technical skills and support for developing "academic literacies". Each discipline has its own "discourse" or ways of writing about topics, associated terminology and histories. MOOC platforms are one option that Cambodia might consider as it moves into a continually changing global higher education system. Courses available through MOOCs may be useful in accessing information and content that have been developed and shared free of charge. However, no text or learning module is neutral. Courses designed and developed by wealthy Western universities may not translate well across borders. Recognising that problems with the courses to date include a lack of support and poor quality, Cambodia could be proactive in adopting MOOCs as a strategy, by providing the necessary support to ensure learner success. Any strategy for adoption of MOOCs should include a research agenda to identify needs and experiences unique to Cambodians that could be addressed in a continual improvement cycle.

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Chapter 4
Shaping and Scaling Up TVET in Cambodia

4.1 Introduction

The world is encountering a youth employment crisis (UNESCO 2013a). Despite gains in educational access and attainment over the past decade, young people aged 15-24 worldwide are three times more likely than adults to be unemployed (ILO 2012). In its latest report, the International Labour Organization (ILO 2013: 1) emphasised: "[T]he weakening of the global recovery in 2012 and 2013 has further aggravated the youth jobs crisis and the queues for available jobs have become longer and longer for some unfortunate young jobseekers". Likewise, the situation in Cambodia is dire because of low educational attainment and a workforce that has limited skills (Hong 2013). Even after a decade of reconstruction focused on socio-economic development and improving the education system, Cambodia has an urgent need for technical skills to advance its economy. With a labour force of 8.8 million in 2014 (57.9 percent of a total population of 15.2 million), a record low unemployment rate of 0.10 percent in 2009 (Trading Economics 2014) would seem to indicate that the country is doing something right, but this is countered by a worrisome rise in unemployment to 2.7 percent in 2012 (NEA 2014a). The number of graduates with bachelor's degrees is projected to be 220,000 with only around 86,000 jobs available in 2014 (Kim et al. 2010). It is reported that, on average, graduates with degrees spent at least nine months seeking employment (Kim et al. 2010).

Cambodia faces skills shortages and needs a higher education system able to bridge the skills gap. The country has only partly relied on developing technical and vocational education training (TVET) programmes to build skills over the short and medium term (Madhur 2014).

This chapter explores the potential of TVET to develop skilled workers and lifelong learners who can become gainfully employed during Cambodia's ever changing industrialisation. The chapter begins by outlining TVET in its current form, labour market information, constraints and ways in which TVET might address the skills gap while providing employment for youth. We will conclude this chapter by proposing some policy recommendations on TVET.

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4.2 Research methodology and research questions

The study employs a qualitative approach that relies mainly on primary and secondary data collection from key informant interviews with TVET providers from NGOs, government institutions and private firms that employ TVET graduates. The data is categorised to address four main research questions: What is the current condition of TVET in Cambodia? What are the labour market needs and links to TVET? What are the main constraints TVET faces? How can we shape and scale up TVET to increase the number of skilled and lifelong learning workers?

Table 4.1 gives a code name for each interviewee and provides basic information about their affiliated institutions. Semi-structured interviews with six private firms, four government and four NGO TVET providers were conducted in July 2014. Interviews were transcribed and themes and subthemes of the interviews were prepared and grouped for thematic data analysis.

Table 4.1: Code name and institutions' work

Type of institution	Code name	Work
Private firms (employers)	F1	Engineering services: installing solar panels; electricity
	F2	Engineering services: mechanical; electrical; plumbing; welding
	F3	Manufacturing; chemicals; construction; paint production
	F4	Education: general knowledge; English; services and investment: art; news; bookshop; transportation; real estate; cafe; food court; event planner; microfinance
	F5	Engineering, oil stations
	F6	Banking and financial services
Government institutions (TVET providers and policymakers)	G1	Governance of vocational orientation for general education of grades 7-12
	G2	Governance of TVET, policy, strategy, services across the country
	G3	Training in: civil engineering, IT, electricity, electronics, drawing, electrical engineering; architecture; air conditioning
	G4	Training electrical technicians and engineers

NGOs (TVET providers)	N1	Agro-entrepreneur, farm managers, animal raising, cropping
	N2	Assists government in general education and TVET policy formulation
	N3	TVET for female students on administrative work: computer and secretarial course; general office procedure; accounting (quick book); English; personality development; health and hygiene; value education; Khmer language and culture
	N4	TVET on carpentry

4.3 Overall context of TVET

TVET is referred to as "those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge related to occupations in various sectors of economic and social life" (UNESCO and ILO 2002, 7). TVET is aimed to train people who wish to be employed as quickly as possible, particularly those who do not want to continue studying in general education but quickly move to employment or to start their own business.

Table 4.2: Total TVET students graduated, 2008/09 to 2012/13

Programme	Sex	2008/09	2009/10	2010/11	2011/12	2012/13	Total	% of total
Graduate and postgraduate degree	Total	981	1284	1612	2158	2933	8968	**1.42**
	Female	220	287	281	243	587	1618	
Technician/ associate' degree	Total	2199	2835	6192	3451	3619	18296	**2.89**
	Female	594	506	1611	738	649	4098	
Long-term vocational training	Total	1214	3556	1034	10523	2219	18546	**2.93**
	Female	395	1804	176	779	767	3921	
Short-term vocational training	Total	163127	114142	82251	143680	84449	587649	**92.77**
	Female	86185	56882	40589	78405	47823	309884	
Total	Total	167521	121817	91089	159812	**93220**	633459	100
	Female	87394	59479	42657	80165	49826	319521	

Source: MOLVT 2013

Enrolment: In the academic year 2012/13, 93,220 TVET students (50 percent of them female) graduated (Table 4.2). Of the total, 93 percent received short-course vocational training, followed by long-term training

(3 percent), technician (3 percent), and graduate degree (1.42 percent). The annual numbers of TVET graduates have fluctuated significantly during the past six academic years (2008/09 to 2012/13), but the number completing graduate and postgraduate degrees has tripled.

According to Cambodian Federation of Employers and Business Associations (CAMFEBA) and MOEYS statistics, around 80 percent of high school leavers continue to higher education, resulting in only a small proportion entering TVET (Kim et al. 2010). Between 2009 and 2013, there were 340,705 participants in seven non-formal training programmes under funds that provide short-term courses (Table 4.3).

Table 4.3: TVET students of non-formal programmes under training funds, 2009/10 to 2012/13

Type	Total numbers of students	Female
1. Voucher Skill Training Programme 2011-13	178436	106588
2. Post-Harvest Programme 2010-12	5509	4391
3. TVET Skill Bridging Programme 2009-13	1178	516
4. Special Training Programme 2009-13	2410	1182
5. National Training Fund for Poverty Alleviation 2009-13	62402	32975
6. Prime Minister's Special Fund 2009-13	63140	35117
7. Apprenticeship 2009-13	27630	25085
Total	340705	205854

Source: MOLVT 2013

The Department of Vocational Orientation of MOEYS also has trained secondary school students in three pilot schools in Kompong Thom, Kompong Chhnang and Kandal provinces with a total of 653 students (238 female) in academic year 2013/14 (Department of Vocational Orientation 2014).

TVET teachers: There are 2449 TVET trainers (1374 females) who received one year of formal technical teaching training between 2001 and 2013 (MOLVT 2014a). The National Technical Training Institute (NTTI) is the public TVET training institute that trains TVET trainers. The trainees have an associate degree for junior technical teachers or bachelor's degree for senior technical teachers in their fields and attend a one-year training programme.

TVET providers: The Ministry of Labour and Vocational Training (MOLVT) and the Ministry of Education, Youth and Sport (MOEYS) are the two main ministries that govern and develop policies on TVET and supervise TVET providers. TVET was previously under the Office of Technical and Vocational Training of MOEYS. In 2005, TVET was transferred to a newly constituted MOLVT (UNESCO 2013b). However, the Department of Vocational Orientation under MOEYS still provides technical vocational education for upper secondary schools. The Ministry of Social Welfare also transferred its responsibilities for non-formal (short course) vocational training to MOLVT. There are various TVET providers from other ministries, NGOs and the private sector. This study will focus on TVET programmes provided by MOLVT and MOEYS.

Figure 4.1: TVET in the education system
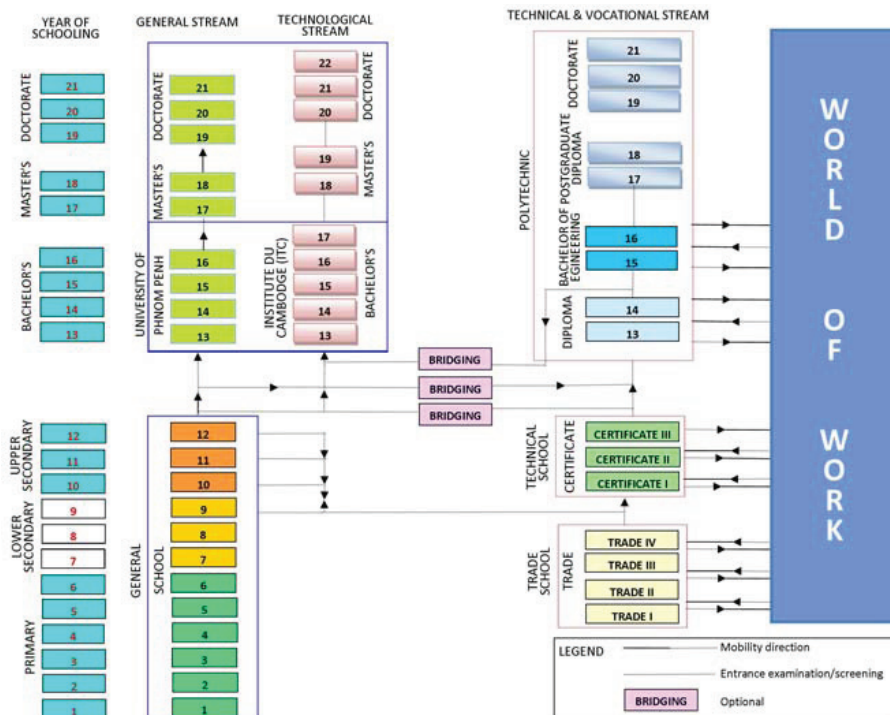
Adapted from UNESCO-UNEVOC 2014

There are 331 institutions providing TVET (as reported by G2). Of these, 38 (including provincial training centres and voucher skills training programmes) are under MOLVT; they are located in all provinces. Provincial training centres, community learning centres, NGOs, women's development centres and small and medium enterprises provide non-formal TVET programmes and apprenticeships. Polytechnics and technical institutions provide formal TVET programmes, which result in a certificate, diploma or degree (UNESCO 2013b).

TVET system: Students can enrol in formal TVET programmes after completing grade 9, the country's basic education provision (UNESCO 2013b). The TVET stream is flexible. Its most important feature is that, after completion of each level, students can work and return to pursue their training at the same time. Students who graduate from TVET at diploma and certificate levels may take exams or pursue their studies in a university general education stream.

The TVET system consists of all forms of learning and development in formal and non-formal programmes. It covers four main levels:

• Certificate: short courses (non-formal courses) from a few weeks to less than a year, leading to certificates, delivered in provincial or vocational centres or in communities. The top ten short courses are listed in Table 4.4.

Table 4.4: Top ten short courses, whole country: 2012-2013

Course	Total courses	Enrolment	
		Total	Female
Chicken raising	319	9774	6312
Pig raising	266	8193	5236
Vegetable growing	250	8066	5151
Mushroom growing	165	5169	3204
Fish farming	141	4338	2350
Composting	101	3317	2005
Cattle raising	83	2572	1417
Rice cropping	78	2518	1430
Sewing	169	1564	1406
Wedding outfitting	101	1135	1111

Source: MOLVT 2014a

• Diploma: post-grade 9 trade training in provincial vocational training centres, leading to one of three diplomas: certificate I from a one-year programme for semi-skilled workers; certificate II from a two-year programme for skilled workers; and certificate III from a three-year programme for highly skilled workers. Students who complete the three-year programmes are awarded a certificate equivalent to a high school diploma (baccalaureate).

- Higher diploma: post-grade 12 entry, two years of study in technical institutes and polytechnics leading to a diploma (technician) or bachelor's degree after another two years.

- Bachelor's degree: (a) post-grade 12 plus four years (or 4.5 years for engineering) leading to a bachelor of engineering and technology or bachelor of business administration; or (b) higher diploma plus two or 2.5 years for the same degrees. Postgraduate (master's) degree is also provided. The long courses (more than one year) are shown in Table 4.5. Most courses are related to business, finance, ICT and English, whereas the skills needed for industry development are not as popular.

Table 4.5: Top ten long training courses, whole country: 2012-2013

Course	Total courses	Enrolment	
		Total	Female
Accounting and finance	24	1212	981
Banking and finance	22	1019	535
Business administration	20	755	210
Information technology	28	681	185
Marketing	12	381	154
English language	16	375	153
Mechanics	16	358	15
Electricity	19	351	30
Civil engineering	7	106	13
Air conditioning	4	95	4

Source: MOLVT 2014a

Although TVET enrolments have grown over the last decade, more than 90 percent were for short courses, predominantly in agricultural science (about 65 percent) (Madhur 2014), as shown in Table 4.4. This pattern does not meet the demands of industrialisation, that is, the skills needed by industries such as electrical appliances, electronics and automobile manufacture. Among the constraints on TVET is the high dropout rate of students before grade 9, the minimum qualification for enrolment in most TVET programmes.

Access, affordability and gender gap in TVET: Since TVET providers are located mainly in urban areas and provincial towns, access for rural people is limited. The available data on enrolment in TVET in the provinces in 2012/13 is shown in Figure 4.2. Universities and TVET institutions are located in provincial towns and capitals, as well as in provinces near Vietnam and Thailand, which are economically active, having many tourists, exporting and importing goods and services, operating businesses and cultural centres. Prey Veng had the highest TVET enrolment between 2012

and 2013, followed by Kompong Cham, Kompong Speu and Phnom Penh. The remote provinces, Oddar Meanchey, Koh Kong, Pailin, Mondolkiri and Stung Treng, have low enrolment in TVET. This low rate is one of the most important challenges because the country needs skilled workers and lifelong learners to sustain economic growth. The workforce is concentrated in urban areas due to the concentration of employers there. The enrolment rate is not very different between men and women.

Figure 4.2: Number of students enrolled in formal and non-formal TVET, 2013/14
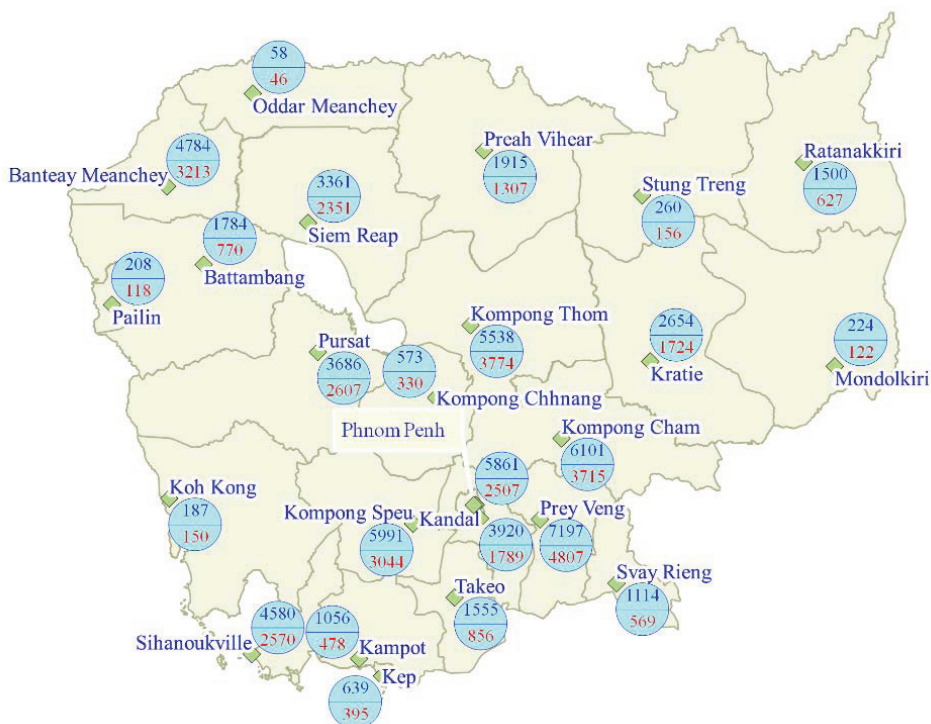
Blue: total. Red: female.

Source: prepared by authors based on data from MOLVT 2014a

Governance of TVET: TVET needs close collaboration and coordination to bring about an effective and efficient system. Figure 4.3 lists key government, private and civil society actors in TVET in Cambodia (UNESCO 2013b).

Figure 4.3: Key actors in TVET
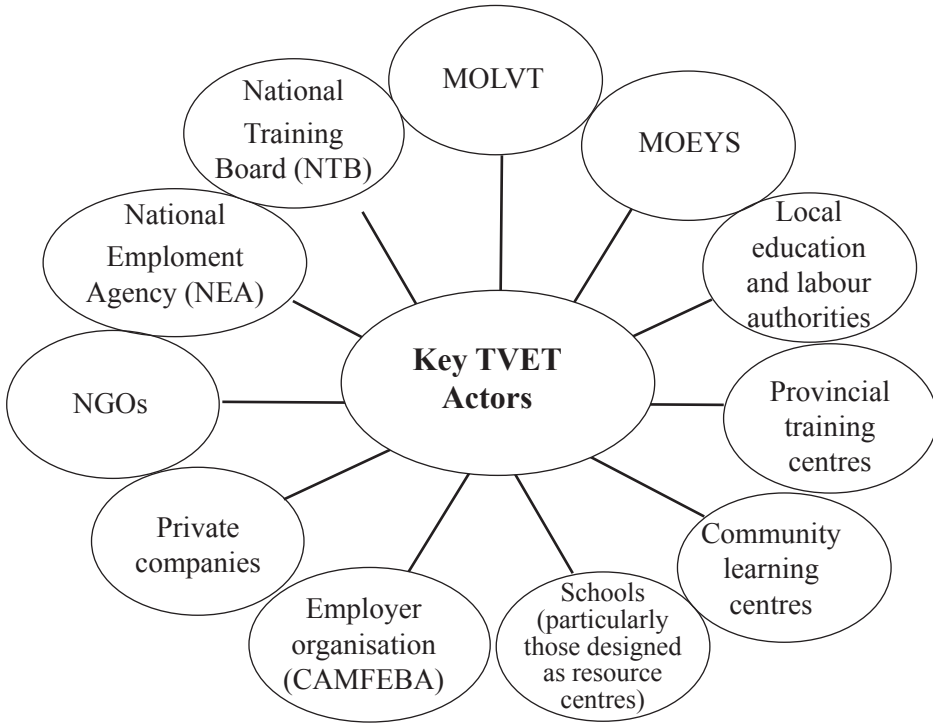
The National Training Board provides policy approval, targets and direction setting for TVET (NTB 2008). It has representatives from ministries that provide training, as well as from the private sector, and low involvement of social partners (UNESCO 2013b). The Directorate General of TVET within the MOLVT has the responsibility to assist the NTB. Its mission is (1) to develop and sustain a TVET system that meets the needs of economic and social development as expressed in the Rectangular Strategy, (2) to provide enterprises with a skilled and adaptable workforce and (3) to respond to the lifelong needs of individuals for decent jobs or self-employment by supporting appropriate training.

The NTB consists of three technical subcommittees: Subcommittee on Skills Standards and Testing, Subcommittee on Accreditation Courses, Programmes and TVET Institutions and Subcommittee on Labour Market Information. The NTB also has provincial representation through provincial training boards that report to the executive committee. Figure 4.4 illustrates TVET governance arrangements. The NTB sets performance standards for all TVET participants and sets occupational and certification standards (UNESCO 2013b).

A main aspect of Cambodia's TVET governance is that policymakers play two roles. First, they govern TVET and create policies; second, they monitor

implementation of those policies in schools operated by state, private or NGO providers (UNESCO 2013b). However, international experience suggests that the ministries should be the main policy-setting authority, with monitoring and evaluating transferred to independent agencies, to avoid conflicts of interest when the same agency assesses the success of its policies and programmes (UNESCO 2013b).

Figure 4.4: TVET governance
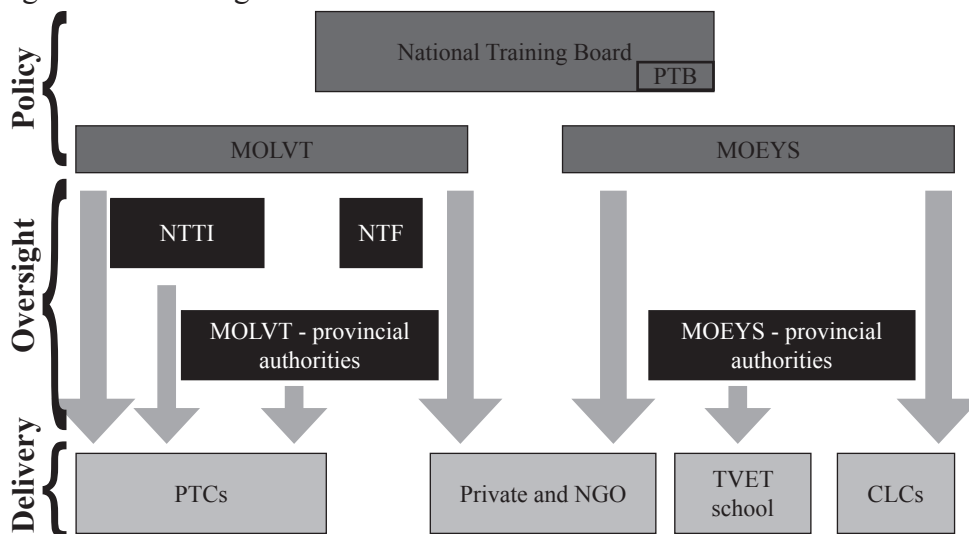
Note: PTB: provincial training board; NTTI: National Technical Training Institute; NTF: National Training Fund; PTCs: provincial training centres; CLCs: commune learning centres.
Source: UNESCO 2013b

Clear roles and responsibilities of each TVET institution need to be mapped out. The Asian Development Bank's 2011 review indicated a lack of employer involvement in guiding and assessing training, and particularly noted the need for increased representation of employers on the NTB (ADB 2011 cited in UNESCO 2013b). Employer involvement and trust must be built at many different levels within the TVET system, and CAMFEBA and its roles in TVET need to be strengthened (UNESCO 2013b). This reform would balance and strengthen the public-private partnership.

Governance problems are also associated with overlapping duties between ministries (MOLVT and MOEYS) on providing, supervising and coordinating non-formal training of out-of-school youth (World Bank 2010 cited in UNESCO 2013b).

The supposedly decentralised services and governance of provincial training boards have an important role in the TVET system. However, UNESCO (2013b) showed that their functions could be much improved. In

fact, the decision making of many TVET institutions remains centralised. The management of the provincial training board is busy with daily micromanagement rather than analysis of the local TVET environment and its future and the needs of the students (UNESCO 2013b).

4.4 Existing government policies and programmes

Cambodia is preparing for the ASEAN Economic Community in 2015 by improving the quality of education and technical vocational training. The Rectangular Strategy Phase III describes TVET as "Development of human resources to ensure competitiveness in an increasingly open regional labour market, through: (1) Training of skilled and productive labour to meet market demand and increase value added; (2) Developing regulatory frameworks, and building educational and vocational training institutions to respond to the first action; (3) Encouraging private sector participation; and (4) Strengthening the quality of education and promoting scientific research, technology development and innovation" (RGC 2013:8).

Industrial development policy and upgrading skills and vocational training in industry are the priorities of the government in the current mandate, focusing on training of engineers, technicians and workers in skills demanded by the market with a pro-active approach using public-private partnerships (RGC 2013).

The National TVET Development Plan 2008 and Strategic Planning on TVET Development 2014-18 set out policies, strategies and responsibilities to move TVET forward (MOLVT 2013). At the macro level, in accordance with the Rectangular Strategy Phase II, those strategies and plans aim to increase the number of TVET students and skilled workers, raise the quality of TVET institutions and teachers and create more effective governance and finance (MOLVT 2013).

Cambodia has a comprehensive TVET 25-Year Development Plan, 1996-2020, in which four major steps enhance TVET (NTB 2008). The last phase of the Plan (2015-20) includes distance education for technology, expanding the number of providers offering industry-responsive training at international standards, technical institutes in each province and NTTI regional centres. Other remaining factors, such as facilities, curriculums, standards and trainers, need to be continuously improved and reformed.

In an attempt to achieve those policies, ADB has collaborated with MOLVT to design a project, Strengthening Technical and Vocational Education and Training, with a total budget of USD27 million (government funding of USD3 million). The objective is to ensure an expanded public TVET system

that is endorsed by industry and better aligned with the skills requirements of the formal and informal economies. The expected impacts are expanded employment and a national mid-level workforce in both rural and urban areas. By 2020, it is expected that there will be at least a 30 percent increase in the number of employees holding formal TVET qualifications, and greater employer satisfaction with employees holding new formal TVET qualifications (MOLVT 2011).

Three major outputs are expected from this ambitious collaborative programme. The first involves upgrading provincial training centres, creating standardised training modules, more private sector engagement and strengthening the NTTI formal programmes, all of which are expected to respond better to the needs of industry. The second main output is expanded and improved non-formal training through upgrading existing training centres and creating more of them in remote provinces and expanding voucher skills training to all provinces. The last output is institutional capacity building and strengthening in policy planning and oversight of TVET. A highlight of this last output is the plan to introduce career guides for upper secondary school students.

4.5 Financing TVET

TVET providers all generate income by charging fees to students. Despite this effort to generate own income, TVET strategies and programmes and their implementation have been very much driven by and dependent on external technical and financial assistance. The World Bank, ADB, ILO and UNESCO are the major donors that shape education policy generally and TVET in particular. According to a senior official of the MOLVT, donor funding can train about 50,000 people per year in non-formal TVET courses, while the government invests in training an additional 20,000. Therefore, in total, some 70,000 people per year attend TVET training courses (60 percent of them female, as reported by G2).

As Cambodia is to graduate to a lower-middle-income country, new forms of official development assistance are low-interest loans and technical assistance. The MOLVT and ADB have just signed a four-year memorandum of understanding (MOU) for 2015-19 with a budget of USD30 million. The expected outcomes include: (1) improved formal and non-formal training, (2) improved public-private partnership and (3) engagement of the private sector and NGOs.

4.6 Link between TVET and employment

4.6.1 Share of employment in main sectors

Agriculture still plays an important role in economic growth, equity, food security and rural development. The government's vision is to modernise agriculture (RGC 2013). Although the share of agriculture in GDP in the last ten years has declined (45 percent in 1993 to 33.5 percent in 2013) (Figure 4.5) while services and industry have picked up, gross value added of agriculture increased from 5.6 billion riels in 2004 to 9.1 billion riels in 2013 (MAFF 2014).

Figure 4.5: GDP share of main economic sectors (percent)
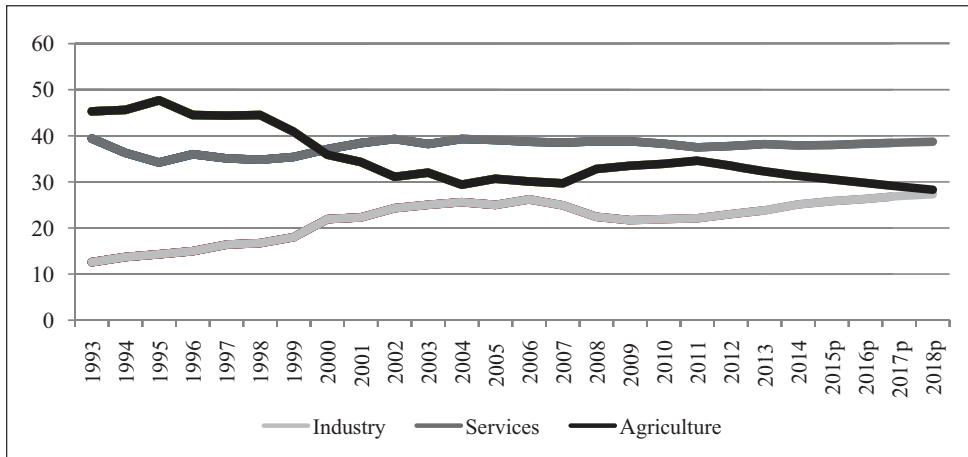
Note: p = predicted.
Source: adapted from Kuoch 2014

Figure 4.6: Distribution of employed workforce in main economic sectors (percent)
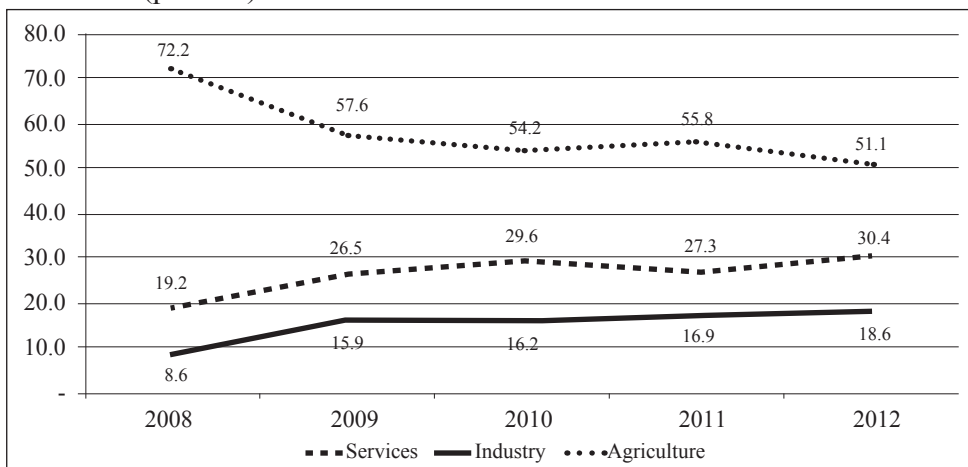
Source: World Bank 2013

Agriculture employed 51 percent of the total workforce in 2012, while services and industry offered more jobs for the young population. The share of employment provided by both industry and services grew rapidly, suggesting growing employment opportunities in these sectors in the future. Cambodians' employment in agriculture, industry and services is shown in Figure 4.6.

4.6.2 Labour market overview

Labour market information is defined as "the delivery and analysis of labour force, employment, unemployment, wage, supply and demand, occupational, industrial, economic and demographic data for the analysis of manpower problems for a specifically defined area" (Commonwealth of Massachusetts 2014). It provides statistics for policymakers as they deal with labour force allocation, demand and supply. In Cambodia, the National Employment Agency (NEA), established under the MOLVT in 2009 by Subdecree No.67, is responsible for updating labour market information. According to NEA (2014a, 35), "labor market information is the cell of development".

NEA provides a one-window information service intended to promote the effectiveness of the labour market, enhance participation in it, decrease unemployment, boost growth and employment opportunities and eventually reduce poverty (Bruni, Luch and Kuoch 2013). Part of the efforts to raise public awareness is done via its website, a TV programme called *Labour Market and Employment* and social media (NEA 2014b).

About 200,000 new workers join the labour force every year. Of these, only about 30 percent completed primary school. Our study found that the majority of new workers are unskilled (as reported by G2). Thus, there is an increasing demand for skills or training. However, the market can absorb only about 44 percent of new job seekers (World Bank 2009). A report by Kim et al. (2010, 89) pointed out, "The unemployment issue in Cambodia is contradictory. On the supply side, it is reported that the job market is so tight, but on the demand side, there is not enough workforce to meet the demand."

The National TVET Development Plan has allocated 60 percent of its resources for rural development through the provision of new skills to farmers, but it remains to be seen how this effort will contribute to bridging the labour market gaps. The Rectangular Strategy for Growth, Employment, Equity and Efficiency Phase III report shows that in 2011, the number of industrial enterprises, large and small, was more than 500,000 (RGC 2013). They provided more than 1.6 million jobs, including more than 500,000 in

textiles, garments and footwear. Further, more than 100,000 legal overseas workers sent more than USD200 million per year in remittances (RGC 2013). Low skill levels and lack of education mean that new workers are unable to participate effectively in the labour market, particularly as industry and services jobs are overtaking agricultural ones.

Table 4.6: Distribution of job seekers and vacancies, March 2010-June 2013

Jobs	Job seekers		Vacancies posted by employers	
	Number	%	Number	%
Skilled technical	5892	34.9	18083	15.8
Manager	2647	15.7	10045	8.8
Clerk	2417	14.3	7674	6.7
Handicrafts and business	1916	11.3	35932	31.5
Associate skilled workers	1731	10.2	9331	8.2
Services and selling	1671	9.9	23274	20.4
Other low-skilled jobs	336	2.0	3301	2.9
Machinery installation in factories	250	1.5	6452	5.7
Agriculture, forestry and fishing	33	0.2	68	0.1
Total	16893	100	114160	100.1

Source: MOLVT 2013

The government has increased the monthly minimum wage in the textile, garment and footwear industries from USD80 to USD128 (RGC 2013; *Cambodia Daily,* 13 November 2014). On-site labour inspections and interventions to resolve labour disputes have increased and provided support to the Better Factories programme to promote workers' rights, acceptable working conditions and harmonious industrial relations. Out-of-court dispute settlement mechanisms such as the Arbitration Council and Employment Counselling Committee, along with strikes and protests, have improved working conditions in garment factories (RGC 2013; *Cambodia Daily,* 13 November 2014). However, young women and men are employed in the garment industry as semi-skilled workers with almost no opportunities to move into supervisory or management positions (Kim et al. 2010).

The NEA has collected data on vacancies, job seekers and employers recruiting staff from March 2010 until June 2013. Although the available data is representative mainly of Phnom Penh and not the whole country, there were more vacancies than job seekers (Table 4.6). Most vacancies were in handicrafts and business related (31 percent), while the seekers for these jobs were only 11 percent of the total. Public awareness of job applications and vacancies posted by NEA should be significantly improved.

Jobseekers and vacancies are more concentrated in services and industry than in agriculture (Figure 4.7). Of those looking for work in 2014, 23 percent sought jobs in industry, 74 percent in services and just 2 percent in agriculture. These shifts in the occupational structure of the labour force identify a clear increasing trend away from agriculture as discussed earlier (see Figure 4.5).

Figure 4.7: Sectoral distribution of job seekers and vacancies (percent), March 2010-June 2013
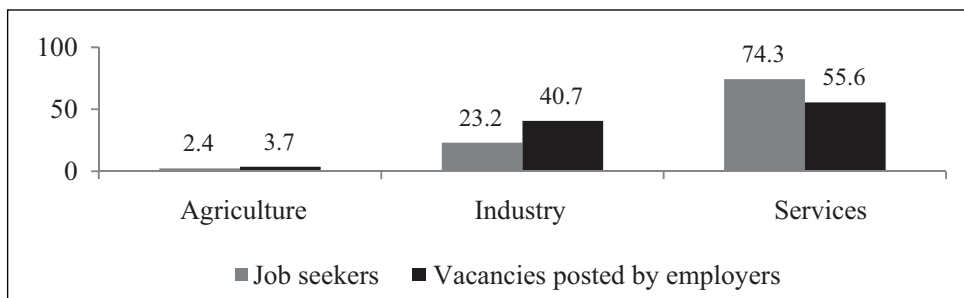
Source: NEA 2014a

Based on NEA data, 65 percent of job seekers hold a bachelor's degree (Figure 4.8), yet 66 percent of job vacancies require no more than high school completion. This is a clear example of a qualifications mismatch between what employers require and what job seekers have to offer. The current labour market needs fewer university graduates and more lower secondary school leavers with high-skill proficiencies to diversify and add value to products and services.

Figure 4.8: Distribution of job seekers and vacancies by education level, March 2010-June 2013
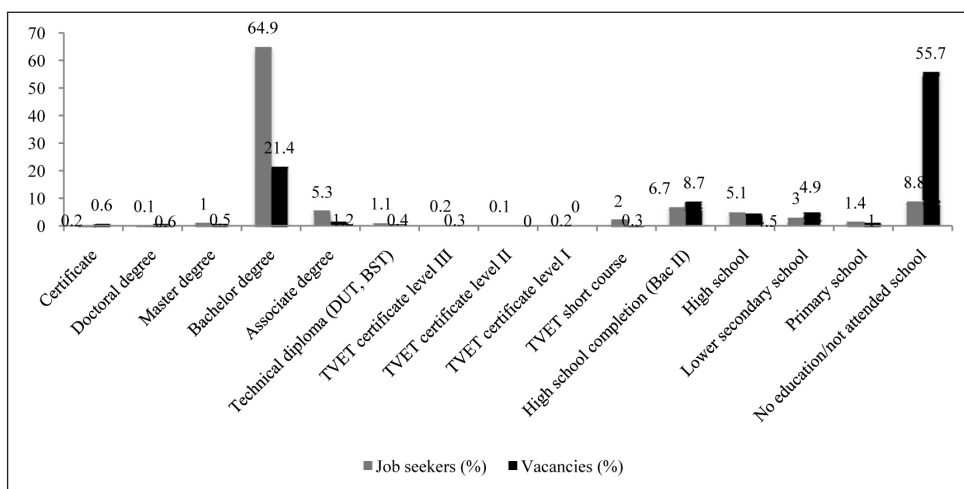
Source: NEA 2013

4.7 Findings from key informant interviews

4.7.1 Soft skills

The key soft skills that our informants identified include communication, teamwork, integrity, self-discipline, decision making and punctuality. In addition, Cambodian youth lack critical thinking necessary for their work (F4 and N3). For instance, the CEO of firm F4 said, "Cambodians read less, causing ignorance and an inability to judge and decide [their major and career path]". Private companies expressed frustration with workers who cannot abide by their companies' basic rules and regulations related to punctuality and taking leave from work. They partly attribute these problems to the low education of employees. Table 4.7 lists the soft skills that need to be improved.

Table 4.7: Soft skills that need to be improved

Skill	Number of interviewees reporting it	Exemplary quotations
English communication	3	English is the second language for international communication to solve common problems in addition to specialised skills. It will become even more important for research and learning as well as working once the ASEAN Economic Community 2015 arrives.
Teamwork, integrity, accountability, critical thinking, self-discipline	2	Workers lack the spirit of ownership and responsibility. Students do not have the habit of reading and lack information, which is partly the cause of no critical thinking.
Reading skills, decision making, leadership, morality, good attitude, values, commitment, punctuality, social and cultural understanding	1	These soft skills such as values, communications, self-management and moral education would help in increasing punctuality and integrity (instead of stealing steel and cement from the company, for example) (as reported by G3). During the recruitment and interviewing of new staff, these soft skills are analysed by human resource managers.

The key informants from TVET providers stated that their institutions have integrated some soft skill programmes in their curriculums to prepare students for employment after graduation. Despite this effort, public TVET providers believed that the private sector must stop blaming providers for the lack of soft skills. It is expected that employers will take action to solve the issue together such as through regular internal training, as has been implemented by firms F2, F3 and F6.

Our findings on soft skills are in line with existing literature. ASEAN members such as Indonesia, Malaysia, Singapore and the Philippines have long recognised the importance of soft skills (along with mathematics, science and ICT) for employment, and these skills have been integrated into the curriculum (Awang 2012, 138). Cambodia's MOLVT (2014b, 13) also emphasises that "introducing soft skills such as entrepreneurial initiative, digital skills and foreign languages to qualifications and developing short courses in soft skills will increase employability". One potential option is to explore a three-tiered approach to teaching and learning that includes, non-formal setting (playground), formal setting (classroom) and practical venue (workshop) (Cheng 2010). Case studies conducted by Cheng (2010) on NGOs' TVET for vulnerable youth in urban areas showed that the integrated approach ultimately provides students, particularly vulnerable youth, with employment and empowerment. The approach has the potential to contribute to economic development, personal development and individual social responsibility. Therefore, a key solution to improving employability of TVET graduates is to revise the curriculum by integrating more soft skills.

4.7.2 Hard skills

Our research has documented the most commonly cited shortcomings in the development and delivery of hard skills among private sector and TVET providers. Skills gaps include, in order of importance, electrical, electronic, mechanical and civil engineers, agronomists and ICT technicians (Table 4.8). It also revealed that the advance of technology and facilities in the private sector is usually faster than in the public sector, especially in educational institutions in Cambodia (which is also true for some other developing countries). The private sector quickly adopts more advanced technology to increase productivity, whereas educational institutions lag behind technologically.

The findings on hard skill shortages present some variations from some existing studies. A study of a larger sample (Bruni, Luch and Kuoch 2013) reported that the highest percentage of hard-to-fill vacancies was in the rubber and plastics sector (91.7 percent), followed by garments, apparel and footwear, and food and beverages, with values just above the average (75.1 percent) and construction and accommodation (67 percent each). The skilled agricultural workers, machine operators, managers and craft workers these sectors require are difficult to find. However and quite surprisingly for Cambodia, which has an almost unlimited supply of unskilled labour, job vacancies in elementary occupations were considered hard-to-fill in almost 75 percent of cases (Bruni, Luch and Kuoch 2013). The most cited reasons for hard-to-fill vacancies are (1) too much competition from

other employers; (2) low number of applicants with the required skills; (3) lack of suitable work experience; and (4) low number of applicants with the required attitude, motivation, or personality (Bruni, Luch and Kuoch 2013). The findings also revealed that youths are poor in maths, physics and chemistry. These variations may be due to the small number of firms and TVET providers we interviewed; the results may not represent the situation of the whole country.

Table 4.8: Hard skills wanted in the labour market

Skill	Number of interviewees reporting	Exemplary quotations
Electrical technician	4	As urbanisation across Phnom Penh and other provincial towns is increasing rapidly, construction and electricity engineering and technicians are urgently required.
Mechanic	3	Numbers of car and motorbikes are increasing and need manufacturing.
Civil and other engineering	2	Phnom Penh has a very fast growing population and urbanisation to match. Apartments, condominiums and commercial buildings are being built apace. These construction projects will need many workers and engineers.
Agricultural (agronomy, veterinary) and agricultural processing, health, technology, ICT, hospitality, business, tourism	1	There are increasing value added agricultural products and processing with quality control systems. Cambodians need professional and qualified doctors, nurses and other health specialists who have a work ethic. Rapid growth of technology such as internet and smart phones has changed people's lifestyles. 3 million tourist arrivals in 2013 growing to 4 million in 2015 and projection of 7 million in 2020 need more quality tourism and hospitality services.
Paint mixing and manufacturing, baking, coffee making, oil and gas engineering, welding, firefighting, plumbing, air-conditioner repair, car repair, chemical construction	1	Manufacturing, services and factory construction are booming in the country, indicating the urgent need for skilled people in such fields.

As in the case of soft skills, employers can play a critical role in bridging hard skill gaps. An example is the Acleda Bank training programme, in which staff are progressively provided with capacity development in both hard and soft skills (Box 4.1). We have documented this practice also in firms F2, F3 and F4.

Box 4.1: In-service training in Acleda bank

Acleda Bank Plc. is a public limited company, formed under the Banking and Financial Institutions Law. It was founded in January 1993 as a national NGO for micro and small enterprises' development and credit. Acleda has a large network of offices (234). It has a strong human resources management focus with substantial investment in employees' skills development and career management. It has an internal training centre that is in charge of all internal and external staff training programmes.

The Acleda Employee Training and Development Report of 2010 indicates that the organisation has developed three types of programmes. "Staff Training and Development" includes training for new employees and skills development training for existing employees. This responds to the bank's needs and is based on a collective training plan. "Staff Development" is geared towards staff career development needs and covers additional programmes that are regular higher education programmes (doctorate, master's, bachelor's) and short courses such as English language programmes. The internship programme offers learning opportunities for students (locally and overseas). Training courses are implemented through internal and external resources (trainers). Almost 99 percent of programmes are implemented using internal resources.

Source: UNESCO 2013b

4.7.3 Misperceptions and constraints in TVET development and promotion

TVET faces two main urgent challenges: misperceptions and constraints in promoting and developing TVET. The interviews revealed that TVET and its institutions are not widely known and are perceived as having low value by most students and parents. High school graduates are barely aware of TVET institutions, let alone what TVET is or why they might find such training useful after graduation. That important information is not well publicised, making students reluctant to register. Furthermore, students' first impressions of TVET institutions are that they are of low quality and level and the place for dropouts (Table 4.9). Most TVET institutions have "school" or "centre" in their names, which seems to downgrade their value (as reported by F3). Students who graduate from universities are considered to have better chances of being employed than TVET graduates, since job announcements always require a bachelor's degree rather than a TVET

diploma (as reported by N4). More importantly, students are unaware that they can pursue TVET study from the certificate level to master's degree or doctorate.

Generally, TVET is perceived as unsuitable for females because most courses focus on technical skills such as electrical, electronic, mechanical and civil engineering, veterinary medicine, agronomy and plumbing that often involve heavy labour and outdoors work, sometimes in dirty and dangerous conditions. These misperceptions discourage students from choosing subjects at TVET schools and need to be corrected immediately. Table 4.9 lists misperceptions expressed during interviews.

Table 4.9: Misperceptions about TVET

Misperception	Number of interviewees reporting
TVET jobs are not for women	5
TVET jobs are laborious, dirty, outdoors and under the sun (blue-collar jobs)	2
University degrees give better chances of landing a job than TVET degrees	1
TVET jobs are for those who are not smart, who had low grades at school and dropouts	1
TVET jobs are for the poor/those with low economic status and those in rural areas (peasants)	1

There are many other constraints on fostering TVET. As can be seen from Table 4.10, the lack of public-private partnerships is a major challenge. As facilities, equipment and laboratories for TVET courses can be very expensive, costing hundreds of thousands or even millions of dollars (in the case of electricity and electronics laboratories in G4's institute), the government and the private sector do not invest in those prerequisites. This is why many universities and TVET providers are not willing to establish such courses. Instead, they prefer to provide courses on business, management, accounting and tourism, which need only a classroom, tables, chairs, white board and lecturer, but those skills have already saturated the market. With no laboratories, students just learn theory and gain little practical experience. Moreover, state TVET providers find it difficult to cooperate productively with employers in obtaining internships for TVET students. Employers have limited places and funds to support internships.

Students and parents do not have information about TVET and available jobs after graduation. In the G4 institute, students who registered are relatives of staff who work there and who know that there are jobs available

with a suitable salary for their children. The notion that technical and vocational training schools are unsuitable for women is misleading since there are jobs for female workers in electricity, project planning, customer relations, designing, drawing—all jobs that do not involve heavy labour. An information or guidance gap between lower and upper secondary schools means that many students are unaware of what TVET schools or universities have to offer. Students lack information on subjects available and career paths after graduation. Box 4.2 tells the story of a high school graduate from Stung Treng who did not have guidance regarding university.

Box 4.2: Lack of career guidance after high school

Visoth* graduated in 1999 from a high school in Stung Treng province in the remote northeast, about 450 km from Phnom Penh. After completing high school, he did not know what subjects to study in university and did not know about TVET. He had no idea about what school to select or what kind of job to pursue.

Visoth observed four occupations in his province: police officer, teacher, doctor and NGO staff. In high school, he was good at Khmer literature. Rushing to Phnom Penh, he took entrance exams for as many universities as possible: Khmer literature at the Royal University of Phnom Penh, Faculty of Medicine, Royal University of Law and Economics, National Institute of Business and Royal University of Fine Arts. He thought that he would pass at least one exam and get a chance to study at university. He gained entry to two courses, Khmer literature at RUPP and marketing at the National Institute of Business. After hearing the good news, he hesitated in making a choice. He had no idea about marketing but thought that it might include distributing flyers along the streets and thus would have no future after graduation. If he graduated in Khmer literature, he could become a high school teacher, whom people in Stung Treng always respect. He selected Khmer literature. After one year at RUPP, he discovered that being a teacher today is not like in the Sihanouk regime. Teachers are not well respected as professionals, and they struggle to survive on the low salary.

Then he decided to take another entrance exam at the Institute of Technology of Cambodia in 2000. He gained entry into the technician school, a lower degree than the engineering degree he wanted. He did not want to be a technician and thought that this degree must be that of workers or labourers under an engineer. Once again, he dropped the degree programme. Finally, he took another entrance exam, in environmental science, and again passed. Taking this subject allowed him to hope to work for an NGO to get a better salary.

*Name has been changed.

The Box 4.2 story shows that high school students need orientation and guidance before graduating. Parents and friends are the most important influence on young people, particularly in selecting a subject at university or TVET centre (as G3 reported). Among 30 students who were informally interviewed by G3 regarding course selection, 23 followed friends' ideas, five followed parents' ideas and only two had their own ideas of what to do.

This particular finding is also reflected in Kim et al. (2010, 91) who found that "many of the high school graduates do not have enough information about the demands of the job market when choosing their specialisations. Alternatively, some choose courses based on fancy names, like 'management and leadership', 'business administration', and so on, without much attention to their employability." Another study involving a sample of more than 700 youths (foundation year students or employed) found that 30 percent of the employed and 34 percent of foundation year students chose their subject major based on consultation with parents, whereas 33 percent and 18 percent of the two groups, respectively, based it on their friends, followed by advice from class teachers (18 percent and 24 percent), siblings (13 percent and 13 percent) and senior students (6 percent and 11 percent) (Un 2014).

Another issue is the lack of suitable training in maths, physics, chemistry and science in high school because many schools lack laboratories and necessary equipment (Table 4.10). In these cases, students may gain theoretical knowledge but do not get practical skills.

The quality of teaching is a significant factor in student achievement. Students can learn faster when they have good teachers. Many teachers pay less attention to their regular public school classes because they take on private students in order to supplement their low incomes. As F4 said, "Poor quality training kills Cambodian youths". Getting better qualified teachers, treating them with respect and paying them better will create better students.

With growing regional integration, the freer flow of labour across the ASEAN region will result in foreign workers with more specialised skills competing with low-skilled Cambodian workers. Unless TVET improves, Cambodian youths will face major challenges to enter and stay competitive in the labour market.

Table 4.10: Constraints on TVET

Constraint	Number of times reported	Interviewees' remarks
Lack of public-private partnerships	7	The state and private sector do not invest in TVET facilities; lack of cooperation between TVET providers and employers in offering internship for TVET students
Lack of information and awareness of job prospects of TVET	6	Students and parents are not aware of TVET, career pathways after graduation and labour market situation
Lack of practical skills, facilities (laboratories, equipment, workshop, textbook, trainers)	5	Lack of laboratories, workshops, equipment and materials that are expensive
High school graduates are poor in maths, sciences, physics and chemistry, and lack reading	5	Low quality of general education from grade 1 to grade 12 stems from low quality teachers and trainers, inadequate materials and facilities and lack of parents' participation
Lack of TVET providers, especially private ones	3	Private sector does not invest in expensive laboratory equipment and materials
Roles of parents and family (and friends) in students' career pathway	2	They orient children to subjects in TVET or higher education without information about the labour market
Many TVET jobs are taken by foreigners (e.g. Vietnamese skilled workers)	2	It is very hard to find Cambodian skilled workers who are really professional; most new workers entering the labour market have no or low skills (reported by F4)
Lack of female students and graduates in TVET (especially in engineering, electricity)	2	Most parents and families, and female students themselves, do not value TVET study for females

Finally, there is a significant role for parents, relatives and friends in influencing students' career and training choices. Yet most parents do not really understand the labour market (e.g. what skills the society really needs). On the other hand, once parents are more aware of the job market, they can be good guides in orienting students' career pathways.

Possible ways to promote TVET

There are ways to promote TVET by tackling misperceptions and constraints. Increased engagement and partnership between TVET centres and the private sector (such as through internships, consultation on the skills needed and curriculum design) and better coordination are some of the most important measures. Table 4.11 details suggested options.

Table 4.11: Strategic options to promote TVET

Strategies	Number of interviewees reporting	Exemplary quotations
Private sector engagement	6	Collaboration between the state and the private sector in building quality TVET. Expanding job/career fairs to build strong linkage and relationships between the state, the private sector, the community and students.
Offering internships or study tours	6	Students in general education from grades 9 to 12 should be provided study tours of TVET schools.
Improve overall education quality	5	Link all levels from early childhood to higher education; focus on secondary education as this is a transition period when children become adolescents
Improve quality of teachers/trainers, facilities	5	Teachers and trainers are the real wealth that produces high quality human resources. They should be better paid, supported and respected. Continuously train TVET trainers both locally and overseas so that they can train the trainers in institutions. Firms need to send outstanding staff with commitment, integrity and English ability for training overseas. This will create spill-over effects as they return to train their firms' staff in the country. Firms try to minimise hiring foreign experts because the cost of one foreign expert equals the cost of 10 staff, who can be sent for training overseas (as reported by F2). On-the-job training is also vital for new staff and internal staff capacity development.
Collaboration between the private sector and TVET providers	5	Some of the private sector has built close collaboration by signing an MOU with TVET providers to receive students for internship/apprenticeship programmes. Firm F2 signed an MOU with an NGO TVET provider, offering internship opportunities in mechanical, electrical and plumbing skills.
Focus on rural, poor and disadvantaged areas	3	Education should be tackled from the grassroots, from rural to urban areas and with a bottom-up approach because 80 percent of the population live in rural areas and early childhood education is so important.

Better links and coordination among TVET policymakers and governance (e.g. MOEYS, MOLVT)	2	Good coordination between the two main government bodies must be established to facilitate and create harmonised TVET policy.
Repositioning and rebranding TVET	2	TVET bodies should change their names from "Centre" or "School" to "Institute" to update the image of TVET.
Expanding general and technical high schools	2	Train high school students to be electrical technicians, veterinarians, agronomists, mechanics, accountants and farmers and so on. After graduating with skills, they can generate income. There should be more TVET institutes than universities because every year there are more dropouts and failed high school students who need TVET schools.
Revise and standardise curriculum	2	Curriculum in TVET must respond to the needs of local and regional markets.

4.8 Policy options and recommendations

Cambodia's economic growth, among the most rapid in the region, has been supported by a boom in private sector development and direct foreign investment. To sustain this growth and ensure strong private sector development in the face of increasing regional and international integration and demands of a knowledge-based economy, a major priority of the government is to develop the labour force. Key industries have been established by the private sector but the necessary skilled labour force has not been provided. In part, this may be because the current education system focuses on general education and not TVET (D'Amico 2012). TVET provides the necessary skills for the labour force and thereby bridges the skill gaps in the current labour market (Roosdiono 2012). The government acknowledges that TVET would enable Cambodia to "unlock treasures" of the labour force (*Khmer Times,* www.khmertimeskh.com/news/799/public-private-partnership------contributes-to-labor-development). In addition, TVET has the potential to increase agricultural productivity and self-employment among rural, vulnerable and underprivileged populations (ADB 2009). However, the development of a strong TVET in Cambodia has been hampered by lack of awareness of job markets, misperception of TVET-based jobs as second class, and lower overall educational quality.

The government, MOLVT and MOEYS in particular, has made remarkable efforts to narrow the skills gaps and mismatches. However, TVET still has a long way to go before Cambodia can tap its talented youths and their productivity. TVET needs to be strongly focused to attract more secondary school and dropout students to the diploma or degree level. This is an important first step in TVET reform for a developing country such as Cambodia (Smith-Comyn 2011). Second, there is a need to promote quality TVET in both hard and soft skills to meet evolving labour market needs. This requires a strengthening and upgrading of technical teachers and trainers' knowledge and skills in new technology and science. And technical schools and institutes must have adequate equipment and training facilities. Musts are developing competency-based curriculums responsive to new trends in technology and increasing and promoting the use of new resources (increasing internet connectivity), collaborating with relevant employers and training providers and providing in-service training.

The private sector has a vital role in many of the important and challenging tasks, given the complexity and limited capacity and resources of the government (Roosdiono 2012). The needs and concerns of the private sector can be addressed through partnership between the private sector, TVET providers and policy-making institutions. Partnerships may include curriculum design, training, apprenticeship, internship and significant investment and funding by the private sector. A dual system,[1] such as that in Germany and in some Asian countries, provides a specific example of public-private partnership.

Lack of skilled workers remains a main barrier to the country's future economic growth. The prime minister has stressed the urgent need to build a quality and competent workforce ahead of the ASEAN Economic Community in 2015. Greater efforts are needed to strengthen the education system, especially TVET, which has suffered from resource shortages. Table 4.12 details the main challenges and their policy options and recommendation that arise from this study, some of which are consistent with the UNESCO TVET Policy Study (2013b).

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1   In the dual system, vocational training is delivered via two channels, on-the-job training or in-company and schools, for approximately three years. See Schmidt and Alex (1995) for detailed discussion of the dual system.

Table 4.12: Major challenges and policy options and recommendations

Challenge	Policy options and recommendations
Access and affordability	• Increase number of formal and non-formal TVET bodies through provincial training centres available to all communes, especially in remote provinces. • Increase enrolment at TVET institutions by building awareness among the public, parent associations and community groups. • Offer secondary school students more opportunities for study tours of TVET institutes to build their awareness and plan their career paths in TVET. • Improve the labour market information system and publicise across the country through social media. • Provide more scholarships for TVET students and make sure that scholarship provision is transparent and fair.
Gender gaps in access and affordability	• Encourage female students' enrolment in TVET by providing special scholarship support and other incentives. • Create a model TVET institute with three important features in the same area: school, dormitory and workplace, so that students can benefit from working, studying and living in the same location. • Encourage employers to offer internships or employment for female students once they graduate.
Quality of TVET: courses, curriculum, relevance of subjects to the job market and employability	• MOLVT and MOEYS, TVET providers and employers should establish a harmonised working group of senior staff to take part in decision making in TVET reform. TVET providers and employers can also gain a sense of ownership of the policies or curriculum they jointly create and take responsibility to ensure positive results. • The one-size-fits-all approach will not work if MOLVT and MOEYS try to dictate curriculums to all TVET institutions without thorough consultation with them. Ministries should provide recommendations only on specific changes to TVET institutions' curriculums, giving them flexibility provided they meet the minimum requirements. • Scale up and improve job fairs to gather employers, TVET providers and students to establish good relations for prospective careers and networking. This is particularly necessary in rural and remote regions and regions with lower socio-economic development and a high rate of secondary school dropout. • Soft skills, hard skills and job-relevant skills must be incorporated in TVET curriculums.
Hardware facilities and TVET infrastructure	• MOLVT and MOEYS should provide incentives for those TVET institutions that are willing to invest in education. The incentive procedure needs to be fair and transparent. • Public-private partnerships should be strengthened and prioritised in obtaining funds and support for updated facilities and infrastructure.
Software ingredients and trainers	• TVET trainers need to be trained continuously to match the speed of technological change. • Trainers must be respected and well paid according to their commitment, quality and performance.

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Appendix 4.1 Data on TVET Enrolment in General and Technical High Schools

Table A4.1: Statistics for general and technical high schools by subject, 2012/13

Subjects	KCT		ROTA		KPTRL		Total	
	Total	Female	Total	Female	Total	Female	Total	Female
Electronics	89	12	64	4	0	0	153	16
Electricity	138	12	71	2	0	0	209	14
Veterinary	151	101	0	0	0	0	151	101
Agronomy	98	49	0	0	0	0	98	49

Note: KCT: Kompong Chheuteal High School; ROTA:Samdech Aka Mahasena PedeyTecho Hun Sen-RotaKhsach Kandal General and Technical High School; KPTRL:Preahbat Samdech Preahboromneath Norodom Sihamuni General and Technical High School

Source: Department of Vocational Orientation 2014

Table A4.2: Statistics for general and technical high schools by subject, 2013

Subject	KCT		ROTA		KPTRL		Total	
	Total	Female	Total	Female	Total	Female	Total	Female
Electronics	103	22	36	2	0	0	139	24
Electricity	177	22	40	3	30	10	247	35
Veterinary	178	120	0	0	0	0	178	120
Agronomy	68	41	0	0	21	18	89	59

Source: Department of Vocational Orientation 2014

Table A4.3: TVET enrolment at Kompong Chheuteal High School:
2002-2014

School year	Numbers of technical education students									
	Electronics		Electricity		Veterinary		Agronomy		Total	
	Total	Female	Total	Female	Total	Female	Total	Female	Total	Female
2002/03	40	0	40	2	40	20	40	17	160	39
2003/04	77	4	68	0	77	36	78	34	300	74
2004/05	91	4	85	2	106	49	99	45	381	100
2005/06	40	1	59	2	94	43	71	24	264	70
2006/07	45	6	70	15	86	50	76	14	277	85
2007/08	80	1	93	6	111	21	87	16	371	44
2008/09	107	14	111	12	91	64	97	39	406	129
2009/10	96	5	102	0	103	58	89	53	390	116
2010/11	65	5	105	5	103	68	86	33	359	111
2011/12	79	5	118	6	140	89	108	50	445	150
2012/13	89	12	138	12	151	101	98	49	476	174
2013/14	103	22	177	22	178	120	68	41	526	205

Source: Department of Vocational Orientation 2014

Table A4.4: TVET enrolment at Samdech Aka Mahasena Pedey Techo
Hun Sen-Rota Khsach Kandal General and Technical High
School

School year	Numbers of technical education students				Total	
	Electronics		Electricity			
	Total	Female	Total	Female	Total	Female
2012/13	64	4	71	2	135	6
2013/14	36	2	40	3	76	5

Source: Department of Vocational Orientation 2014

Table A4.5: TVET enrolment at Preahbat Samdech Preahboromneath
Norodom Sihamuni General and Technical High School

School year	Numbers of technical education students				Total	
	Electronics		Electricity			
	Total	Female	Total	Female	Total	Female
2013/14	30	10	21	18	51	28

Source: Department of Vocational Orientation 2014

Appendix 4.2 Data on TVET Institutions, Teaching Staff and Enrolment: 2012-2013

Table A4.6: TVET institutions, students and staff by province

Province	Number of institutions	Enrolment		Dropouts		Teaching staff		Non-teaching staff		Total staff	
		Total	Female	Total	Female	Total	Female	Total	Female	Total	Female
Banteay Meanchey	1	4784	3213	174	105	77	24	4	1	81	24
Battambang	3	1784	770	66	30	137	51	48	13	185	51
Kompong Cham	1	6101	3715	81	39	218	134	34	14	252	134
Kompong Chhang	1	573	330	46	15	36	11	16	4	52	11
Kompong Speu	1	5991	3044	0	0	86	23	32	5	118	23
Kompong Thom	1	5538	3774	174	77	125	34	15	3	140	34
Kampot	2	1056	478	30	23	66	26	37	6	103	26
Kandal	1	3920	1789	1597	835	0	19	92	19	92	19
Kep	1	639	395	14	5	20	9	11	5	31	9
Koh Kong	1	187	150	20	9	12	7	12	1	24	7
Kratie	1	2654	1724	27	16	36	2	10	0	46	2
Mondolkiri	1	224	122	12	1	13	0	4	0	17	0
Oddar Meanchey	1	58	46	17	3	19	4	5	1	24	4
Pailin	1	208	118	0	0	33	4	4	0	37	4
Phnom Penh	8	5861	2507	874	235	254	135	360	77	614	135
Preah Sihanouk	1	4580	2570	127	55	35	27	84	18	119	27
Preah Vihear	2	1915	1307	102	36	106	34	34	5	140	34
Prey Veng	1	7197	4807	137	107	107	58	23	6	130	58
Pursat	2	3686	2607	21	15	106	22	11	1	117	22
Ratanakkiri	1	1500	627	283	125	15	6	27	6	42	6
Siem Reap	3	3361	2351	43	22	124	42	47	15	171	42
Stung Treng	1	260	156	0	0	23	8	16	3	39	8
Svay Rieng	1	1114	569	50	27	65	19	22	3	87	19
Takeo	1	1555	856	37	16	71	22	27	10	98	22
Whole country	38	64,746	38,025	3932	1796	1784	721	975	216	2759	721

Source: MOLVT 2014a

Chapter 5
Securing Secondary Education

5.1 Introduction

The Ministry of Education, Youth and Sport (MOEYS) has a long-term mission to ensure that all Cambodian children and youth have an equal opportunity to access quality education. This mandate is consistent with the constitution of Cambodia and the United Nations Convention on the Rights of the Child. Despite decades of reform, a broad consensus has emerged that secondary education quality and achievement are low and more needs to be done to improve secondary education results. During the national high school exam in 2014, when MOEYS introduced stringent measures to prevent cheating, only one-fourth of 93,000 students passed; more than 22 percent received grade E, fewer than 3 percent received grades B to D, and only 11 students received grade A. In 2012 and 2013, when students could cheat in the exams, more than 80 percent passed. These results indicate that more needs to be done to prevent exam cheating and to improve the quality of education. Strict control of exams and changing students' perceptions of cheating are needed to convince them that the main point is not passing the exam but acquiring real knowledge during schooling.

Under the Association of Southeast Asian Nations (ASEAN), Cambodia is committed to three key educational reforms: expansion and standardisation of secondary education, curriculum reform to emphasise basic reading, writing and arithmetic skills including English language, and educational reforms in line with expected industrial structures. School reform is basically a change in pedagogical approach that aims to provide improved student learning opportunities and achievement, and is characterised by four aspects. It requires leadership practices that are purposeful, supportive, positive and academically stimulating; promotes teachers' empowerment, competence, professionalism and cohesiveness; calls for a positive and orderly school climate embedded in high expectations; and necessitates frequent and national assessment of student progress (Davies 2005).

This study aims to explore the key factors that hinder or can help students obtain a high-quality secondary education. Low student achievement may be due to pedagogical barriers, for example, curriculum content, teaching and learning methods. A school's approach and attitudes towards teaching and learning are important aspects of pedagogical leadership contributing

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to student achievement. An appropriate pedagogical approach should take into account the involvement of students, teachers and principals. This research addressed the question: What are the factors that either hinder or contribute to achieving good results in secondary school? Analysis used qualitative information gathered from key informant and in-depth interviews, quantitative data derived from secondary sources, literature review and peer review. The rest of this chapter is structured as follows. Sections two and three focus on school reform and leadership. Section four provides a comparative analysis of student enrolments and dropout rates in Cambodia and other ASEAN countries. Section five discusses the secondary education curriculum, student-teacher ratios, teacher qualifications and salary. Section six concludes.

5.2 School reform and leadership

In efforts to improve schools and provide better learning for students, education policymakers have sought to increase schools' public accountability, measured particularly by students' test scores (Robinson 2010). The demand for accountability has brought substantial pressure on school principals, who are expected to demonstrate improvements in student achievement (Leithwood and Day 2008). Accumulating research evidence shows that school leadership is a decisive factor in school performance and student learning outcomes (Leithwood and Day 2008; Robinson 2010).

An interesting though contentious research claim by Leithwood et al. (2003) is that leadership has the second most significant effect on student learning, after the quality of the curriculum and teachers' instruction. Leithwood et al. (2003) categorised four school and non-school leadership practices based on large-scale and rigorous research of what effective leaders do. Those are building vision and setting directions, understanding and developing people, redesigning the organisation, and managing the teaching and learning programme.

Leithwood, Harris and Hopkins (2008) provided five justifications supporting important roles of leadership. First, empirical case study evidence shows that school leadership affects not only student learning but also other school conditions. The main limitation of this evidence is its generalisability given the study's qualitative design. Second, a review of large-scale quantitative studies found that the combined direct and indirect effects of school leadership on student outcomes are small but educationally significant. Third, quantitative studies show that an increase in student test scores would result from the work of an average school principal who improved demonstrated abilities in leadership responsibilities. Fourth, research evidence shows small

but significant positive effects of leadership actions on student engagement. Fifth, studies on the effects of leadership turnover show that unplanned school principal succession has negative effects on student achievement. From these justifications, Leithwood, Harris and Hopkins (2008) conclude that, as a whole, school leadership has very significant effects on both the quality of the learning environment and school organisation.

This chapter argues that leadership—building clear vision, setting directions, understanding and developing people—plays a critical role in improving student learning outcomes and overall school performance. It asserts that school leadership is a determining factor for reform. Leithwood, Harris and Hopkins (2008) describe this role of school leadership even more powerfully. They maintain that leadership acts as a catalyst for every school improvement, adding that leadership provides the means for actualising the potentials that schools already possess. This catalyst function strengthens the relevance of leadership in school reform.

Leadership has rapidly materialised in many different theories and can be called instructional leadership. This diversity substantiates the arbitrariness of the concept of leadership.

Concept

As leadership is an arbitrary concept, the notion of instructional leadership is also not clear. The literature fails to provide explicit descriptions of this leadership theory (Leithwood, Jantzi and Steinbach 1999 cited in Bush 2003). The recognition of instructional leadership therefore has emerged along with an increased emphasis on managing teaching and learning as the core activities of educational institutions (Bush 2003).

Student-focused

Almost all definitions of instructional leadership assume the objective to provide students improved learning opportunities suited to their academic and developmental needs.

Teacher-focused

Leithwood et al. (1999 cited in Bush and Gover 2003) define instructional leadership as leadership that is focused on the behaviour of teachers as they engage in activities directly affecting the growth of students. Instructional leadership involves conferencing with teachers, promoting teachers' professional growth and fostering teacher reflection (Blasé 1998 cited in Bush 2003). Instructional leadership also focuses on collaborative inquiry with teachers, opportunities for reflection, discourse and professional growth, and development of professional learning communities.

Teaching and learning-focused

Instructional leadership is the provision of quality teaching and learning standards (Rowe 2007). Bush (2003) defines instructional leadership as leadership that emphasises teaching and learning, and the behaviour of teachers, in working with students: it improves teaching and learning through modelling, monitoring and professional dialogue and discussion. Instructional leadership is a focus on teaching strategies that are demonstrably effective in meeting the developmental and learning needs of all students regardless of their innate characteristics and backgrounds (Rowe 2007).

School principal-focused

Instructional leadership has been defined as practices that involve the planning, evaluation, coordination and improvement of teaching and learning (Robinson 2010). It is a series of principal behaviours: making suggestions, giving feedback, modelling effective instruction, soliciting opinions, supporting collaboration, providing professional development opportunities and giving praise for effective teaching (Nettles and Herrington 2007).

Instructional leadership is seen as defining and communicating the education mission of the school, managing curriculum and instruction, supporting and supervising teaching, monitoring student progress and promoting a learning climate. It resembles the activities and responsibilities of school principals in relation to classroom instruction (Nettles and Herrington 2007).

5.3 Leadership affecting secondary schools

Leadership plays three important roles affecting students' learning outcomes, teachers' behaviour and professionalism, and the school principal's decision-making.

Student learning outcomes

School leadership is a critical determinant of important student outcomes. Robinson (2010) conducted two meta-analyses of published studies to examine the relative impact of different types of school leadership on academic outcomes. The first found that the effects of instructional leadership on student outcomes were three to four times that of transformational leadership. The second meta-analysis showed moderate to strong comparative effects on student outcomes from leadership involving promoting and participating in teacher learning and development; setting expectations and goals; planning, coordinating and evaluating teaching and the curriculum; strategic resourcing; and ensuring an orderly and supportive environment. Robinson also found that students in schools with learning-and-teaching-

focused leadership outperformed students in similar schools where such leadership did not get much attention. He concluded that the more leaders focus their work on teaching and learning, the greater the influence on student outcomes. Overall, instructional leadership remains relevant, counteracting the argument that it is a dying paradigm.

Frederick, Blumenfeld and Paris (2004) reviewed studies of students' behavioural, emotional and cognitive engagement. Their analysis showed that school-level factors were among the determinants of student engagement. Schools that directly promote student participation in school management and provide opportunities for teachers and students to be involved in programmes and academic courses leading to professional development could increase student involvement, engagement and integration.

Teacher behaviour and professionalism

Leithwood, Harris and Hopkins (2008) showed that the way in which principals directly establish positive cultures of teaching and learning has very powerful indirect effects on student outcomes. To establish a success culture in schools, principals need to build a vision that is clearly communicated, positive and optimistic in tone and responsive to school and community. Clear communication of the vision promotes a culture of mutual trust: teachers know what they are expected to do and who will support them. A positive and optimistic vision makes teachers feel that they have opportunity to innovate and become part of a team that can improve student outcomes.

A qualitative study by Penlington, Kington and Day (2008) on leadership in improving schools demonstrated that teachers' capacities could be developed through strategic approaches to professional development. They found that to be successful, teacher professional development had to be aligned with specific school-wide priorities for teaching and learning, and directed towards developing teaching capacities across the team rather than in individual teachers. They also found that strategic professional development is clearly linked with school development and student assessment data. The study showed that building the capacities of teachers to learn, lead and teach well was an important leadership strategy.

Leithwood, Harris and Hopkins (2008) concluded that school leaders through their influence on staff motivation, commitment and working conditions indirectly improve teaching and learning. In their review, they referred to a synthesis of evidence supporting the notion that emotions shape teachers' motivation such as commitment, sense of efficacy, morale, job satisfaction and stress, as well as the effects of these on student learning. The evidence indicated strong effects of teachers' emotions on their teaching and strong

effects of leadership on those emotions. The review also found that teachers' capacities, motivation, commitment and working conditions had effects on student learning and achievement. This review suggested that, in order to lead successfully, school leaders must have the ability to understand emotions and emotional well-being, particularly of teachers, and know how to manage these emotions and how to support children's social and emotional development.

Roles of school principal

Reitzug and West (2008) in their phenomenological qualitative study of the voices of principals in conceptualising instructional leadership found that the way principals related their practice to the improvement of instruction varied significantly. They categorised this variation into four dominant conceptions—relational, linear, organic and prophetic—of instructional leadership. In the relational category, Reitzug and West argued that improvement in learning and in instruction does not occur as a result of the principal working directly with the instructional programme but rather as a result of relationship building. In the linear category they assumed that structure can be designed so that one action, process or intervention will lead to a desired outcome: alignment and the use of test data are considered essential in this category. The organic category starts with the examination and discussion of academic and social issues faced by schools. It sees instructional improvement as a result of ongoing learning of teachers and other school members. The prophetic category is about moral leadership: it concerns applying a set of beliefs to practice raising awareness of the gap between value and action. In their conclusion, Reitzug and West (2008) stressed that instructional leadership relies on the purposes and goals that school principals have set.

A qualitative study by Penlington, Kington and Day (2008) emphasises the pivotal roles of the principal in a school's success. Key among these is to establish and communicate a clear vision for the school and to set an ethos or culture that encourages teachers to innovate to ensure continued improvement. The vision needs to be relevant to the school context. In addition to the strength and clarity of its communication, Penlington, Kington and Day (2008) claim that the success of the school vision depends on its responsiveness to internal and external environments, including the community and the broader policy context. The principal is crucial in fostering this culture and in leading the school to respond constructively to constant changes in local and national policy.

5.4 Student enrolment and drop out rates

Enrolment and dropout rates are two of the most important indicators of the performance of public schools in Cambodia, where basic education in grades 1 to 9 is free. Cambodia's net enrolment in secondary education compared to that in ASEAN countries was better only than Laos and far behind Brunei Darussalam, Thailand and Indonesia (Table 5.1).

Table 5.1: Net enrolment in secondary education in ASEAN countries
         (percent)

Country	Year		
	2001	2006	2011
Brunei Darussalam	n/a	88.38	92.59
Cambodia	n/a	60.00	55.00
Indonesia	50.24	59.17	74.81
Laos	28.97	33.86	38.73
Malaysia	65.63	67.73	66.32
Myanmar	n/a	n/a	n/a
Philippines	n/a	n/a	n/a
Singapore	50.85	59.17	n/a
Thailand	n/a	67.15	81.69
Vietnam	n/a	n/a	n/a

Source: UNESCO Institute for Statistics 2014

In Cambodia, the gross enrolment in upper secondary school is much lower than in lower secondary school and much lower in rural than in urban areas. This suggests that the government needs to pay more attention to rural areas, where the majority of students live (Table 5.2).

Table 5.2: Gross enrolment of secondary students in Cambodia by region
         (percent)

	2005/06		2009/10		2012/13	
	Lower Sec	Upper Sec	Lower Sec	Upper Sec	Lower Sec	Upper Sec
Gross enrolment (urban)	88.5	46.0	76.4	62.9	59.4	47.2
Gross enrolment (rural)	50.2	13.1	54.6	24.7	52.2	22.3
Gross enrolment (average)	53.3	19.3	58.1	32.3	53.6	27.4

Source: MOEYS Education Statistics and Indicators for 2005/06, 2009/10, 2012/13

Despite a policy focus on addressing the problem of school dropouts, secondary school dropout rates remain very high especially in rural areas.

That said, the average dropout rate in rural areas has declined from 25 percent in 2004/05 to about 20 percent in 2012/13. The dropout rates for urban areas and the country as a whole show a less marked decrease (Table 5.3). These figures indicate that government policy to tackle school dropout has made some progress but the country remains a long way off achieving universal lower secondary education.

Table 5.3: Dropout rates of secondary students by region (percent)

	2004/05		2008/09		2012/13	
	Lower Sec	Upper Sec	Lower Sec	Upper Sec	Lower Sec	Upper Sec
Dropout (urban)	14.3	9.8	12.2	5.9	14.3	8.3
Dropout (rural)	25.4	23.9	21.4	14.9	23.2	17.2
Dropout (country)	22.3	17.0	18.8	11.3	21.2	14.0

Source: MOEYS Education Statistics and Indicators 2004/2005, 2008/2009, 2013/2014

Figure 5.1: Reasons for not attending secondary school (percent)
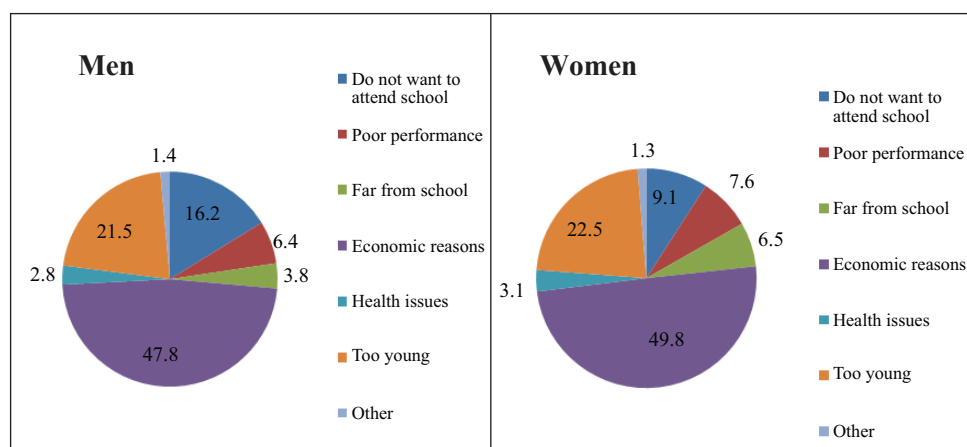
Source: Cambodia Socio-Economic Survey 2013

In Cambodia Socio-Economic Survey 2013, almost 50 percent of women gave "economic reasons" as the main excuse for not attending school, followed by "too young" (Figure 5.1). Interestingly, qualitative interviews revealed that a lack of a role model and copying a neighbour were the main reasons for dropping out. As one female respondent explained, "I quit school after grade 9 because I have always admired the women who left school to work in Phnom Penh, and I want to be beautiful like them and make my own money". Another female respondent said, "My parents offered to buy me a motorbike if I continued to study, but I cried for a few days and then my parents allowed me to quit school". These two girls are among thousands who quit school and are working in restaurants and beer gardens in Phnom Penh.

Similarly, for men who drop out of school, about 48 percent gave "economic reasons", followed by "poor performance" and "not wanting to attend school".

5.5 Curriculum, student-teacher ratios, teacher qualifications and salary

Secondary schools in Cambodia cover grades 7 to 12. They are divided into two levels: lower secondary from grades 7 to 9, and upper secondary from grades 10 to 12. The national curriculums for the two levels are prepared separately.

National curriculum and Local Life Skill Programme subjects are separated in lower secondary and grade 10 curriculums. Whether life skill education is included in the timetable depends on the local context and facilitation. Life skill education does not feature in the curriculum for grades 11-12. National curriculum and local life skill subjects in secondary school are allocated between 32 and 35 hours per week (one hour is divided into 50 minutes for teaching and 10 minutes for break).

As set out in the Policy for Curriculum Development 2005-09 (MOEYS 2004), the lower secondary curriculum covers six main national curriculum subjects, as well as local life skill education. The time allocated for each subject depends on its relative importance (Table 5.4); Khmer, for example, is allocated 6 hours per week. The national curriculum is taught for 38 weeks per year (MOEYS 2004, 4).

Table 5.4: Time allocation for each subject, grades 7-9

Subject	No of teaching hours per year
Khmer	228
Mathematics	228
Social Studies	228
Science	228
Foreign Language	152
Physical and Health Education and Sport	76
Subtotal	1140
Local Life Skill Programme (including Art)	76-190
Total	1216-1330

Source: MOEYS 2004

Although grades 7-9 are lower secondary and grade 10 is upper secondary, the curriculums are almost identical in both subjects and time allocated.

The curriculum for grades 11-12 is in two streams: basic mathematics and advanced mathematics. Students have to select one of the two. Those

taking the basic mathematics option study Khmer literature for 6 hours per week, physical and health education and sport 2 hours per week, foreign language (English or French) 4 hours per week and mathematics for 4 hours per week, and choose four other elective subjects. Those opting for advanced mathematics study Khmer literature, physical and health education and sport, and foreign language for the same hours as the basic option, plus mathematics for 8 hours per week and three other elective subjects. Students in both streams have 1216 hours teaching/ learning time per academic year. Students who opt for basic mathematics in grade 11 are required to take basic mathematics in grade 12 as well; the same for advanced mathematics.

In curriculum delivery, teachers are the main knowledge providers. Their success can have a lasting impact on the lives of their students. MOEYS has been following a special formula for teacher training centres and colleges. The training requirement for lower secondary teachers is 12+2, meaning that a candidate has to complete grade 12 and two years of pedagogical training at a regional teacher training centre. Upper secondary schoolteachers have to complete a bachelor's degree from any higher institution or university, and then pass the entrance exam to get into the National Institute of Education for one year of pedagogical training.

Despite efforts to reinforce teacher training, the qualifications of secondary teachers still vary (MOEYS 2014). Some secondary schoolteachers finished only primary school and others only lower secondary school. A minority of secondary schoolteachers hold master's or doctoral degrees. Key informant interviews revealed that the number of qualified teachers, especially in rural areas, is a big issue. There are not enough teachers in rural areas and a surfeit of teachers in some urban areas. Some respondents claimed that schools have no choice but to employ underqualified teachers, a solution thought to be better than having no teacher at all. This situation can lead to some teachers just collecting money from students in return for a good mark. One respondent said: "A friend of mine's children mostly got 100 percent for term exams. One day the father, impressed with the results, asked his son to do the exercise again, but the son could not do it and said, 'I joined his private class and the teacher gave me the answer, so I just copied it during the exam'."

Table 5.5: Secondary teaching staff qualifications

Level of training	Primary	Lower secondary	Upper secondary	Graduate	Postgraduate	Doctorate	Total
No. of teachers who completed the training	164	6240	21,733	10728	518	3	39386

Source: MOEYS 2014

Table 5.6 shows student-teacher ratios for secondary schools between 2001 and 2011 in ASEAN countries. Cambodia's ratio is high, but lower than those of Myanmar and the Philippines. Official figures indicate that the average student-teacher ratio in Cambodia increased from about 20 in 2001 to 30 in 2006. But key informant interviews discovered that student-teacher ratios in rural secondary schools are as high as 40 to 60. This makes it very difficult for teachers to undertake learning and teachers activities in line with the national curriculum.

Table 5.6: Student-teacher ratios for secondary education in ASEAN countries

Asian countries	Year		
	2001	2006	2011
Brunei Darussalam	10.95	10.78	9.94
Cambodia	19.56	29.99	n/a
Indonesia	14.26	12.27	14.77
Laos	22.73	24.73	19.89
Malaysia	17.89	16.30	13.58
Myanmar	30.82	33.77	n/a
Philippines	36.39	37.27	n/a
Singapore	n/a	n/a	n/a
Thailand	24.04	21.69	19.91
Vietnam	n/a	n/a	n/a

Source: UNESCO Institute for Statistics 2014

Teacher salary is another issue. The very low teacher salaries in Cambodia are barely sufficient to support living costs. Teachers therefore have second jobs—as motor taxi drivers, farmers, workers and sellers—to supplement their income. This situation seriously affects the quality of teaching and learning. Further, teachers do not have enough time to update lessons or monitor student performance. This is also a main factor affecting dropout rates. Strong leadership, teacher capacity development and meaningful incentives can help to reduce dropouts.

The government raised the salary of secondary schoolteachers to USD150 in 2014 and, from February 2015, will increase living support allowances for teachers in remote and difficult-to-reach regions by adding up to USD20 to the existing allowance. This is a very positive reform. However, since GDP per capita rose to about USD1000 in 2013 and living costs also increased, this salary raise hardly meets basic household expenditure, and teachers may still need second jobs to support their families. Some interview respondents suggested that in order to motivate teachers to focus on teaching, the salary for qualified secondary teachers should be three times per capita GDP, or about USD250 per month.

At a Teacher's Day ceremony in 2014, MOEYS highlighted a number of challenges to quality secondary education. These included a lack of qualified and quality teachers, a lack of textbooks and school supplies, low salaries and shortage of teachers in some rural areas, delay in the payment of salaries and allowances to new teachers, ineffective personnel management, and a lack of regional sport facilities for national sporting events. These challenges suggest that there is still a long way to go in improving student outcomes and teacher professionalism.

5.6 Conclusion

Despite decades of education reform to ensure that all Cambodian children and youth have an equal opportunity to access quality education, Cambodia has failed to achieve universal lower secondary education and low-performing secondary schools have failed to provide a high-quality education to youth. The education system faces three significant challenges in securing secondary education. First, secondary school dropout rates are very high, averaging about 20 percent in rural areas and 11 percent in urban areas in the academic year 2012/13. National statistics show that students mostly drop out of school for "economic reasons" (the response given by almost 50 percent of women), while qualitative interviews revealed different causes—"lack of a role model" and "copying a neighbour". Second, while there is a surfeit of teachers in some urban centres, there are teacher shortages in rural areas. Rural schools are forced to employ underqualified teachers, an option considered better than having no teachers at all. This practice can lead to some teachers just collecting money from students in return for a good mark. Third, teacher salaries in Cambodia are very low and barely sufficient to cover living costs. Teachers are therefore compelled to take on second occupations, for example as motor taxi drivers, farmers, workers and sellers, to supplement their meagre incomes. These activities seriously affect the quality of teaching and learning, as teachers do not have enough time to update lessons or monitor student performance. The government raised

the salary of secondary school teachers to USD150 in 2014 and increased the allowances for teachers working in rural and remote areas. Although welcomed, because GDP per capita rose to about USD1000 in 2013 and living costs also increased, teacher pay still barely covers basic household expenditure. Some respondents suggested that in order to motivate teachers to focus on teaching, the salary for qualified secondary teachers should be three times per capita GDP, or about USD250 per month.

Low student achievement may be due to pedagogical barriers, for example, curriculum content, teaching and learning methods. A school's approach and attitudes towards teaching and learning are important aspects of pedagogical leadership, contributing to student achievement. An appropriate pedagogical approach should take into account students, teachers and school principals' involvement. Good leadership, building the capacity of teachers and setting the right incentives can help to reduce dropouts. There are four basic leadership practices: building vision and setting direction, developing teachers' skills and knowledge, providing supportive working conditions and managing teaching and learning programmes. School principals have significant direct or indirect influence on students' literacy and numeracy outcomes and their engagement. Principals could also work through teachers to improve student learning by providing opportunities for collaborative inquiry, reflection, professional growth, and feedback and evaluation. These aspects of leadership can contribute to changing the pedagogical approach to address Cambodia's key education issues.

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Chapter 6
Meeting Basic Learning Needs
through Primary Education

This chapter highlights the issues surrounding primary education in Cambodia. It argues that without a full course of primary schooling that imparts solid literacy and numeracy skills, it will be hard to develop the technical skills and social capabilities needed to achieve the goal of economic and social improvement. The chapter begins by outlining enrolment and completion rates, then goes on to consider factors that may have an impact on these. Education quality, access and software including curriculum and teachers, governance and finance are emphasised as individual yet interlinked factors, all of which must be taken into account in any attempt to improve the system to provide a solid educational foundation.

Public primary schoolchildren account for 68 percent of all children from preschool to upper secondary level; hence, primary schools are critical to Cambodia's educational agenda. This study focuses on public primary schooling because the share of private primary schooling in total primary net enrolment accounts for a negligible 1.4 percent (MOEYS 2014a). The study draws on information collected from various sources including strategy papers, official guidelines and statistics from the Ministry of Education Youth and Sport (MOEYS), education data provided by the UNESCO Institute for Statistics, and key informant interviews with MOEYS officials and public primary schoolteachers and principals.

6.1 Enrolment, dropout, completion and repetition rates

In the school year 2013/14, 2,073,811 children enrolled in public primary schools, with 16 percent of those children in urban schools and the remaining 84 percent in rural schools (MOEYS 2014b). They were taught by 44,895 teachers, 22 percent of whom work in urban schools and 78 percent in rural ones (MOEYS 2014a).

Universal primary education is a long-standing goal and Cambodia shows significant positive signs of almost achieving that with an average net enrolment rate in 2013 of 96 percent. Among the 23 provinces and Phnom Penh municipality, ten provinces, including Phnom Penh, Banteay Meanchey, Kep and Koh Kong, are below this figure while the highest net enrolment rates at around 98 percent belong to nine provinces including Battambang, Kompong Cham, Kandal and Siem Reap. Preah Sihanouk province, home

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to the famous coastal tourist resort and seaport of Sihanoukville, scores the lowest net enrolment rate of about 77 percent (MOEYS 2014b). Appendix 6.1 presents the computation of net enrolment rates.

Enrolment: Figure 6.1, which tracks net enrolment, dropout and transition rates in 2013/14, shows a notable difference in enrolment between urban centres and the countryside, with the rate in rural areas at around 15 percent higher than in urban areas. Net enrolment rates for male and female students are similar at around 95 percent, indicating that school-age children have high and equal access to primary education. The gross enrolment rate (including repeaters and/or over-age students) in primary education is about 116 percent (MOEYS 2014a) while over-age enrolment (see Figure 6.5) is close to 18 percent.

Figure 6.1: Primary net enrolment and dropout rates in 2013/14, and transition rates in 2012/13

|	Female	Male	Average	Female	Male	Average	Female	Male	Average
	Net enrolment			Dropout			Transitions to lower Secondary level (2012-13)		
Urban area	84.6	82.7	83.6	6.6	8.9	7.8	94.1	93.4	93.7
Rural area	98.4	98.4	98.4	8.6	13.0	10.9	78.9	68.9	73.6
Nationwide	95.8	95.4	95.6	8.3	12.4	10.5	81.4	72.7	76.8
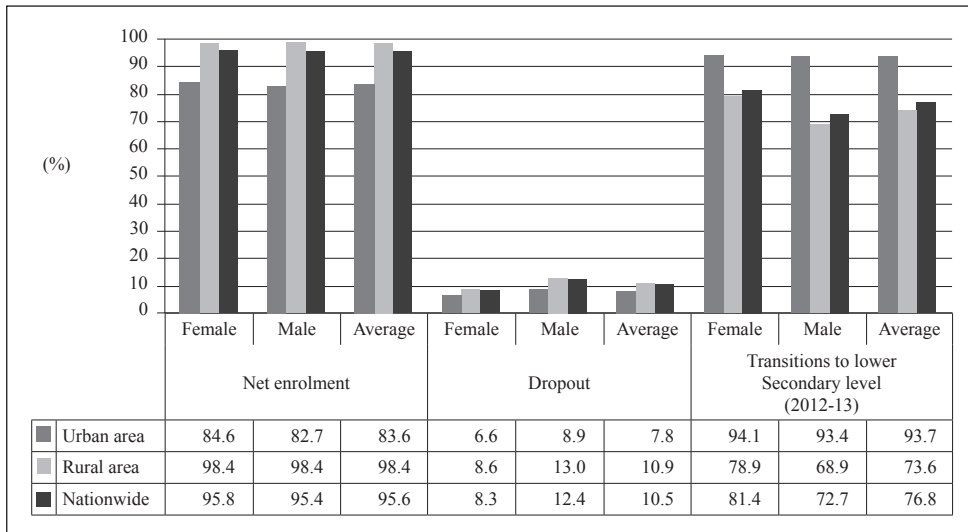
Source: MOEYS 2014a

Dropout: Primary school dropout rates in 2013/14 average 10.5 percent, with 14 provinces, including Preah Sihanouk and Siem Reap having higher than average rates. The highest dropout rate (about 18 percent) is in the northeastern province of Ratanakkiri, the lowest (about 5 percent) is in Phnom Penh's neighbouring province of Kandal while that for Phnom Penh itself is 7 percent. The difference in dropout rates between rural and urban areas is about 3 percent and that between male and female students about 4 percent. The 11 percent dropout rate from rural schools exceeds that of urban schools by 3 percent. The dropout rate for females across the country is lower (about 8 percent) than that for males (about 12 percent).

Completion: Primary completion rates range from 100 percent in the two southern provinces of Svay Rieng and Takeo to a low of 60 percent in the northern province of Stung Treng, yielding an average completion rate of 89 percent. As Figure 6.4 shows, the difference between completion rates in rural (92 percent) and urban areas (77 percent) is about 15 percent and that between female (90 percent) and male students (88 percent) about 2 percent (MOEYS 2014a).

Transition: With an average primary dropout rate of one in ten, it is not surprising that the transition rate into lower secondary school is not as high as it could be. The average primary-secondary transition rate in 2012/13 is about 77 percent, though 12 provinces, including Kandal, Mondolkiri, Preah Sihanouk, Takeo and Phnom Penh, have higher than average rates. Ninety-four percent of students in the capital of Phnom Penh transition compared to only 62 percent in Ratanakkiri. Again, there seems to be discrimination between rural and urban areas as well as between females and males. Urban students are 20 percent more likely than their rural counterparts to transition to grade 7; and, in rural areas, females are 10 percent more likely than males to progress to lower secondary school.
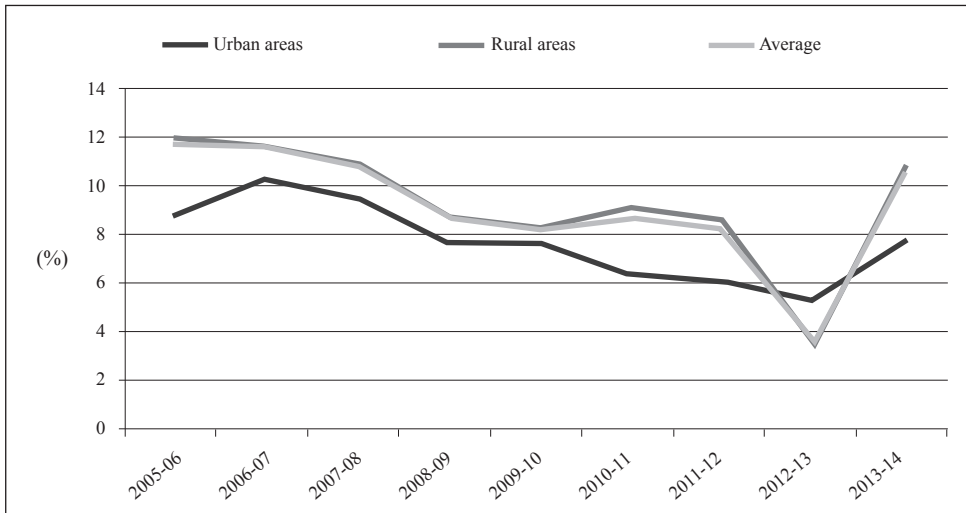
Figures 6.2, 6.3 and 6.4 illustrate primary enrolment, dropout and completion rates, respectively, between 2005/06 and 2012/13.

Figure 6.2: Net enrolment rates over time in rural and urban areas
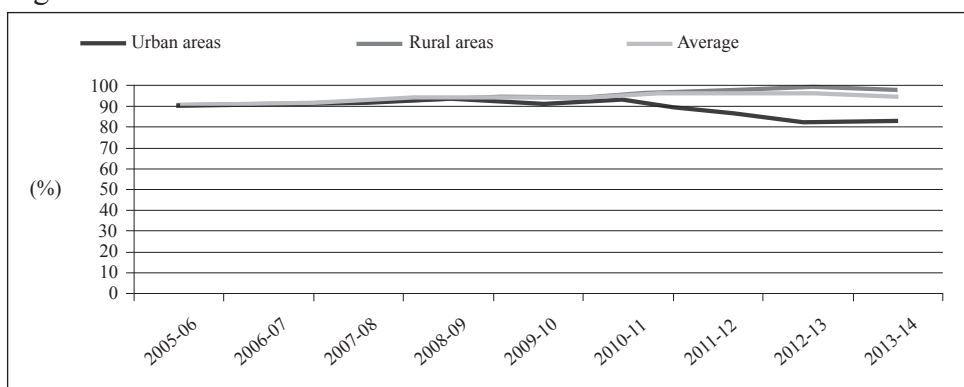
Source: MOEYS 2014a

Figure 6.3: Primary dropout rates over time in rural and urban areas

Figure 6.4: Primary completion rates over time in rural and urban areas
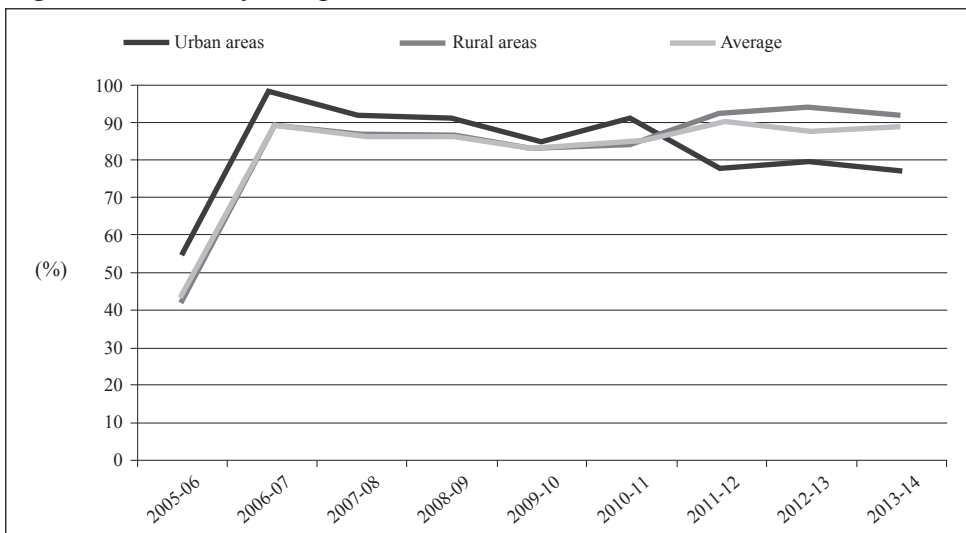
Grade repetition and late (over-age) enrolment: There are similar differences between rural and urban areas, with 16 percent of urban schools reporting such students while rural schools report 24 percent (see Figure 6.5). Anecdotal evidence suggests that problems of late enrolment are mainly due to failure to register all children at birth. This means that some parents may not know the formal ages of their children. Students who have to repeat grades may lack the intellectual capacity for higher levels or alternatively may not have received adequate preparation for an advanced programme.

Figure 6.5: Grade repetition and over-age enrolment rates in 2013/14 by province (percent)
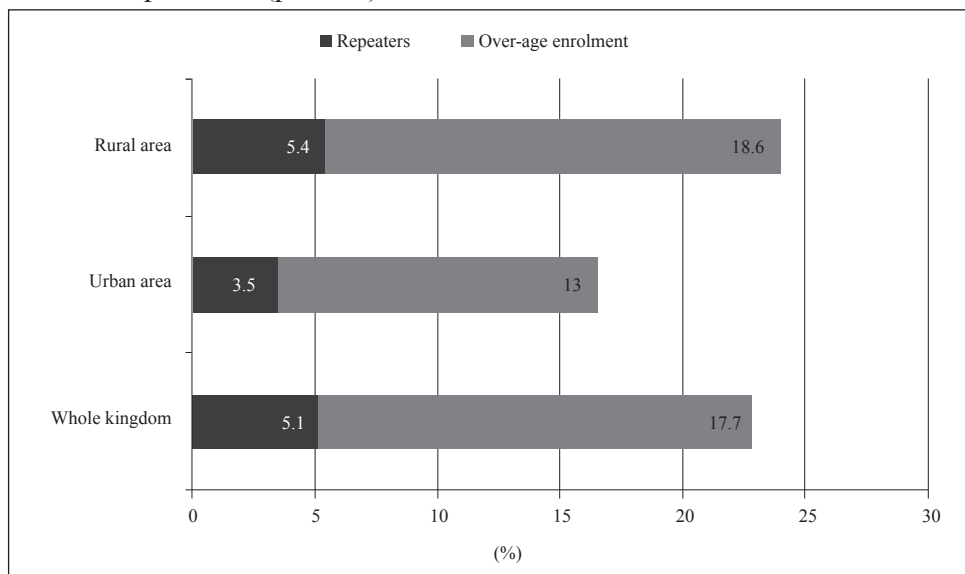
Source: MOEYS 2014a

Certainly, the national assessments of grade 3 in 2006 and 2009 and grade 6 in 2007 indicate that grade 6 students performed less well than their younger counterparts (CESSP 2006, 2008, 2010). This underachievement trend could imply that children become unmotivated to succeed in school. The test results suggest that as many as 20 percent of all students who enrol may be vulnerable to dropping out of primary school, an alarming figure considering that these years are essential for laying a solid foundation for later academic achievement and skills development.

Figure 6.6: Net primary enrolment rates in the ASEAN region (percent)
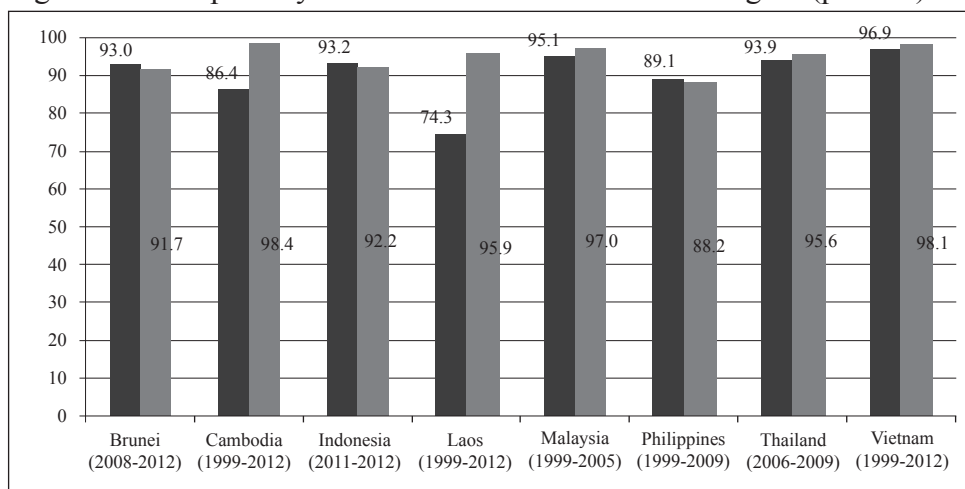
Source: UNESCO Institute for Statistics 2014 (www.uis.unesco.org/Pages/default.aspx, accessed 1 Jul 2014)

Over the last decade, among member states of the Association of Southeast Asian Nations (ASEAN), Cambodia has been successful in improving net primary enrolment rates (Figure 6.6). The country compares less favourably in terms of primary graduation rates, however (Figure 6.7).

Figure 6.7: Gross primary graduation rates in the ASEAN region (percent)

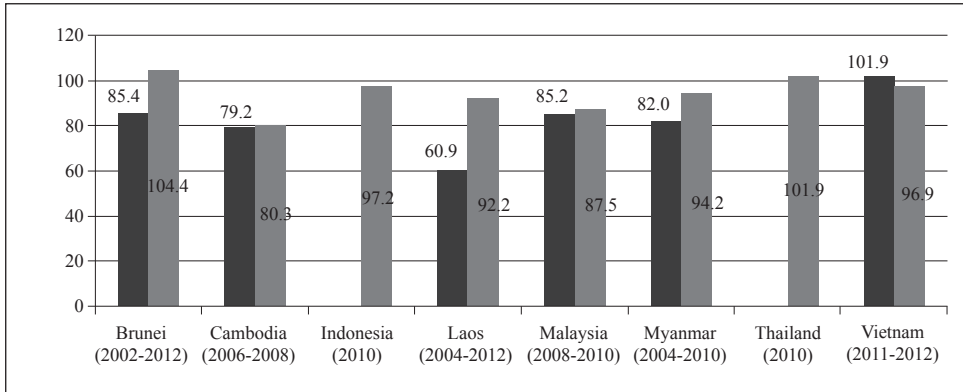Note: Gross graduation rates include over-age enrolment. There are no earlier years of data available
      for Indonesia and Thailand.
Source: UNESCO Institute for Statistics 2014 (www.uis.unesco.org/Pages/default.aspx, accessed 1
      Jul 2014)

The following sections outline the issues that may be contributing to the lack of success and make suggestions as to what might be done to improve primary education.

6.2 Educational quality

Access to primary education in Cambodia has improved enormously. Primary schools have been built in response to increasing need and policies and support mechanisms put in place. Teachers have been provided with a degree of training and professional development to help them deliver quality educational programmes. That said, given the relatively low transition rates into grade 7, the system needs to be examined closely to consider whether existing policies, regulations and instructional methodologies have been effectively implemented to produce quality outcomes and a solid foundation for the future.

Assessment outcomes: According to national standardised assessments of the academic achievements of primary schoolchildren, the 2007 grade 6 results (Table 6.1) indicate overall scores of 66 to 74 percent in Khmer studies and 48 to 54 percent in mathematics. Generally, there were no unexpected regional differences in performance for both Khmer studies and mathematics, with urban grade 6 students performing 4 to 9 percent better than those in rural schools.

Table 6.1: Results of the 2007 national standardised grade 6 assessment (percent of correct answers)

Subjects	Subject components	Rural area		Urban area		Average
		Small	Large	Small	Large	
Mathematics	**Overall score**	**48**	**51**	**53**	**60**	**53**
	Numbers	44	47	47	55	48
	Geometry	57	59	61	66	60
	Statistics	51	54	57	57	54
	Algebra	47	50	55	62	52
	Open-ended active	64	67	68	70	67
Khmer studies	**Overall score**	**66**	**67**	**70**	**74**	**68**
	Reading: details	67	68	70	74	69
	Reading: synonym-antonym	66	66	66	75	67
	Reading: pronoun	61	61	64	66	62
	Reading: adverb	35	36	39	42	37
	Punctuation	69	70	71	78	71
	Writing activities	61	64	68	72	65

Source: CESSP (2008)

Multiple-choice test results for the 2009 assessment of grade 3 students yielded average scores of 54 percent in Khmer subjects and 48 percent in mathematics, with urban students scoring better than rural (Figure 6.8). There was little difference in test scores between females and males except in remote areas where males scored better in both subjects (Figure 6.9). Notably, compared with the 2006 assessment, the performance of grade 3 students in 2009 was significantly improved.

Although primary schoolchildren appear to perform better in Khmer literacy than in mathematics, it is difficult to infer firm conclusions from the assessment results because there are no clear benchmarks for performance levels. Even so, "these results are indicative of significant learning gaps" (Madhur 2014, 7).

Figure 6.8: Multiple-choice test results of the 2009 national standardised grade 3 assessment (percent of correct answers)
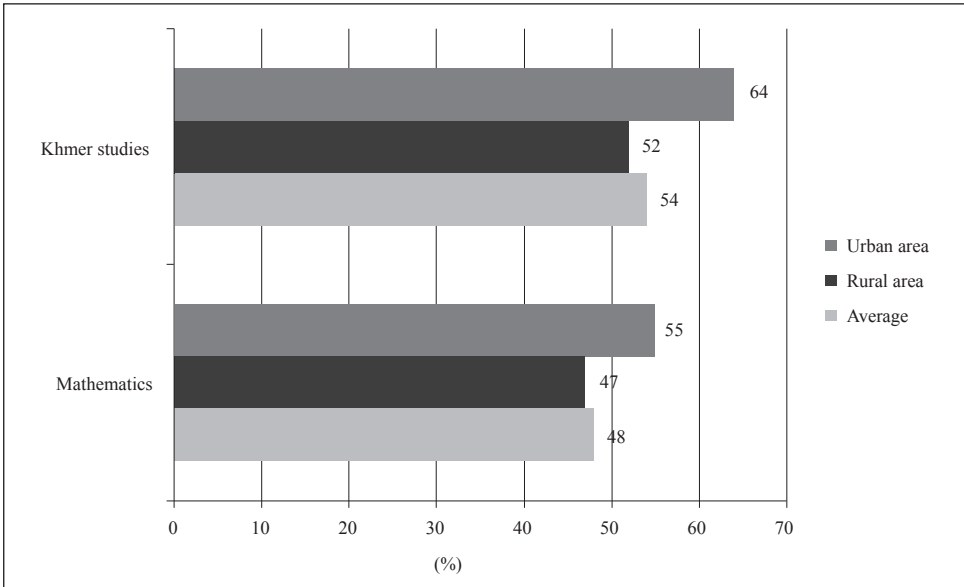
Figure 6.9: Results of the 2009 national standardised grade 3 assessment by gender and area (percent of correct answers)
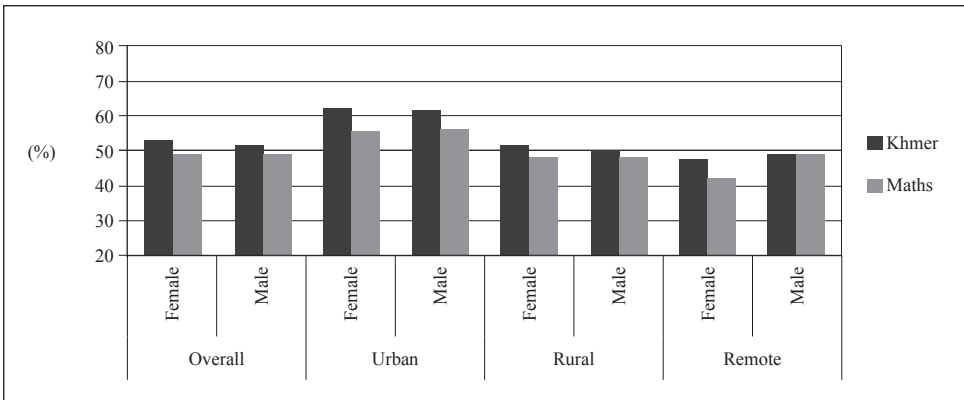
Student achievement at the primary level is mixed and may be affected by many factors, one of the most significant of which is the teacher who plays a key role in supporting student learning. The following statements from primary schoolteachers with over ten years in the profession provide some insight into what teachers regard as issues in student outcomes.

From our observation and experience, we see that homework is very important for students to review what they have learned, and it is effective in helping students remember and think about lessons more. Without homework, we believe that it would be very difficult to improve student learning. We firmly recommend that all children should do homework and that homework should be set in teachers' lesson plans.

My grade 2 students cannot learn well because the lessons set in the curriculum are too burdensome for them, and students cannot keep up with the lessons taught. Furthermore, I observe that there is a big gap between weak and strong students. Weak students know nothing at all and cannot even read the alphabet, while the strong ones are able to keep up with lessons well.

While some teachers spoke about issues relating to the curriculum, others raised concerns about parental support.

It seems that parents do not understand or appreciate the value of education since they do not want their children to study at higher grades. In addition, we have a communication book used to share information with parents, by asking them to write comments or suggestions. However, some parents do not use this book because they cannot read or write. We urge parents to teach their children at home. The links between parents and schools are increasingly important and can have positive effects on keeping children at school, particularly with the growing number of factories these days. Some parents take their children out of school, especially at grade 6, and instead send them to work in factories to support their families. Interestingly, some wealthy families get their children to stop studying and take up factory work while some poor families do their utmost to keep their children at school. So, it is not just a question of whether children come from a rich or poor background; it is as much about their parents' willingness, perception and knowledge.

Teachers also were very much aware of urban and rural differences.

From my observation, learning outcomes are declining. Students attending schools in rural areas like mine learn more slowly than those in urban schools. This is because urban students enjoy and can afford private tutoring as a support tool while rural students do not value or cannot afford private lessons. If we were to operate private tutoring here, a few students would take part at first but interest would soon wear off.

Still others assumed that digital technologies—video games, cell phones and iPods—are a factor in student achievement.

> Among my students, I observe that they are learning much more slowly than previous years' intakes. One reason is technology: students have become obsessed with playing computer games, listening to music and watching movies since the area has had greater access to electricity.

An emerging issue, particularly in urban areas, is the increase in the number of privately funded schools although these are not yet a significant factor in the school system overall. Reasons for the growth of private schools seem to include limited resources for publicly funded schools, though there is no evidence that private schools offer higher quality education.

A MOEYS official said:

> There is little difference in the quality of teachers between private and public schools. Both follow the same curriculum and employ teachers from the same training colleges. There may be some differences in terms of appearance and materials: private schools are well decorated with two optional learning sessions (morning and afternoon) and a diversity of programmes such as sports, music and other games. Also, there may be a difference in perception in that the public feel that private schools provide higher quality, less corrupt and more accountable services.

A female primary school teacher agreed although she mentioned some irregularities regarding informal payments.

> I think that there is no difference in quality between public and private schools. Perhaps more people are sending their children to private schools because some teachers at public schools collect informal fees from students. Honestly, students make informal payments to me of their own accord because of my limited salary: I do not force them to do so. It depends on their parents' kindness and financial means. I remember one particular instance of a student who told me that he would have to drop out of school because his family was very poor and I felt very sad about that since he was half way through the academic year. Out of concern and as a matter of professional ethics, I contacted his parents and urged them to let their son continue his studies but he dropped out in the end.

Pushing children to go to school and stay there is an accomplishment in itself. The contribution of schools to how well students are learning is a key factor influencing educational outcomes. At the same time, student-learning outcomes may be the best indicator of educational quality and therefore should be measured both objectively and subjectively. The national standardised assessments describe one story about student learning achievements while feedback and views from stakeholders, teachers in particular, tell another. However, both aspects concur that student-learning outcomes remain limited

despite some observed improvements. This was echoed by the minister of education who in a keynote address to the Cambodia Economic Association stated that grade 3 students are not learning basic Khmer literacy or numeracy skills in earlier grades (Hang 2014).

Educational quality is shaped by demand-side (students and parents) and supply-side (schools, teachers and curriculum) factors. However, supply-side improvement initiatives must be addressed as a first priority. As quoted in the *Phnom Penh Post* of 11 March 2014, San Chey, a coordinator for Social Accountability in East Asia and the Pacific, cautioned, "It's completely up to teachers to determine who passes and who fails" and pointed out that "Standardised tests would help avoid discrimination and nepotism, as well as bribery, with some students buying a passing grade." In an interview, an expert on education from an international organisation in Phnom Penh emphasised that "An effective learning outcomes assessment system is needed to monitor teaching effectiveness and student learning".

In order to comprehensively measure student learning outcomes, there should be a regular nationwide standardised assessment in which the tests should set clear benchmarks. Teachers and key stakeholders, including development partners and policymakers, should be involved in designing these tests. At the same time, existing quality assurance mechanisms should be strengthened to help drive and sustain improvement. More accountability and transparency of national exam results will help to re-establish credibility and restore public confidence. There must be a guarantee that fraud, bribery or other serious irregularities in exams will not be tolerated and will be dealt with firmly. Furthermore, a comprehensive survey of teachers, parents, community members, policymakers and private sector agencies should be conducted to collect their views and ideas on desired learning objectives and outcomes.

6.3 Hardware, access and affordability

Buildings and access: Over the past 20 years, the number of public primary schools in Cambodia has increased by nearly 50 percent from 4693 in 1993 to 6993 in 2013, with the number of primary classes in those schools growing by over 60 percent. In 2012/13, about 10 percent (673) of the schools were in urban areas and 90 percent (6320) in rural areas, reflecting the primarily rural population distribution. Of all primary schools in Cambodia, 129 or nearly 2 percent are disadvantaged in terms of physical infrastructure (MOEYS 2014a).

Most primary schools in 2013 boasted at least two buildings and six classrooms, allowing an average space of 1.2 square metres per student.

Close to 80 percent of these schools have clean water and latrines. Within five years, MOEYS plans for 90 percent of schools to have potable water and toilets. These measures will ensure that primary children have appropriate learning spaces.

Cambodia Socio-Economic Surveys in 2009, 2010 and 2011 found that at least 50 percent of all villages in the country have a primary school but that, on average, primary school students must travel about 2 kilometres from home to the nearest school (Roth and Lun 2014).

Figure 6.10: Average number of primary school students per class in 2013/14 by province
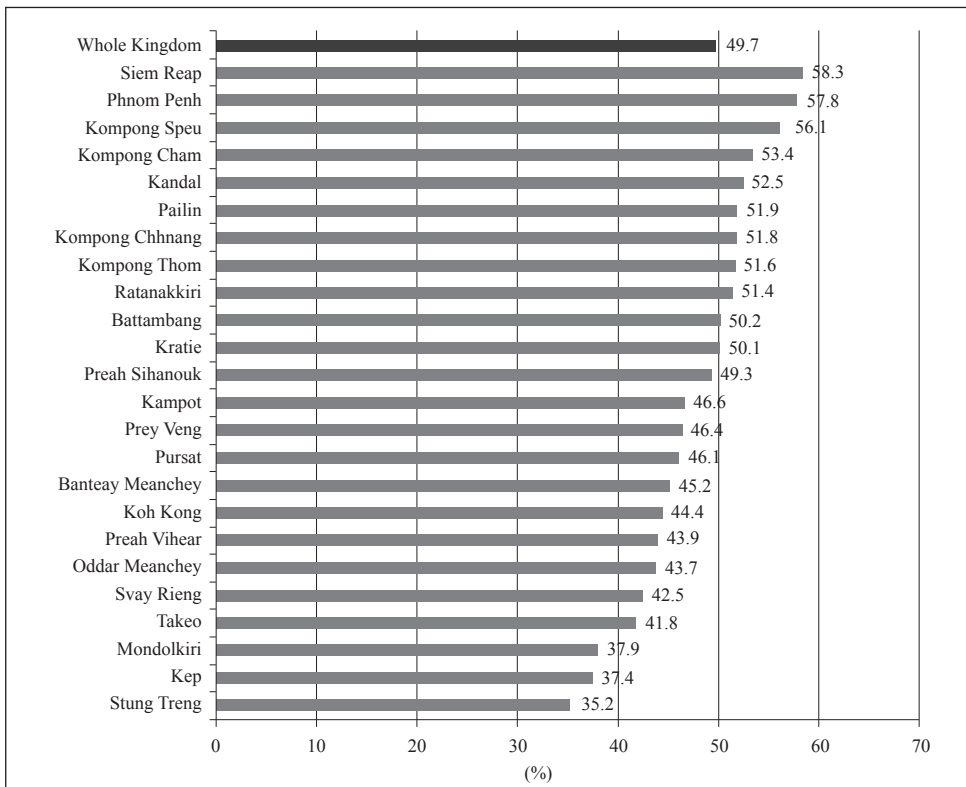
Source: MOEYS 2014a

Statistics from MOEYS (2014a) suggest that the classroom space for primary school students does not matter since in almost all provinces (except for Ratanakkiri) students learn in classrooms where one square metre is allowed for each child. While existing space allocations are similar across the country, schools in urban areas may have better building conditions and better access to curriculum materials and other equipment. Furthermore, 913 primary schools in rural areas and 85 in urban areas (jointly, about 14 percent of all primary schools) are located in Buddhist pagodas.

The average primary class size in Cambodia is 50 students to one classroom, while in Siem Reap province the number is closer to 60 and in Stung Treng province only 35. There are 11 provinces with average class size of over 50, including Phnom Penh, Kompong Cham, Kandal, Kompong Thom and Battambang. Figure 6.10 indicates the average class size in each province during the school year 2013/14.

Programme-based budget from the government and school improvement grants from development partners play an important role in improving and repairing primary school buildings and infrastructure, though these funds often do not meet school needs. In addition, upgrading and construction of school buildings may be funded by charities or donations from individual benefactors. Such funds tend to be mobilised by school principals, managers and support committees. As a school principal in Svay Rieng province noted:

> We reported the need for funds to repair school buildings and build new classrooms to MOEYS through the District Office of Education, but no solution or reply has been received. However, through the School Support Committee, we can mobilise resources required by the school for maintenance and repairs, desks and classrooms from charitable persons or entities.

Another primary school principal said:

> Although we have funds from the two sources [programme-based budget and school improvement grants] to support our school operations, the funds are very limited so we still have problems getting enough teaching materials.

Although the number of primary schools has increased significantly throughout the country, some problems persist such as the quality of school construction and conditions within them. Schools in rural areas are more likely to have poorer quality buildings, classrooms and facilities than urban ones. The *Phnom Penh Post* of 17 October 2013 reported that schools with more classes and limited classroom space often operate double shifts—at times in decrepit facilities that threaten students' safety.

Figure 6.11: Number of public primary schools per commune in 2013/14

Province	Value
Phnom Penh	1.71
Preah Sihanouk	2.70
Kandal	2.93
Svay Rieng	3.26
Kampot	3.29
Kompong Speu	3.59
Takeo	3.76
Koh Kong	3.83
Ratanakkiri	3.88
Kompong Chhnang	3.90
Stung Treng	4.00
Mondolkiri	4.10
Preah Vihear	4.24
Whole Kingdom	4.28
Kep	4.40
Kompong Cham	4.60
Prey Veng	4.62
Siem Reap	5.00
Kratie	5.48
Pursat	5.71
Kompong Thom	5.78
Battambang	5.95
Pailin	6.25
Banteay Meanchey	6.26
Oddar Meanchey	8.29

Source: MOEYS 2014a

In response to the growing primary-age population and in recognition of the urgent need to improve the primary education system, more primary school campuses and buildings have been constructed. On average, there are around four public primary schools per commune. Figure 6.11 illustrates that most provinces are close to the national average in terms of the proportion of school-age children to school numbers.

However, as Figure 6.12 shows, Phnom Penh is somewhat under the national average and could use more schools. It may be that private schools in the capital are taking advantage of the situation, as their popularity has grown dramatically. However, over-age attendance or late enrolment may have led to overcrowding, further adding to the demand for more school buildings: around 366,000 primary schoolchildren (about 18 percent of the total) enrolled in 2013/14 were over 11 years of age (MOEYS 2014a).

Figure 6.12: Number of public primary schools and school-age children in 2013/14 by province
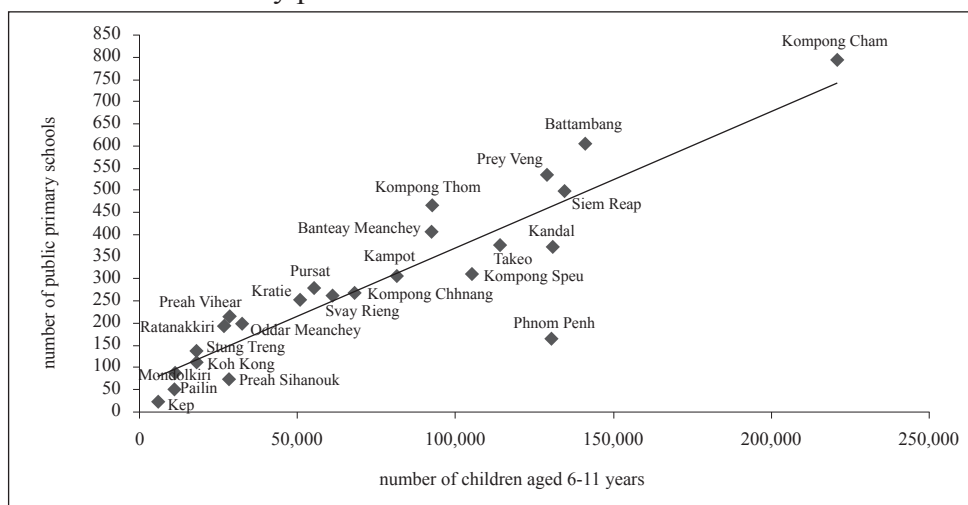
Source: MOEYS 2014a

Access and affordability: Recent financial aid for primary school students has contributed to increased access to schools. Such aid programmes are mostly in rural areas and may account for an increase in access to education in rural areas compared with urban areas. It must be remembered too that in spite of the increased access in rural and remote areas, the dropout rates tend to be higher than in urban centres.

Fiscal support can be cash, materials, scholarships and food. In 2010, 49 non-governmental organisations provided learning materials to 19,524 primary school students in 18 provinces and Phnom Penh (Sopha, Conochie and Syrom 2014). The World Food Programme (WFP) launched a scholarship scheme providing food or cash entitlements to the poorest families with children in grades 4 to 6. Families with an ID Poor card—issued by the government to identify the poorest households—are eligible for scholarships. To be eligible to receive support, children must demonstrate a monthly school attendance rate of at least 80 percent. The cash scholarship scheme, introduced in late 2011, provides eligible students with KHR20,000 per month for 10 months per school year. Food scholarships, funded since 2004, offer10 kg of rice (about KHR20,000 or USD5 in cash) per month for 10 months per school year. In the school year 2012/13 alone, 88,900 students from 4275 primary schools (about 62 percent of all primary schools) in 15 provinces benefitted from food and cash scholarships (Sopha, Conochie and Syrom 2014).

Furthermore, the WFP provides daily nutritious breakfasts—rice, canned fish and split peas—to about 500,000 primary school students in 12 provinces.

In 2013, for instance, school meal recipients numbered 394,000 (WFP 2014). Building on the positive effects of food scholarships, the government has worked with the WFP to establish a nationally owned school-feeding programme which has been implemented in some provinces since 2013 (WFP 2014). Meanwhile, from 2014 to 2017, the national scholarship programme will provide annual cash support of KHR120,000 (about USD30) per student to 70,000 students in grades 4 to 6 in 1000 primary schools throughout the country (CDC 2014). As of 2014, the WFP has provided both types of scholarship with a value of over USD34 million to Cambodian primary schoolchildren. Table 6.2 summarises the support to primary students provided by the WFP.

Table 6.2: World Food Programme-supported scholarships for primary students

Year	Activities	Beneficiaries			No. of schools	Value in USD
		Male	Female	Total		
2004	Take home ration	159	361	520	23	39962
2005	Take home ration	3787	8033	11820	291	956925
2006	Take home ration	2559	13625	16184	504	1310227
2007	Take home ration	3512	19546	23058	607	1866733
2008	Take home ration	4483	22220	26703	707	3055788
2009	Take home ration	5194	15761	20955	691	2398009
2010	Take home ration	5448	14805	20253	688	2317675
2011	Take home ration	11917	17672	29589	688	2750391
2012	Take home ration (food)	43007	45519	88526	2875	7881477
	Take home ration (cash)	1997	2522	4519		
2013	Take home ration (food)	37513	42328	79841	4203	7184740
	Take home ration (cash)	3948	4935	8883		
2014	Take home ration (food)	19877	24224	44101	4091	4652869
	Take home ration (cash)	4132	5050	9182		
Total						**34414796**

Source: WFP 2014

According to the most recent Annual Operation Plan of MOEYS (2014b), in 2014, development partners contributed KHR147,826.05 million (about USD36.95 million) to strengthen the quality and efficiency of primary education. The government's contribution brought the total to KHR202,406.45 million (about USD50.6 million). Thus the government contributes only 27 percent while development partners provide up to 73 percent of the total budget allocated for strengthening the quality and efficiency of primary education.

Given the latest injection of financial support, primary school education is now more accessible and child-friendly. However, some school buildings

still have no latrines, water supply or electricity although there are signs of improvement as the government implements its strategic plan to better equip school buildings. The results of the Cambodia Socio-Economic Survey, for example, show that the percentage of 6-17 year olds citing "unavailability of suitable schools" as the reason for not attending school has fallen from about 8 percent in 2004 to about 5 percent in 2013 (Madhur 2014).

Good primary education provides a solid foundation for social and economic development. As such, it deserves greater investment from the government. As Cambodia transitions to a middle-income status (CDRI 2013), international aid to the country will gradually diminish. This underscores the need for both an increase in public expenditure on education and an increase in the share of the education budget allocated for primary education. Designated budgets to schools to improve infrastructure, equipment, management and supports for students and staff should be increased, timely and appropriate. MOEYS must be ready to take over the management of educational programmes from development partners. This necessitates a review of how school budgets are allocated to different levels of education with a focus on equity, sufficiency, efficiency and transparency.

6.4. Primary education software: Curriculum, teachers and teaching

Curriculum for basic education

The framework of *2003-2015 Education for All* (MOEYS 2002), implemented in 2004, serves as the official curriculum policy for formal basic (grades 1 to 9) and upper secondary (grades 10 to 12) education. The document defines the principles, structure and purpose of the core curriculum under which the detailed curricula for specific subjects are designed.

For primary education, the policy divides grades into two groups (1-3 and 4-6), establishes 40-minute class periods and a set number of weekly study hours (27 to 30) for each grade. The study hours for each grade group are divided between core national curriculum subjects and the local life skills programme. In grades 1-3, the four required curriculum subjects are allocated 25 hours per week and the local life skill programme gets 2-5 hours. Khmer language accounts for over half and mathematics 28 percent of weekly teaching and learning hours. The remaining lessons are reserved for science, social studies, and physical and health education (Table 6.3).

Out of the total number of weekly hours, Khmer literacy takes close to 50 percent of the time in grades 1-3, around 30 percent in grade 4 and less than 30 percent in grades 5-6. The number of hours for mathematics decreases

from 7 hours in grades 1-3 to 6 hours in grades 4-6. Taught as one module for 3 hours a week in grades 1-3, science and social studies are divided into two subjects in grades 4-6 and are taught for 7 to 9 hours a week in total. Learning hours for the local life skills programme and health and physical education remain unchanged.

Table 6.3: Learning time allocated to each of the subjects in the national primary curriculum

| National curriculum subjects (NCS)	Number of hours per week		
	Grades 1-3	Grade 4	Grades 5-6
Khmer	13	10	8
Mathematics	7	6	6
Science	3	3	4
Social studies (including art)		4	5
Health and physical education	2	2	2
Total hours allocated to NCS	**25**	**25**	**25**
Local life skills programme	2-5	2-5	2-5
Total hours allocated to all subjects	**27-30**	**27-30**	**27-30**

Source: MOEYS 2004

MOEYS has made progress in designing a curriculum to promote and support primary schoolchildren. However, primary education suffers from twin problems—a shortage of teachers and the limited quality of teacher training and professional development.

Teachers' excessive workload and teaching quality

Cambodian primary schoolteachers appear to be burdened by an excessive workload. Indeed, Cambodia's primary pupil-teacher ratio is the highest among ASEAN countries (Figure 6.13). Generally, a primary schoolteacher in Cambodia is responsible for 46 students compared to around 17 in Singapore, 16 in Thailand and 19 in Vietnam. Moreover, Cambodia belongs to a short list of 26 countries in the world with a primary pupil-teacher ratio of more than 40, the upper limit beyond which UNESCO says the quality of education suffers; and 23 of these are from Africa (Madhur 2014). Accordingly, to some extent, Cambodian primary schoolteachers must work harder than their peers in the region.

By province (Figure 6.14), the lowest pupil-teacher ratio at 23:1 belongs to Kep while the highest at around 60:1 occurs in Ratanakkiri, Kompong Cham and Siem Reap.

Figure 6.13: Primary school pupil-teacher ratio in the ASEAN region
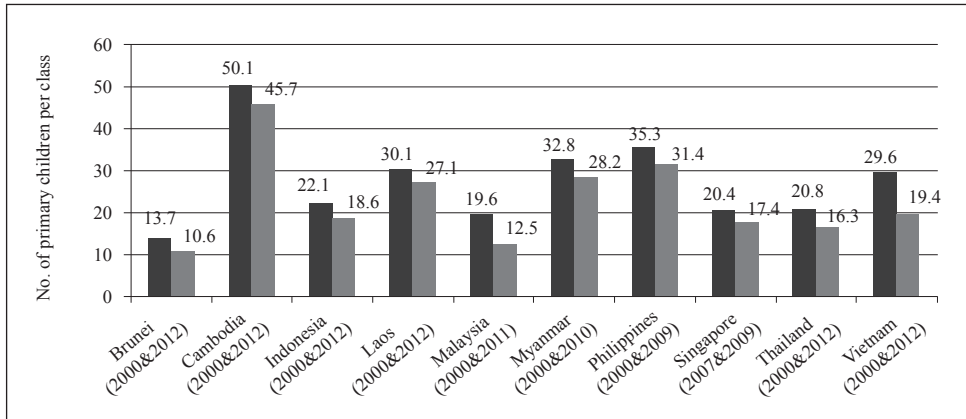
Source: UNESCO Institute for Statistics 2014 (www.uis.unesco.org/Pages/default.aspx, accessed 5 Jun 2014)

Figure 6.14: Pupil-teacher ratio in 2013/14 by province
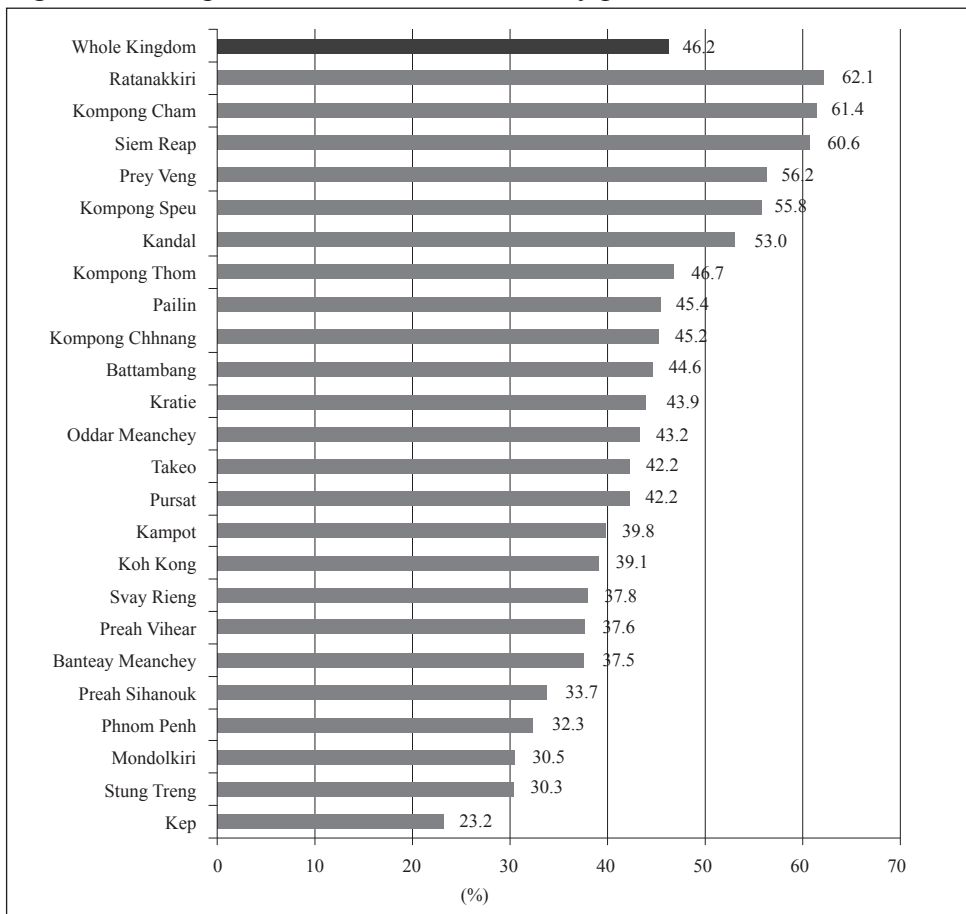
Source: MOEYS 2014a

As noted in Figure 6.15, a shortage of teachers has led to about 76 percent of the nation's primary schools running a double-shift system. This means that a substantial number of primary teachers take two different classes, one in the morning and the other in the afternoon. Although these double-shift teachers receive additional salary beyond their basic pay, they teach twice as many students, are more likely to face burnout and may not have the time to give students individual support.

Figure 6.15: Percentage of primary schools operating double-shifts in 2013/14 by province
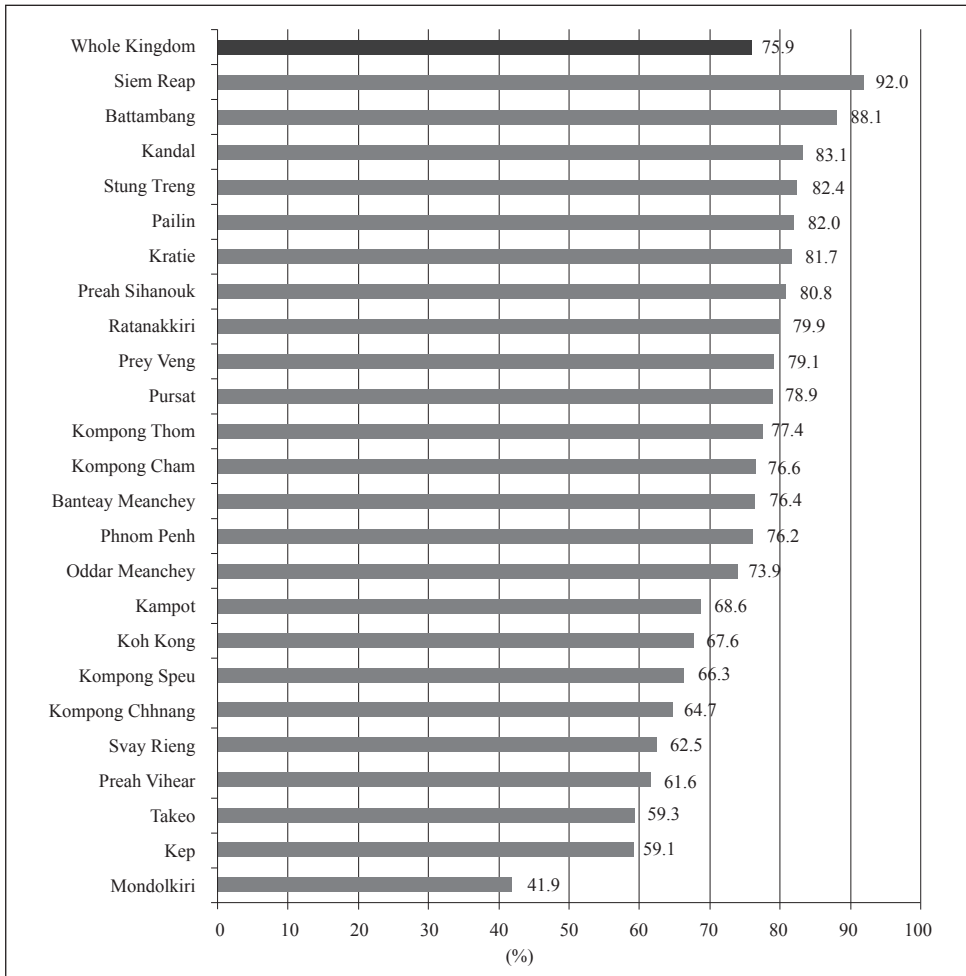
Source: MOEYS 2014a

Added to this overload, many key informants expressed concern about the quality of teachers and the effectiveness of teacher preparation programmes. One education specialist from a Phnom Penh-based international organisation said:

> The most important problem at both primary and secondary levels concerns teachers' qualifications. Although we have very good textbooks, school buildings and other beautiful facilities, students cannot learn well if they have poorly qualified teachers.

Further, even with the recent increase in teacher compensation, teachers' salaries and benefits are still not attractive, as a group of primary teachers at a school in Svay Rieng province pointed out:

> Teacher salary should be increased to at least USD200 monthly. With that starting salary, we would be happier and teaching time would be strengthened.

Teacher qualifications

A further issue is the education level of primary schoolteachers. As indicated in Figure 6.16, of 44,895 primary schoolteachers (MOEYS 2014a), 3 percent have only primary education, 35 percent completed lower secondary school and 58 percent upper secondary school, and 4 percent hold a bachelor's, master's or doctoral degree. Since better-educated teachers are critical for higher student achievement (Darling-Hammond and Baratz-Snowden 2007), there is a need to step up the professional development of most primary teachers. The majority of primary schoolteachers (about 93 percent) have only a secondary education, thus teaching capability is very limited. Madhur (2014, 7) describes the current situation as "a vicious cycle of poor education over generations—today's students are poor because today's teachers are poor, and tomorrow's teachers are poor because today's poor students become tomorrow's teachers, and so on".

The government recently introduced two different levels of minimum qualifications for the recruitment of primary schoolteachers (Hang 2014). For lowland provinces, primary schoolteachers must have completed at least 12 years of basic education plus two years of pedagogical training. The entry requirement is lower in remote and disadvantaged provinces where primary schoolteachers need to have completed only nine years of basic education and two years of pedagogical training. However, these arrangements are being phased out (Hang 2014). The vision now is for new primary schoolteachers to have at least four years of pedagogical training, equivalent to studying for a bachelor's degree, having completed 12 years of basic and upper secondary education. A new formula for teacher training (12 plus 4) may be introduced in the future, as related by a teacher from Phnom Penh Teacher Training College:

As I have learned from managers at the Capital Office of Education, the new formula for teacher training (12 plus 4) might be implemented in 2018. I support this initiative because the new system will allow enough time for teacher-trainees to conduct research and comprehensive self-study.

Meanwhile, the new teacher training system may face problems including lack of materials, buildings and funding. A director of a provincial teacher training college explained:

> Of course, the quality of teacher-trainees will be promoted and improved. But the new formula proposed by the ministry may be difficult to manage and administer. Expenditure on monthly salaries for teacher-trainees will double. And training institutes do not have sufficient buildings to accommodate the increasing number of trainees.

With the minimum qualification criteria designed to balance demand and supply of quality primary schoolteachers, MOEYS plans to train and recruit 2000 to 2500 teachers per academic year during the period 2014-18. The Education Strategic Plan 2014-18 sets out the details for recruitment:1500 teacher training places are planned for 2014, 1960 in 2015, 2300 in 2016, 3300 in 2017 and 4000 in 2018 (MOEYS 2014c). The NGO Education Partnership (NEP 2013) estimates that 13,500 new primary schoolteachers will be needed to meet the pupil-teacher ratio target of 40:1 by 2018. If the Education Strategic Plan 2014-18 is well implemented, the average primary pupil-teacher ratio in 2018 could be closer to 40:1 for the first time in the history of the modern primary education system.

Figure 6.16: Education level of primary schoolteachers in 2013/14
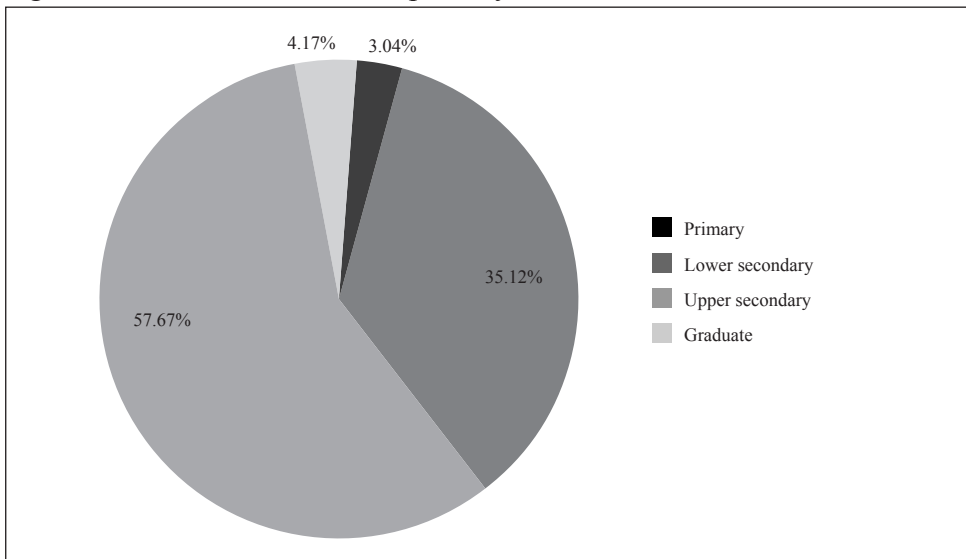
Source: MOEYS 2014a

Table 6.4: Curriculum for primary schoolteacher trainees (formula: 12+2)

Training Area	Course modules	Number of hours
Professional Skills (19.22%)		524
	Psychology	90
	Pedagogy	
	General Pedagogy	45
	Child-Friendly Schools	51
	Programme for Early Childhood Development	7
	Integrated Education	28
	Compound Classes	28
	Administrative Study	58
	Professional Ethics	30
	General Culture	
	Civilisation	43
	Environment	28
	Child Rights, Human Rights and Women's Rights	58
	Gender Knowledge	15
	Library	43
Basic Knowledge (15.59%)		425
	Khmer Studies	103
	Mathematics	90
	Foreign Language	116
	Information Communication Technology	116
Primary School Knowledge and Teaching Methodology (44.37%)		1209
	Khmer Language and Methodology	232
	Mathematics and Methodology	247
	Practical Science and Methodology	101
	Social Studies and Methodology	
	History and Methodology	58
	Geography and Methodology	58
	Morality and Methodology	58
	Citizenship and Methodology	43
	Art Education and Methodology	
	Music and Song	58
	Dance	28
	Drawing	30
	Physical Education, Sports and Methodology	103
	Technology and Methodology	
	Agriculture	45
	Workshop (produce materials)	45
	House Work and Methodology	
	Health, First Aid and Rescue Training	45
	House Work	45
	Aids	13
Pedagogical Research (0.58%)		16
Pedagogical Internship (20.24%)		552
Total number of hours		**2726**

Source: MOEYS 2011

Pre-service or pedagogical training requires two years of study (including internship) at provincial teacher training college. Teacher-trainees can apply for and take up positions at primary schools on successful completion of the course, which includes passing final exams. The two-year teacher education programme involves 2726 structured teaching hours divided into five mandatory areas as shown in Table 6.4.

Cambodia has 18 provincial teacher training colleges, which are responsible for pre-service teacher training (Hang 2014). In-service training or professional development takes three main forms—on-the-job training in schools, seminars prepared by the Provincial or Capital Office of Education, and workshops organised by MOEYS. However, in-service training is not systematic: an educationalist working for a Phnom Penh-based international organisation explained:

> We don't see that in-service training or capacity development for teachers is systematic. It is based on short-term ad hoc events or project-driven training supported by NGOs. Further, it is not evenly available across the nation for all teachers. Whether support is available and whether teachers receive training or support in general areas or on specific topics is more a question of luck. Of course, the more teachers that receive training, the better the quality of teachers and teaching. But there is no knowing how many teachers will be trained or what topics will be covered.

In-service training as a part of teacher learning and professional development is critical to ensuring continuous improvement in teacher capacity. Currently, a strategy where teachers within a cluster of primary schools come together to learn from each other with support from the District Training and Monitoring Team (DTMT), coordinated by the District Office of Education, is a key component of teacher development. As a group of primary schoolteachers reported:

> Through our school's technical meeting held on the fourth Thursday of every month, we can learn from each other and share experiences relevant to our teaching tasks, have our mistakes corrected and improve our teaching skills. Furthermore, by working in a cluster with teachers from other local schools, we can help each other to tackle the problems various schools are facing.

While a district chief of education noted:

> Through the District Training and Monitoring Team, the District Office of Education assigns officials to train and monitor schoolteachers, especially through school cluster meetings. After being trained at national level by MOEYS, the district team continues to deliver

information and in-service training to schoolteachers. We have plans to monitor teacher development, and then prepare reports about problems or points to be improved.

However, existing in-service training needs reinforcement and more support from MOEYS and its officials. While district training and monitoring is considered an important tool to support teaching practices, it must be provided with sufficient and systematic financial and technical supports.

A district chief of education who also serves as a DTMT leader said:

> With the introduction of English language in the programme for primary students, our District Training and Monitoring Team members are having difficulties carrying out their tasks due to their limited knowledge of English. On the other hand, we know that most teachers have problems with the new changes to the academic programme and suggest that the ministry compile instruction books for them. Our district team has nothing to offer teachers to help them deal with such problems, but can only advise them to do some research themselves since they are somewhat capable of doing so. Supported by the programme-based budget and school improvement grant, the district training team regularly visits schools twice a year; however, ad hoc visits take place in response to urgent situations.

Another challenge is the huge difference between urban and rural areas due to the greater shortage of teachers in rural areas. A district chief of education described the dilemma:

> In my area, which is a town, we now have 100 surplus primary schoolteachers owing to several factors such as the declining number of children due to family planning, and the growing number of private schools. Teachers do not want to work in rural schools because they are far from their home, transport is costly and local amenities are poor. Next year, we will start to implement the new class arrangements of only 35 students for grades 1-3 and 40 students for grades 4-6. I don't know what will happen since, as I understand, there will be complaints or protests from teachers sent to work in rural areas. In fact, if the designated teachers do not agree to a rural placement or refuse to volunteer, I cannot force them and I will report the issue to the Provincial Office of Education. It depends on those at higher levels.

Possible solutions

The ASEAN Economic Community (AEC), a regional integration initiative, is expected to come into effect at the end of 2015. Consequently,

Cambodia will have to deal with many challenges to both capitalise on the huge regional single market and production base and maintain its global competitiveness. Doing so, human resources need to be somewhat ready and flexible; this requires the education system to be well prepared. It would be advantageous to Cambodia to examine the implication of the ripple effects of the AEC for its education system as a whole, not just certain segments (Madhur 2014). Accordingly, as part of the education reform and teacher preparation, the primary school curriculum should be updated and reviewed regularly to strike the right balance between customisation and standardisation (Madhur 2014).

In addition to updating the curriculum, more and better teachers are needed. To smooth the transition towards lower pupil-teacher ratios and to bridge the gap between rural and urban areas, there should be as much focus on deploying teachers to rural schools as on recruiting more teachers. If Cambodia wants to reduce its primary pupil-teacher ratio to 40:1, there needs to be a 15 percent increase from the current number of primary teachers; that is about 7000 teachers (Madhur 2014).

However, the required increase in the number of teachers might be easier to achieve than the desired increase in teacher quality. At the crux of the matter is attracting the best and brightest to the teaching profession and developing and retaining highly qualified teachers. The latter could be addressed through a more comprehensive programme of pre-service training at teacher training colleges and by reviewing the curriculum and teacher trainers' performance to examine the effectiveness of existing pedagogical training policy and practice. A major drawback though is that most teacher trainers learned their skills from teaching at primary and secondary schools. Consequently, even though they passed the selection process, their capacity to train new recruits to a high standard is limited. The acute need for more and better qualified teachers has led to a suggestion to bring qualified teacher trainers from abroad to help bridge this training gap in the short- to medium-term, or until local teacher trainers are capable of producing accredited and qualified teachers. Of course, this would entail more capital investment to deal with some challenges in particular the high salaries demanded by foreign professionals and language barriers.

Another means of professional development for teachers is in-service training, which serves to both develop the capacity of incumbent teachers and update incoming teachers. The teaching profession requires a commitment to lifelong learning: teachers' continual self-improvement efforts are needed for students' effective learning. In-service training through existing mechanisms such as school clusters and DTMTs should be strengthened. In

addition, the training should be more systematic and designed within a clear timeframe.

6.5 Governance, school leadership and management

Following the spirit of the Education Strategic Plan 2009-13, the governance and management of public primary schools have been improved and strengthened by promoting the decentralisation of schools. In addition, one of the six components of the national Child-Friendly Schools Policy (MOEYS 2007) focuses on improving the management and leadership of primary schools. To facilitate parental and community engagement that supports student learning, public primary schools are required to establish School Support Committees (SSCs), which comprise approximately ten members who are elected every year (MOEYS 2012). The school principal acts as an advisor to the committee while other members are local authority figures or commune councillors, pagoda patrons, private sector and community representatives, parents and retired education officials. Theoretically, the SSC empowers communities and leads to participatory and locally grounded decision-making in primary schools. Practically, however, SSCs have not yet proved to be an effective mechanism for taking on the responsibilities and roles as stipulated in the national guideline (MOEYS 2012). This has led to weak governance of primary schools and limited power or participation of local communities.

A 2013 study of local basic service delivery in Cambodia (World Bank and Asia Foundation 2013, 34), through a survey of primary schools in six communes, found that although SSCs usually include individuals who are trusted and highly respected in the local community, there is in fact no direct citizen or parent participation in the SSCs: community members do not assert their ability to change the committee's composition or express their views through the committee. Although community participation is encouraged in the policy, direct parental and community engagement in school matters—as seen through the explanation of the roles of the SSC—is limited to being informed about key school events and activities and making financial contributions for school improvements.

District and Municipal Offices of Education play key roles in supporting, instructing and monitoring the implementation and performance of primary schools, especially through district training and monitoring teams (World Bank and Asia Foundation 2013). The DTMTs are composed of officials or representatives from the District/Municipal Office of Education, school management committees, and school support committees (Hang 2014). Schools may have several different committees or councils (Figure 6.18).

Therefore, school management committees may include members from various school committees or councils composed of school principals, deputy principals and selected teachers who are responsible for within-school day-to-day operations. School support committees have more authority to manage tasks relating to the school development plan, enrolment campaign, student learning assessment, fund mobilisation, maintenance and construction, life-skill sharing, negative environment prevention, and school-community relations. School managers, especially the principal, play a key role in developing schools and managing teacher performance. Although management styles differ between individuals, every manager needs to be up-to-date, innovative and aware of emerging trends in educational matters. Yet a management skills gap at primary schools emerged during key informant interviews with primary school principals.

> I base my management style on real practice and extra study. I need to maintain good relationships with teachers, local authorities and charitable organisations. Building relationships and gathering information are important components of management. I need to use information in an innovative way. In fact, my decision-making style is flexible; sometimes it is based on democracy, other times autocracy or both. As a leader, I cannot avoid criticism, but we need to find a way to work together. At my school, there are enough school buildings as a Japanese NGO provided some classrooms. This was because of my initiative and efforts to mobilise resources through the School Support Committee, and my informal relations with some prominent people.

> As school principal, I make decisions based on group input. I usually consult with a group of my teachers before reaching a final decision. Now, my school has a shortage of classrooms. I reported the issue to the District Office of Education but nothing has been received.

Practically, individual primary school principals are responsible for school budget planning and projections although, based on MOEYS (2012) guideline, this should be done under the SSC framework. In addition, because public primary schools fall under the authority of the education ministry and its line departments (Figure 6.17), school budget plans must be reviewed and approved by the administrative hierarchy of the District/Municipal Office of Education, Provincial/Capital Office of Education, and MOEYS. The central ministry is mainly responsible for curriculum development, teacher recruitment and school construction while line institutions at provincial/capital and district/municipal levels are delegated the authority to carry out other activities.

In practice, because the District/Municipal Offices of Education directly control schools, primary school managers and principals still have limited

autonomy. This situation effectively diminishes principals' authority over the hiring, promotion, discipline and dismissal of teachers, and they therefore have very limited influence over teacher performance. In the words of one school principal:

> In fact, it is difficult to manage many people who have different ideas and thoughts. It is even more difficult to manage people at a state agency like a primary school. The school principal does not have the authority to hire or fire teachers, or increase or reduce teachers' salaries to reflect their performance. In private sector companies, staff tend to be more committed to follow rules or their boss than those in state agencies. Private sector workers are more responsive and responsible since their benefits such as salary and other incentives depend on their performance and recommendations from their direct boss.

The management and administrative structures in public primary schools vary depending on the size of the school, with a greater number of classes resulting in a larger school structure (Figure 6.18). Regardless of the school structure, the principal and community must work together. MOEYS, with technical support from development partners, issues instructions as to the style and structure of schools as well as the duties of principals and other officials.

Figure 6.17: Hierarchical structure of the public primary school system
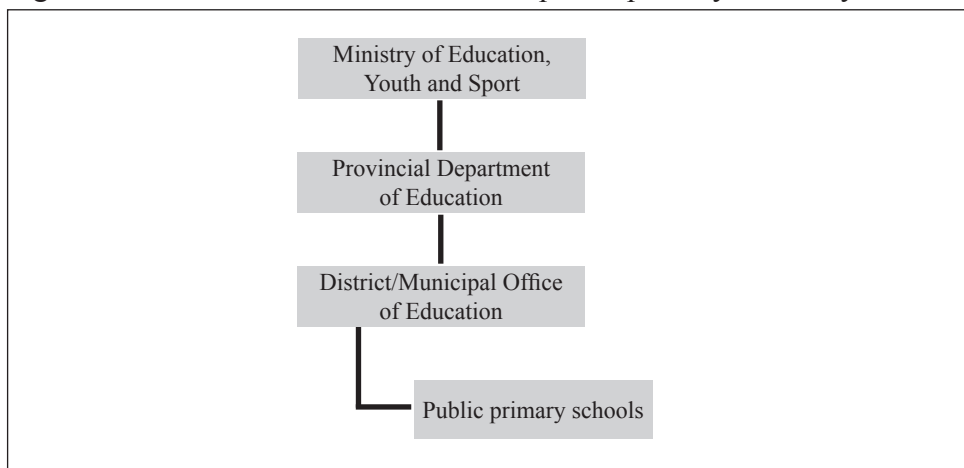
Source: Hang 2014; World Bank and Asia Foundation 2013

In response to the problem of school principals' limited authority and the critical need to reorient school management, focus is turning towards developing a new style of leadership in the country's schools. Transformational leadership, which focuses on a collaborative school culture to continuously improve teaching and learning, as an alternative to hierarchical, top-down leadership has gained increasing attention as a reform strategy (Ross and

Gray 2006). It increases collective teacher efficacy, which, in turn, both motivates teachers to increase their involvement and commitment and increases student learning and achievement. The leadership style, skills and abilities of the principal then can have a significant impact on teacher performance, instructional quality and student achievement across schools. Principal development therefore should be high on the action agenda for preparing school leaders.

Figure 6.18: Structure of public primary schools
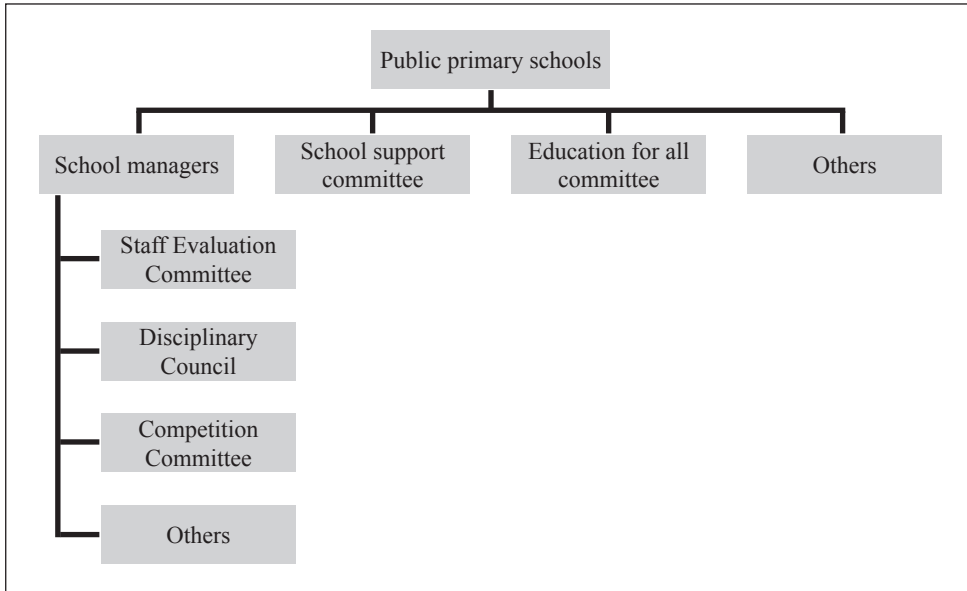
Source: Compiled from information gathered through interviews

School improvement efforts clearly cannot succeed without effective school leadership. Similarly, school leaders need to develop strategies to overcome the challenges and barriers to change and improvement. Fullan's (2006) study on teacher leadership identified two main sets of limitations on leadership development—self-imposed (failure to implement existing roles) and systematic (constraints or lack of incentives). While the former accounts for about 30 percent and the latter 70 percent of constraining factors (Ross and Gray 2006), the two sets of limitations must be dealt with simultaneously. This implies that Cambodia's primary education reform should prioritise greater school autonomy and, at the same time, take steps to strengthen school management and administration. For increased school autonomy to be effective, schools need effective leaders. A new argument has emerged for a distributed leadership approach (Schleicher 2012) where school leaders play a key role in defining school goals and ensuring those goals are achieved, monitoring and evaluating teacher performance, improving teacher knowledge and practice, planning teacher professional

development, and facilitating communication between school, community and/or parents.

Two comprehensive plans for training effective school leaders are required: one for incumbent and the other for new and potential leaders. The first should be ongoing and systematic. Professional development needs should be assessed in order for the right training to be delivered to improve school leadership. Other considerations include whether such training should be mandatory for all school leaders and whether a minimum number of hours of professional development training should be set. Furthermore, to help them improve their performance, school leaders must be evaluated regularly. In addition, the autonomy of school leaders should be reviewed within the scope of the national effectiveness and quality framework. In this sense, school principals should be allowed to get involved or at least have a say in teacher recruitment and performance appraisal.

Equally important, the training programme for new school leaders should target successful teachers and deputy principals interested in professional development and advancement. For instance, New Leaders, a successful programme implemented in the United States, cultivates school leadership by focusing on four key dimensions: attracting high-quality candidates among successful teachers and deputy principals, selecting carefully the interested candidates, training for "what matters most" after selecting candidates, and fostering a supportive network through partnering with schools that have similar priorities (Schleicher 2012). Similarly, in Singapore, professional development programmes are designed to continuously assess young teachers for their leadership potential and give them opportunities to develop their leadership capacity thereby creating a pool of future school leaders (Schleicher 2012).

6.6 Financing

Although the government plays the most important role in supporting primary schools, other donors also provide significant financial support to the sector. They include politicians, NGOs and development partners, communities and households, private sector entities and the schools themselves.

Government: Among ASEAN countries, Cambodia's public expenditure on primary school students is the third lowest (Figure 6.19). While Cambodia spent about 7 percent of GDP per capita for each primary school student in 2010, Singapore spent around 11 percent, Vietnam around 25 percent and Thailand around 38 percent.

Figure 6.19: Government expenditure per primary student as percentage of GDP per capita in ASEAN (latest available data)
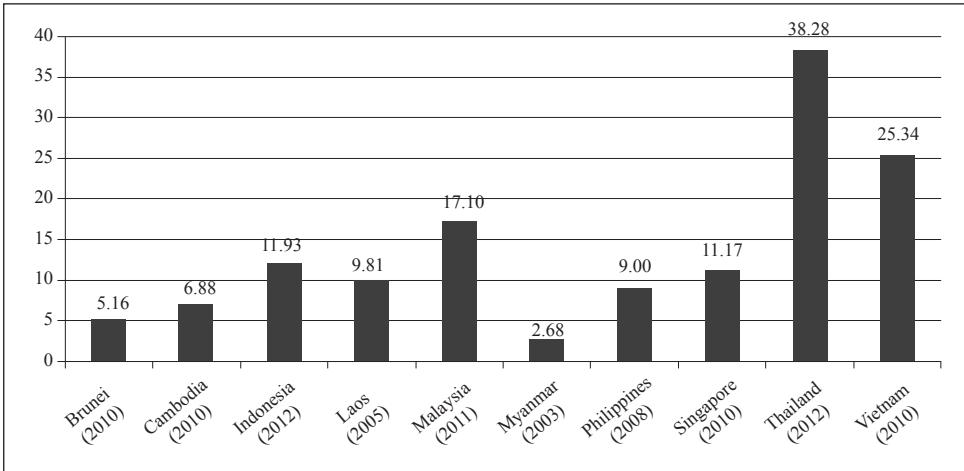
Source: UNESCO Institute for Statistics 2014 (www.uis.unesco.org/Pages/default.aspx, accessed 21 Jul 2014)

Figure 6.20: Expenditure on education as percentage of total government expenditure, selected years 2009-13
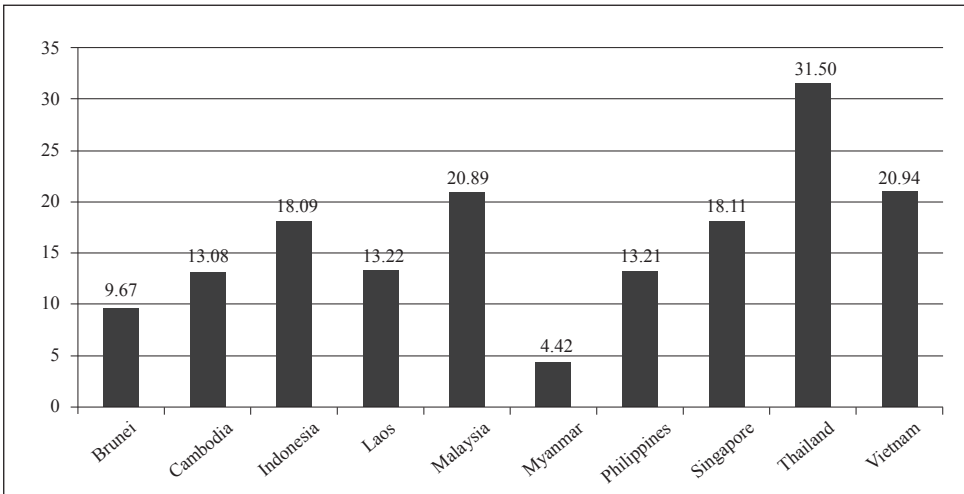
Note: The study used the most recent data available during the period 2009-13.

Source: UNESCO Institute for Statistics 2014 (www.uis.unesco.org/Pages/default.aspx, accessed 14 Oct 2014)

The national budget allocation belies the government's steadily increasing commitment to education. As a percentage of total government spending, Cambodia spends 13 percent on education compared to Thailand's 31 percent and Vietnam's 21 percent (Figure 6.20). Financial commitment to education becomes clearer when expenditure as a percentage of GDP is used to obtain a comparable measure. Among ASEAN countries, except for Myanmar, at

less than 3 percent of GDP Cambodia spends the least on education while Thailand allows 7.6 percent, Vietnam and Malaysia about 6 percent (Figure 6.21). Still, as reported in the *Cambodia Daily* of 28 October 2014, the reform-minded minister of education anticipates an increased budget of 18 percent for the education sector in 2015. If the National Assembly enacts the proposed budget, the extra money will be used to increase teacher salaries and improve school infrastructure.

Figure 6.21: Expenditure on education as percentage of GDP for selected years, 2009-13
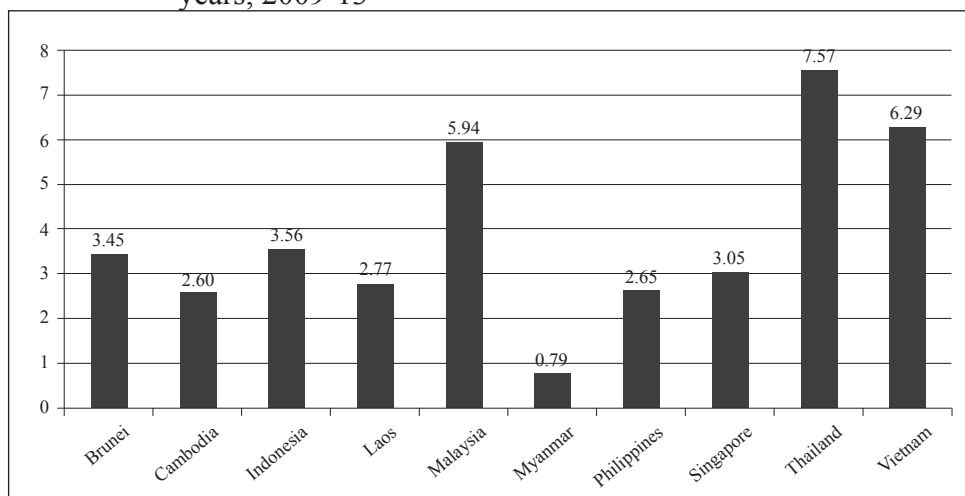

Note: The study used the most recent data available during the period 2009-13.
Source: UNESCO Institute for Statistics 2014 (www.uis.unesco.org/Pages/default.aspx, accessed 14 Oct 2014)

As in many other developing countries where the pattern of resource allocation between levels of education reflects policy priorities (UNESCO 2014), expenditure on primary education in Cambodia represents the largest share of total education expenditure, standing at about 42 percent in 2010 (Figure 6.22). The new Education Strategic Plan 2014-18 continues to emphasise primary education, allocating to the subsector around 46 to 47 percent of total public education expenditure. However, both recurrent and capital expenditure on primary education remain limited. Teacher salaries and other benefits, despite increases in remuneration and other allowances during 2014, are still very low. And the yearly operating budget for schools is inadequate and inflexible (World Bank and Asia Foundation 2013).

Figure 6.22: Share of Cambodia's education expenditure by education
level, 2010 (percent)
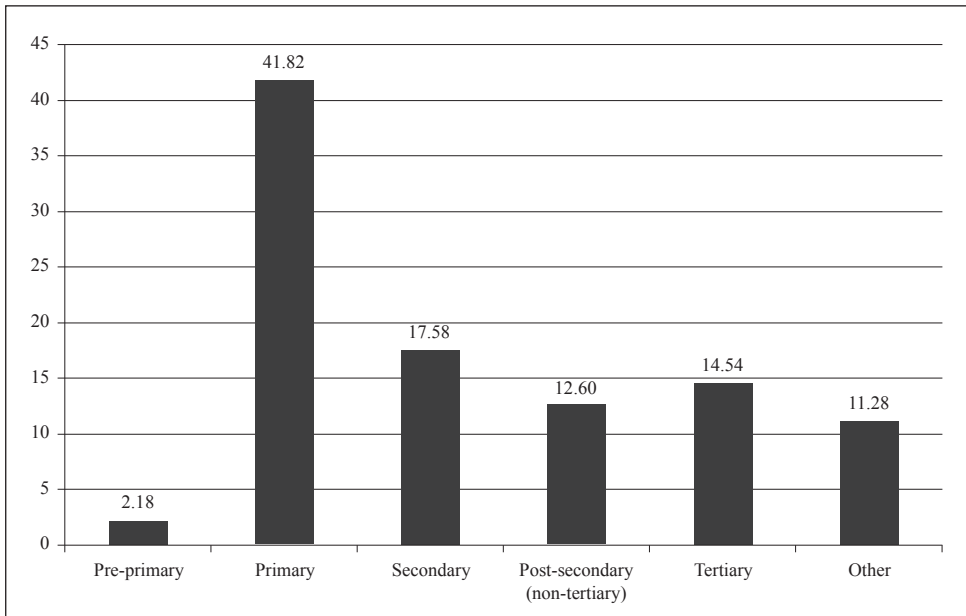
Source: UNESCO Institute for Statistics 2014 (www.uis.unesco.org/Pages/default.aspx, accessed 14
Oct 2014)

Politicians: Ever since Cambodia re-established multiparty democracy in 1993, the construction of school buildings and facilities has featured on political agendas as politicians vied for political office. A UNESCO study (Bray 1999) found that among 77 public primary schools, 40 percent received school buildings from one or more politicians during the mid-1990s, and it was possible that those politicians got financial support from the business community and/or wealthy people. Yet current political support for primary schools may be less than that during the 1990s.

NGOs/development partners: The provision of international aid is not systematic because development agencies provide support for the education sector relative to their intended outcomes around clearly defined agenda. Data from the Council for the Development of Cambodia (CDC 2014) indicates that 11.2 percent of core official development assistance and NGO disbursements went to the education sector in 2011 and this figure decreased to about 9 percent in 2012. Similar to politicians, NGOs and external aid agencies mostly supported the construction of primary school buildings during the mid-1990s (Bray 1999).

Communities/households: Primary schools do not charge for registration or tuition and textbooks are free; still, parents/carers must cover other expenses for school uniform, travel, food and school materials. Furthermore, some

pay for informal services such as tutoring by public schoolteachers who offer private lessons as additional support to complement student learning and achievement. Students who can afford private tutoring are more likely to have both greater access to education and full access to curriculum activities. Consequently, they have better options and more opportunity of graduating from school. Informal private tutoring clearly plays a key role in filling the missing curriculum content (Brehm and Silova 2014). As Figure 6.23 shows, in 2007-13 around 10 to 14.5 percent of primary schoolchildren attended private classes. Communities also provide resources to primary schools through various resource mobilisation activities such as donations given during religious ceremonies.

Figure 6.23: Primary schoolchildren taking private lessons after school (percent)
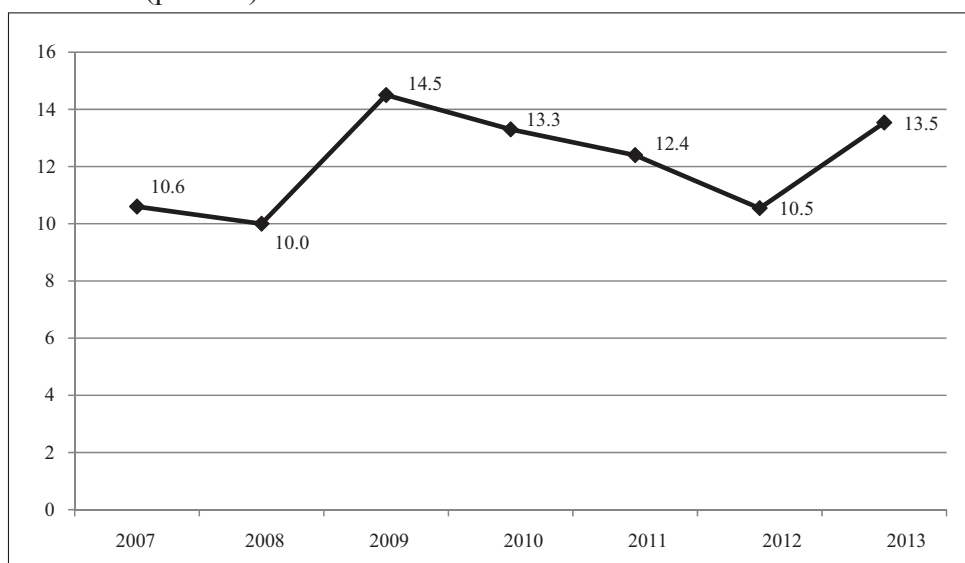
Source: CSES 2013

Private sector: The role of public-private partnerships in primary education is becoming increasingly significant, especially in urban areas. The percentage of total primary-age children attending private school in 2004-13 was less than 2 percent (Figure 6.24), though enrolment trends in the private sector should be further examined in future research studies. Although private primary education in Cambodia overall has not changed dramatically, the popularity of private schools in urban areas has markedly increased, especially in Phnom Penh where the growing number of private schools is driven by affluent and middle-class families (KAPE 2013). Throughout the country, in the school year 2012/13, there were 243 private primary schools accommodating 54,822 students (about 50 percent were girls) (MOEYS 2014a). Private primary schools in Phnom Penh alone

absorb 15 percent of total primary enrolment in the capital. While 119 private schools accommodate around 24,000 students, 164 public schools accommodate 133,000 students (Phnom Penh Department of Education, Youth and Sport 2012 cited in KAPE 2013). This situation could present a dilemma for primary education. On the one hand, the somewhat growing number of private schools with a focus on professional leadership and quality learning may help the government increase access to quality education as the schools have sufficient financial resources to employ teachers, purchase school supplies and equipment and provide good learning environments. On the other hand, the growth of private primary schools could lead to a two-tier system that provides quality education for the children of affluent and middle-class families can afford while those whose parents cannot afford private school fees may feel somewhat discriminated against or even "socially handicapped".

Figure 6.24: Primary schoolchildren attending private school over time (percent)
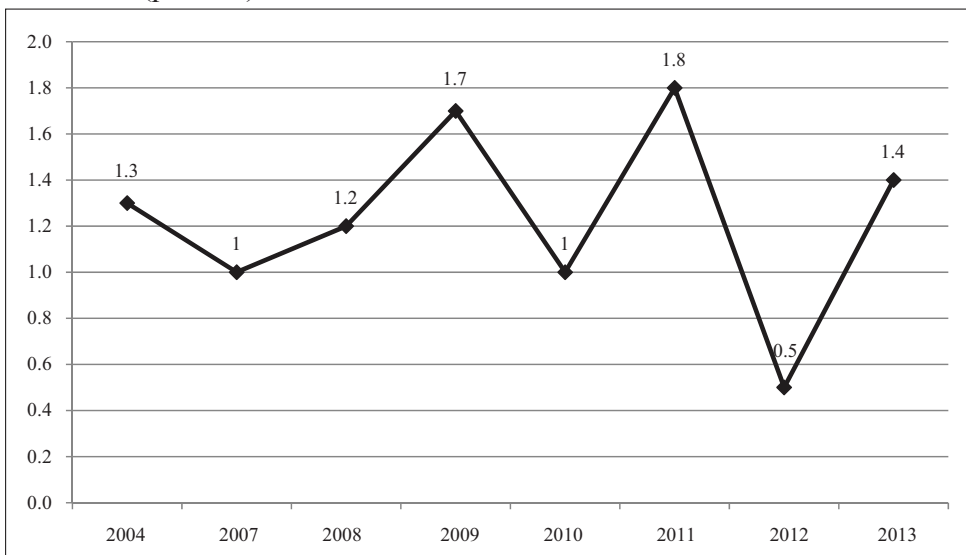
Source: CSES 2013

Schools: To help cover operating costs, schools can generate their own income though the amounts are not significant. Activities include leasing school property for canteens, parking lots and shops, and vary from school to school depending on the school's leadership.

In sum, although primary schools are financed by a variety of sources, the government is a key factor in shaping and leading educational change, thereby preparing the way for a sustainable future. It is argued that public expenditure on primary education should be increased further so that teacher

salaries can be raised to an appropriate and acceptable level, making teaching a respected profession and attractive to the most talented graduates. In addition, the operational budget for schools should be increased to support day-to-day maintenance and repair costs. Importantly, disbursements of expenditure should be transparent with clear lines of accountability for the stewardship of public resources.

6.7 Conclusion

Primary education is the largest subsector of the education system in Cambodia. Today's primary students are expected to graduate from upper secondary school in seven to 12 years time, except of course for those who dropout or repeat grades. Some of them might join the labour force immediately, others will take up technical and vocational education and training or pursue bachelor's, master's or doctoral degrees. Regardless of the pathway taken, all students eventually become actors in labour markets and businesses. More or less, the skills and potentials of economic actors are shaped by the primary school years.

This chapter has argued the case that primary education provides the foundation for further knowledge, skills and capacity development and, as such, it needs sustained long-term investment. But since the impacts of current education investments on educational outcomes may not be immediately obvious, it is vital to ensure that long-term goals are not neglected because of outside pressures to demonstrate instant impact. At the same time, to attract investments, there needs to be confidence in the future educational landscape. To create confidence that investment in primary education is money well-spent, Cambodia needs a long-term vision accompanied by a set of comprehensive measures to ensure sustainability, access, equity, quality and effectiveness. Models or lessons learned in other countries such as Finland in Europe and Korea in Asia could be used to develop the primary education system in Cambodia. A variety of factors affect the quality and completeness of primary education, and thereby influence people's trust in the public education system. As such, both short- and long-term solutions need to be found and prioritised based on resource availability and the reforms required to manage the challenges and opportunities of within-country changes, regional and global trends.

As a priority, government should ensure smooth transition and continuity between primary school and secondary school and, with the new initiative to develop preschooling services, between preschool and primary school. Education focus should be on improving teacher quality and training, updating the primary curriculum, modernising teaching methodology,

developing school leadership and increasing school autonomy, as well as on accumulating sufficient funds to pave the way for sustainable budget support, better schools and better teachers, higher teacher salaries and benefits, and efficient school management. In attending to these interrelated priorities, problem-solving approaches will require a careful leadership balance. Of course, Cambodia should pay its teachers higher salaries. However, as important as it is, money alone cannot guarantee high quality teaching; other contributing factors include teacher training and development, curriculum design, teaching strategies and school leadership. Also important is enabling parents and communities to support children's literacy and learning by encouraging their greater participation in school activities.

In a speech at the 2014 SEAMO (Southeast Asian Ministers of Education Organization) Congress on the theme "Southeast Asia in Transition: Rethinking Education, Science and Culture for Regional Integration", Brunei's minister of education emphasised that the failure in achieving desired results from education reforms is mainly due to imbalances between policy formulation and implementation. Indeed, historically, national governments have allocated some 90 percent of their efforts to policy formulation but only 10 percent to policy implementation (SEAMEO 2014). The minister went on to suggest that the balance be reversed: 10 percent policy versus 90 percent implementation. Heeding this cautionary tale, to secure sustained success of a high quality education system, Cambodia must put at the centre of its present and future education reforms and policy initiatives strong political commitment and education leadership.

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Appendix 6.1: Calculating Net Enrollment Rates

There are at least two ways of defining and computing the net enrollment rate (Plummer, Tritt and Ojendal 2013). The first is a strict formula:

primary net enrollment = average (NER 1st, NER 2nd, NER 3rd, NER 4th, NER 5th, NER 6th)

where

NER 1st = {(number of students aged 6 years and attending grade 1)/ (number of children aged 6 years at the beginning of the year)}*100

NER 2nd = {(number of students aged 7 years and attending grade 2)/ (number of children aged 7 years at the beginning of the year)}*100.

NER 6th = {(number of students aged 11 years and attending grade 6)/ (number of children aged 11 years at the beginning of the year)}*100

The second is defined by a lax formula:

primary net enrollment={(number of students aged 6 to 11 years and attending primary school)/(number of children aged 6 to 11 years at the beginning of the year)}*100

The strict definition captures grade repetition, dropout and late enrollment accurately while the lax formula does not provide any information about these until children turn 12. For the purpose of this study, we applied the lax definition in order to present the total picture of primary education.

Chapter 7

Preschool and Early Childhood Development

7.1 Introduction

As the previous chapters have underlined, Cambodia needs a workforce with better skills. This means a better education system and, just as importantly, one in which more children participate, and to a higher level than is currently the case. But, as this chapter will argue, careful attention paid to the beginning and early years of a child's life could reap long-term benefits as that child becomes an adult, joins the workforce and starts to contribute to Cambodia's economic competitiveness.

Primary education begins at the age of six in Cambodia but, increasingly, the opportunity of preschool is being expanded to encompass children primarily in the three-to-six age group. However, this chapter will show that attention at an even earlier stage in a child's development, i.e. from conception onwards, has a substantial impact on his or her future educational achievements. There will consequently be a focus not just on preparing children for academic learning but also on the spectrum of elements that can be grouped under the term "early childhood development" (ECD).

Generally, ECD encompasses personal, social and emotional development, as well as the initial assimilation of numeracy and literacy skills. Although some researchers have made a differentiation between the first 1000 days of a child's life and the second 1000 days (e.g. WEF World Economic Forum 2014, 17), education specialists have painted a picture of much more intricate and gradual change. The Early Childhood Curriculum of the New Zealand Ministry of Education, for instance, divides the early age groups into `infants' (from birth to 18 months), 'toddlers' (from one year to three years) and `young children' (from two and a half years to school entry age) (Ministry of Education, (New Zealand) 1996, 20). The British education advisors' assessment guide goes even further, suggesting six groups: birth to 11 months, 8 to 20 months, 16 to 26 months, 22 to 36 months, 30 to 50 months, and 40 to 60+ months (British Association for Early Childhood Education BAECE 2012). The overlaps in these age brackets acknowledge that children develop at different rates and cannot be fitted into rigid categories. However, for simplicity, the World Economic Forum's "landscape" of ECD (WEF 2014, 20) suggests that in the first 1000 days the focus is more on health and nutrition than on education, with initiatives that serve both children and their

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families accounting for the major part. In the second 1000 days, the emphasis shifts from health and nutrition—although this remains important—to start to encompass education, not just of the parents, but increasingly of the child: this is the stage at which numeracy and literacy can start to be developed, along with social, behavioural and other skills.

To first examine the initial stages in early childhood, there is now a wealth of evidence to support the notion that the first 1000 days (or three years) of a child's life constitute a time of particularly rapid development (e.g. CGEDCD 2012, 9). As the *Lancet* reports (Walker et al. 2011, 1326) most of the brain's architecture is established in the very early years, with psychosocial influences, as well as the ingestion of essential micronutrients, playing a profound role in how the child's brain develops. By the same token, lack of stimulation, stress and a poor diet are detrimental. As a 2009 report by the German Technical Cooperation Agency stresses: "Inadequate emotional support and intellectual stimulation within the home environment may account for up to half of the deficiencies in mathematics, reading and verbal skills among children who live in poverty" (GTZ 2009, 8). Damage to the child's eventual intellectual development may even start in the womb since studies also suggest that stress experienced by expectant mothers, along with inadequate nutrition, affect development even at this stage (Walker et al. 2011, 1326). Many studies further underline the importance of a supportive home environment, with caregiver-child interaction cited as a key factor in early learning (Walker et al. 2011, 1330) helping the development of cognitive, physical, psycho-emotional and social skills. In addition, as the Millennium Development Goals acknowledge, in the early years a child is particularly vulnerable to health risks: attention to water, sanitation and hygiene is also vital to ensure not just that small children survive, but also that they are healthy enough to realise their full potential. To add another dimension, the United Nations Development Programme (UNDP 2014, 58) cites harsh and inconsistent parenting as a factor that further exacerbates difficulties in early childhood development.

In recent years, a widespread understanding that adopting a holistic approach in the early stages of a child's life has profound effects on his or her future development has gained ground (e.g. GTZ 2009, 4). This was confirmed by all key informants in this study and is evident in the New Zealand and British approaches. Throughout the preschool period, personal, social, emotional and physical development remain important, while skills such as literacy and mathematics gain focus, along with a deeper understanding of the world around, and the ability to use imagination and creativity (BAECE 2012).

Although remedial action can make up for some of the deficits in a child's early experience, lack of stimulation to encourage brain development, malnutrition (and the consequent stunting), disease and insufficient interaction with caregivers can mean that the children affected lag behind their more fortunate peers for the rest of their lives (World Bank 2013, 19; CGECD 2012, 8). Even when remedial help is available, this is generally expensive and therefore unrealistic in a poor country like Cambodia.

Thus, the provision of preschool and ECD opportunities that help to address these issues are clearly beneficial to the individual children who are disadvantaged by their poor start in life. But countries throughout the world have come to realise that there are other major incentives for giving their citizens the best start in life. It is clear from the New Zealand and British approaches that early childhood interventions have a societal role in developing people who can interact positively and peacefully with each other, who feel a sense of responsibility towards other people and their society as a whole, and have developed problem-solving skills and the ability for critical analysis along with the confidence to express their ideas. The aim is to produce an engaged citizenry who will play a role in decision-making in their communities and country as a whole, who will have developed the ability to solve disputes and work productively together, and who have critical thinking, imagination and intellectual curiosity that form the entrepreneurial spirit. From this latter aspect, a clear national economic incentive emerges for focusing on the early years. As the Economist Intelligence Unit (EIU 2012, 31) puts it:

> As countries transition towards knowledge-based economies, policymakers need to consider what can be done to develop their stock of human capital … as countries increasingly compete on the basis of their talent and human capital, they need to invest in all their people as early in life as possible.

7.2 The benefits of focusing on preschool and early childhood development

7.2.1 Moral incentive

Enabling a child to reach its full potential and to benefit from a comprehensive education is a requirement of several international policies and initiatives to which Cambodia is a signatory. For instance, as the British Association for Early Childhood Education (2012, 1) and Rao and Pearson (2009, 13) point out, early childhood care and education is a right recognised in the United Nations Convention on the Rights of the Child. This spells out their entitlement to the provision of a national context that supports the

development of their personalities, talents and abilities, whatever their family background, ethnicity, gender, disabilities, culture or religion. Cambodia has implemented this Convention and it is cited as a guiding principle in the Minister for Education HE Dr Hang Chuon Naron's initial paper when he assumed office in 2013 (Hang 2014, 33 and 53).

As the National Policy on Early Childhood Care and Development acknowledges (MOEYS 2010, 2), preschool and ECD interventions also promote the principles of Education for All, a global movement led by UNESCO.

7.2.2 'Citizenship' incentive

The early childhood curriculums of developed countries tend to put a particular focus on personal, social and emotional development (e.g. BAECE 2012, 5; Ministry of Education New Zealand 1996, 16) through which children are affirmed as individuals, that they discover and develop different ways to be creative and expressive, and that they gain an increasing awareness of the world, and ability to share interests with others. There is also an emphasis on enhancing their ability to communicate. The New Zealand curriculum also states an aim to empower young children, giving them a sense of independence and autonomy through providing opportunities to "make an increasing number of their own decisions and judgments" (Ministry of Education, New Zealand 1996, 40). As the EIU points out (2012, 5), up until the 1980s, preschools in most countries "largely focused on providing simple child minding". Since then "the need to improve their [children's] social awareness, confidence and group interaction skills – and to prepare them for primary education – continues to grow". The overall aim now is not just to keep children safe and occupied for a few hours each day, but specifically to lay the foundations for adulthood during which children develop a sense of responsibility for their own environment and the well-being not only of themselves, but also of others. Patterns of thought and behaviour are initiated at this early stage that will encourage children to want to take part in the development and decision-making activities that determine the future of their communities and nation: in short, they become involved and responsible citizens. At the same time, a development of the facility to act and think creatively is a good grounding for producing adults who can find innovative solutions to problems that hamper their communities, or who can create new businesses, or contribute to their countries creatively, through music, art, literature, and so on. Cambodia's fledgling democracy, and specifically its decentralisation and deconcentration (D&D) reform process, requires an involved citizenry which it is currently struggling to create. It could

be argued that early childhood learning can play a part in overcoming this challenge.

7.2.3 Economic incentive

There are also financial incentives for countries, including Cambodia, to look after its youngest and most vulnerable citizens, and the provision of preschool opportunities is rising. In many developed countries, these opportunities are available and accessible to all. In the UK, for instance, three-year-olds have a legal right to free early education: it is not mandatory but vouchers are supplied by the state so that even children from the poorest households can have access to early education (key informant interviews 2014; EIU 2012, 16).

Public investment of this kind in early childhood education accords with a growing body of evidence that, in addition to the moral imperative to give all children a good start in life, countries have much to gain economically. Among the leading economists in this field, Professor James Heckman has shown that the rate of return on investment in human capital development is highest in the early years. As the EIU explains (2012,18-19), these returns accrue partly to the children themselves—in increased earnings over their working years—but also to society as a whole: there are reduced costs in education, increased labour productivity, less crime and lower welfare costs. Furthermore, as Heckman's calculations have shown, investment gives the best return when the child's brain is developing at its most rapid rate: consequently, benefits and savings diminish as investment is delayed (GTZ 2009, 6). The *Lancet* supports this, stating that "Increasing preschool enrolment to 25 percent or 50 percent in each low-income and middle-income country would result in a benefit-to-cost ratio ranging from 6.4 to 17.6 depending on preschool enrolment rate and discount rate" (Engle et al. 2011, 1339). Importantly, not only is the capacity for academic knowledge accumulation significant in the early years but also, as neurobiological evidence shows, the foundation for skills and competencies is laid in early childhood (CGECD 2012, 17; GTZ 2009, 14; UNDP 2014, 58). This is of particular relevance to this study with its focus on skills development within the country's growing workforce to enable it to compete particularly in the wider ASEAN context.

7.2.4 Equality and inclusion incentive

The EIU (2012, 5) comments that most benefit from preschool and ECD opportunities is derived by the most disadvantaged families: there is much evidence to support the view that these opportunities can have a significant effect on reducing inequality. To give just a few examples, the Consultative

Group on Early Childhood Care and Development Task Force (2012, 11) cites international evidence that childhood development can help to achieve income equality by "breaking the cycle of intergenerational poverty". This view is supported by Bouguen et al. (2013, 2). Walker et al. in the *Lancet* (2011, 1325) maintain that interventions in early life are the most effective and cost-efficient in reducing inequalities, while the UNESCO *Education for All (EFA) Global Monitoring Report* (2007, 25) maintains that early childhood care and education programmes do not just compensate for disadvantage, but also have a beneficial effect in reducing gender inequality. Quoting Heckman, the report adds:

> It is a rare public policy initiative that promotes fairness and social justice and at the same time promotes productivity in the economy and in society at large. Investing in disadvantaged young children is such a policy.

To support Heckman's stance, it is worth examining in general terms what can happen to children in vulnerable or disadvantaged families who do not have the benefit of preschool opportunities. For a start, the problems of malnutrition, lack of stimulation and insufficient interaction with caregivers have already been discussed. But, as important, there is substantial evidence that preschool supports a smooth and timely transition to primary school, and that it is strongly predictive of future success at school (CGECD 2012, 16; UNESCO 2007, 33). Included in this—and particularly relevant to Cambodia—is the fact that preschool attendance decreases the likelihood that children will repeat grades in primary school (NGO Education Partnership 2008, 21; Rao and Pearson 2009, 24).

Walker et al. (2011, 1333-34) add to the argument, citing a list of problems low-income and middle-income countries face in not countering problems that emerge in early childhood. These, they argue, lead to lifetime differences that have negative effects on adult cognitive and psychological function, educational achievement and subsequent income. These factors do not just hinder individuals and prevent them from reaching their potential, they also hamper a country's development including its economic and competitive performance, as well as its sense of national cohesion, and the positive engagement of all of its citizens in the way the country is run, cared for, and represented in the international arena.

Relating these issues to the Cambodian context, this chapter draws on the comments and views of key informants, along with information from the government and the findings of academics. It examines the current provision of preschool and ECD opportunities under five headings: hardware and preschool types; access and affordability; quality of provision;

governance and finance; and the ASEAN context and other international comparisons.

> The reason behind the new emphasis on early childhood education is that the government has been convinced by the global context and has also been influenced by development partners. They have come to accept that preschool is important in terms of economic growth and for the skilling of the Cambodian workforce… But there is also a need to convince parents about the value of preschool education for their children—they don't necessarily understand: sometimes they want to keep their children at home and are reluctant to send them to preschool. (Key informant interview 2014)

> From my personal experience, when children who have not had preschool experience come to primary school they are less able to interact socially—they are behind in their personal and social development and in how they cope in general. (Key informant interview 2014)

7.3 Hardware and preschool types

There are four types of preschool provision in Cambodia: state or formal preshools, community preschools, home-based programmes and private preschools. These are implemented by four main groups comprising the Ministry of Education, Youth and Sport (MOEYS), NGOs, commune councils under the Ministry of Interior (MOI), and the private sector. Figures in this section are gleaned from the 2014 UNICEF Profile of Early Childhood Education (ECE) Services in Cambodia (sourced from the Education Congress Report 2014 and the Early Childhood Education Department of MOEYS), the UNICEF Working Paper of 2013 (Rebello Britto et al. 2013). Annual Reports from the Early Childhood Education Department of MOEYS, and MOEYS (2014a) Education Statistics and Indicators. In addition, the government's newly-published Early Childhood Care and Development Action Plan (discussed later in this chapter), as well as funding from the World Bank, is expected to enhance preschool provision over the next few years.

7.3.1 The overall picture

Figure 7.1 shows the share of enrolments between the different types of preschool in the school year 2013/14. Although state preschools account for the majority—54 percent—of total enrolments, this is only just over half, and the remaining 46 percent are shared among the other types. Clearly, all sectors are essential in maintaining a preschool system, especially since the government aims to increase coverage.

Figure 7.1: Share of total enrolments in preschool for academic year 2013/14
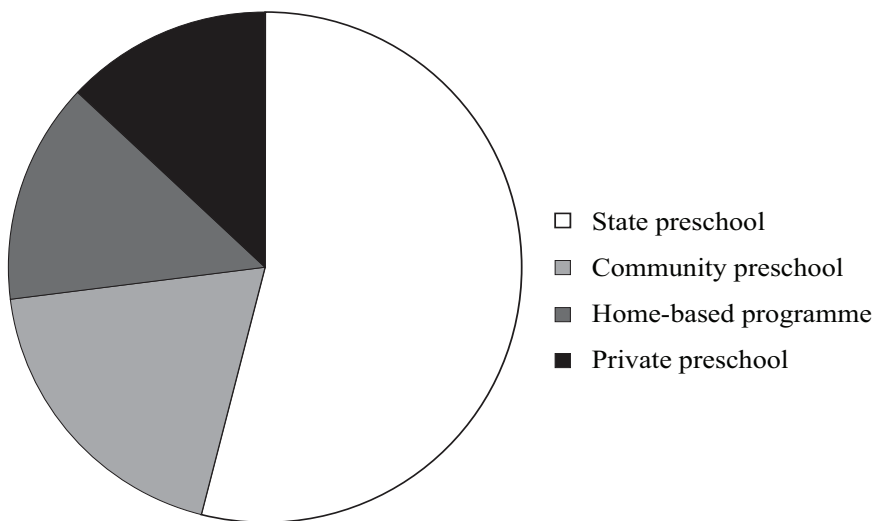
☐ State preschool
▨ Community preschool
▦ Home-based programme
■ Private preschool

Source: ECED Annual Report Quoted in Unicef: Profile of ECE Services in Cambodia-State Preschool, Community Preschool, Home-Based Programme and Private Preschool 2004

The government's determination to expand preschool opportunities, supported by the four groups that implement these services, reflects the fact that only 34 percent of Cambodian children in the three-to-five age group are currently enrolled. Figure 7.2 indicates how this 34 percent is distributed among the preschool types.

Figure 7.2: Enrolment rates among the three-to-five year age group by preschool types
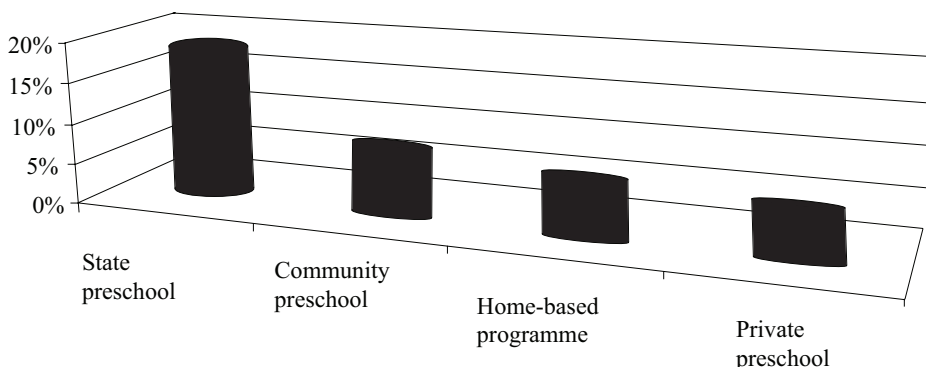
Source: ECED Annual Report Quoted in Unicef: Profile of ECE Services in Cambodia-State Preschool, Community Preschool, Home-Based Programme and Private Preschool 2004

Although preschool opportunities remain largely out of reach for the majority of Cambodian children, as Figure 7.3 shows, the figures for all ages,

except among three-year-olds, have risen significantly in recently years, and especially among five-year-olds. As this chapter later discusses, plans for an even greater rise are afoot.

Figure 7.3: Recent trends in the enrolment in preschools of children aged three to five
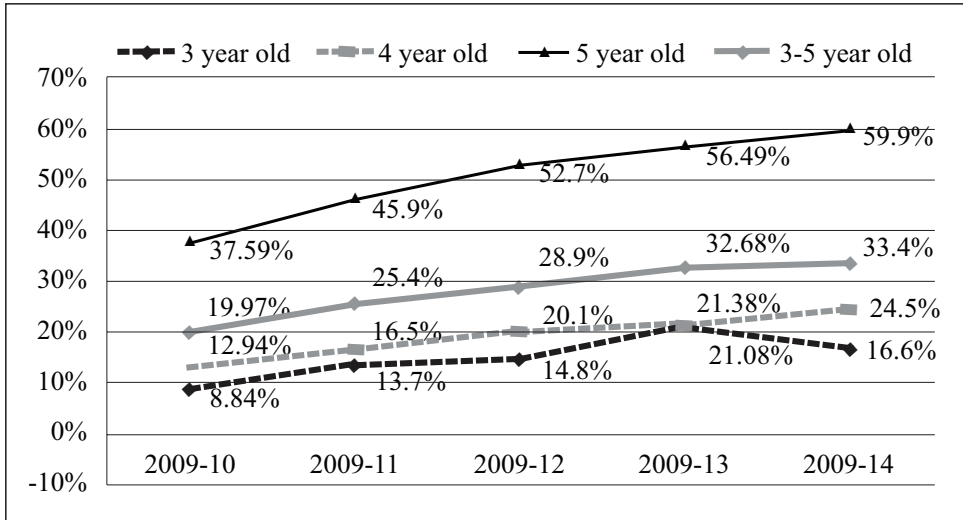
Source: ECED Annual Report Quoted in Unicef: Profile of ECE Services in Cambodia-State Preschool, Community Preschool, Home-Based Programme and Private Preschool 2004

However, one of the problems in this complex preschool picture is that the four types vary significantly in many respects and there are, in particular, substantial variations in quality between and within the different types.

7.3.2 State or formal preschools

Location and agency responsible

State preschools are governed by MOEYS and exist mainly in urban areas although efforts are being made to expand provision within rural locations.

Age group and opening times

They are aimed at children aged three, four and five and are generally open from around 7 am to 10.30 am each day during a 38-week school year.

Enrolment figures

A total of 157,288 children are enrolled in state preschools, representing around 18 percent of the estimated three-to-five-year-old population (of 857, 498).

Buildings and general environment

Preschool buildings and the general learning environment conform to standards specified by the Construction Department of MOEYS. Almost all of the state schools are attached to primary schools in urban areas, although some were built independently.

7.3.3 Community preschools

Location and agency responsible

Preschools run by commune councils are generally referred to as community preschools. Heavily supported by NGOs, these exist mainly in rural areas where formal preschools are relatively sparse, and plug a gap in provision especially for the most vulnerable and disadvantaged children. The government agencies responsible for community preschools are MOEYS, MOI and Ministry of Women's Affairs (MOWA).

Age group and opening times

Community preschools are generally open from 7.30am to 9.30am and, like state preschools, take children in the three-to-five age group.

Enrolment figures

Their enrolment rate of the relevant age group is around 6.5 percent (55, 832 children).

Buildings and general environment

There are around 2220 community preschool centres but there are no set standards for buildings or learning environments: communes provide venues including community centres, pagodas and private houses.

7.3.4 Home-based education programmes

Location and agency responsible

Home-based education programmes come under the general supervision of MOEYS and have been primarily established to provide parenting education for groups of mothers, focusing on early childhood care and education—from conception onwards. They are generally set up in rural, disadvantaged communities where state preschools are not available.

Age group and opening times

The focus is on enhancing the welfare and development of children from conception to the age of five. Home-based programmes have flexible

opening times and tend to be informal in style. In common with community preschools, they have a key role in plugging gaps in access to early childhood education in areas where state preschools do not exist and, as such, their expansion has been encouraged by the government.

Enrolment figures

An estimated 79, 224 children in the birth to age-five group (41, 618 aged three to five, i.e. around 5 percent of the age group) benefit from home-based programmes.

Buildings and general environment

As the name suggests, home-based programmes take place in private homes.

7.3.5 Private schools

Location and agency responsible

Although private schools come under the umbrella of MOEYS, there is little standardisation. They generally exist in urban areas where, as business enterprises, they have access to families with sufficient income to pay the fees. Although they are inspected by MOEYS and their buildings are required to meet MOEYS' specifications, curriculums, teacher recruitment and training, in-service training, as well as teacher/student ratios are all "customised" according to schools' own standards. There are around 2918 teachers in private schools, many from abroad and some who also work in state schools: they are able to supplement meagre state earnings with more lucrative pay from the private sector.

Age group and opening times

Although private schools often take very young children into nursery classes, their share of the three-to-five age group is estimated to be around 4 percent (36,379 children). Again, opening times are customised by the individual schools, of which there are around 403.

7.3.6 Government response and future plans

The government's continuing Early Childhood Education (ECE) policy is to improve school infrastructure and classrooms with an emphasis on sanitation and access to water, facilities for hand-washing, a first-aid box and space for a playground (MOEYS 2014a, 20), and to provide free breakfasts in some schools. There will be expansion of preschool classes in primary schools, and the on-going promotion of community preschools and home-based education programmes.

Fragmentation of preschool provision means that standardisation and regulation of school buildings and facilities is difficult, especially when community preschools and home-based education programmes are based in buildings and houses that were initially built for other purposes. However, key informants drew attention to two aspects that warrant greater attention. First, to promote inclusion, a continuing focus on enabling children with disabilities or special needs to have equal access to preschool opportunities was advocated: MOEYS might consider closer liaison with the Disability Action Council. Second, two key informants suggested that greater regulation of private schools could ensure that there was adequate space for children to play and a bright, stimulating and spacious learning environment. Some private schools have been established in small urban villas that were designed as family homes rather than as places for young children to learn and play.

> There is a need to raise society's awareness about disability and so on. It is also important to pay attention to the school environment: small children learn through play so they must have the space and materials in order to do this … So there are internal factors—the teaching and learning environment that makes it possible for children who are disadvantaged or have special needs to be integrated into the system. And there are external factors—raising awareness among parents so that they understand the importance of preschool. Preschools need to be child-friendly and the children need a variety of materials to help them to learn. (Key informant interview 2014)

7.4 Access and affordability

As the Consultative Group on Early Childhood Care and Development Task Force (CGECD 2012, 19) maintains, early childhood development should aim for gender equality and empowerment, better health and education outcomes, improved skills, abilities and productivity, a narrowing of income, ethnic and geographic inequality gaps and timely interventions for children with disabilities. At the same time it should provide a cost-effective strategy for eliminating disadvantage. However, the issues that it aims to combat also inhibit its expansion. For Cambodia, these demand-side challenges are profound and underline the importance of adopting a holistic approach in supporting the development of young children. If preschools are to provide a sturdy foundation for future educational attainment, they need to be accessible to people wherever they live. But perhaps more importantly, the conditions need to be created in which parents are able to take advantage of the educational opportunities offered, or can be persuaded that preschools are beneficial. On an even more basic level, young children need to be prepared for preschool in that they are sufficiently healthy and well-nourished.

7.4.1 The challenge of poverty

Although significant progress has been made in poverty reduction, recent figures suggest that 18.6 percent of Cambodians still earn below USD1.25-a-day and almost half earn below USD2-a-day (CDRI 2013, 12 and 15). It is reasonable to assume, therefore, that a significant number of children born into poverty do not enjoy stress-free early years but live with the anxieties of their caregivers who must constantly worry about, and are pre-occupied with, basic survival. It also means that even small children are needed as labourers to maintain provisions, especially those in farming families who are required to work on the land. The fact that caregivers who rely on agriculture are occupied in the field throughout the day presents an additional challenge when preschools operate for only a few hours each day, and children need to be delivered and collected.

Although preschool attendance is theoretically free, there are likely to be actual costs involved in transporting children to and from school and possible payments to teachers that can deter impoverished parents from taking advantage.

The challenge of poor health and malnutrition

Closely linked to a substantial poverty rate is one of the highest infant and under-five mortality rates in the Greater Mekong Subregion, patchy ante and post-natal care for mothers and, importantly, poor nutrition among expectant mothers and young children: the nutrients needed for healthy physical and intellectual development are often missing. According to figures from the Social Protection Unit of the Council for Agricultural and Rural Development (CARD 2011), Cambodia is among the 20 countries in the world with the worst child malnutrition: 28 percent of children are underweight, almost 40 percent are stunted, around 17 percent are wasted and 55 percent are anaemic as a result of iron and other micronutrient deficiencies. Surprisingly, malnutrition rates in urban areas are higher than in rural equivalents, and one in five children in the richest quintile is underweight. As the CARD report argues, child malnutrition adversely affects the health, learning acquisition and earning capacity of an individual's entire life and, given that malnourished mothers tend to produce malnourished children, it can even affect the next generation. Supporting the inclusion of good nourishment as a crucial element of early childhood education and development, the report states (CARD 2011, 2):

> Malnutrition leads to poorer cognitive development and schooling outcomes and [children affected] are more likely to repeat a grade or drop out of school. They are less able to work, less productive, and earn less as adults. Childhood anaemia alone is associated with a 2.5

> percent drop in adult wages. International evidence shows that a 1 percent decrease in adult stature is associated with a 1.4 percent drop in productivity… Cambodia loses over US$146 million in GDP to vitamin and mineral deficiencies every year.

Poor nutrition also weakens children's immune systems, leaving them particularly vulnerable to acute respiratory infections and an assortment of diarrhoeal diseases made even worse by lack of knowledge about the causes and limited access to uncontaminated water, sound hygiene practices and safe disposal of human waste. Currently, just 32 percent of Cambodians have access to safe drinking water and only 9 percent enjoy good sanitation facilities (Madhur and Menon 2014, 30): sick children do not make good students, and many do not even survive these diseases.

The challenge of parents' own lack of education

As a further challenge, many Cambodian children are born to mothers who are themselves illiterate. Although levels of literacy have greatly improved, 22 percent of adults in Cambodia still cannot read or write (Madhur and Menon 2014, 24), and, as Chapter 6 of this book revealed, many will have dropped out of schooling while still at primary school. Rao and Pearson (2009, 25) are among many researchers who argue that mothers who are themselves uneducated tend not to consider schooling of any kind to be essential for their children: they have little understanding of, or appreciation for, education, and poverty leaves them little time or energy to interact with their children in the stimulating way advocated by pedagogical experts (e.g. Melhuish et al. 2012, 17). UNESCO's Education For All (EFA) report concurs (2007, 3 and 12), stating that, worldwide, a child whose mother has no education is twice as likely to be out of school as one whose mother has some education.

The challenge of parental practices that are detrimental to child development

Many children from disadvantaged families will suffer violence in the home from parents who were themselves physically abused as children: parents who did not experience a loving, supportive environment are likely to repeat this pattern of abuse with their own children. This is acknowledged in the World Bank's proposed parenting education programme for Cambodia, which will include guidance for parents in how to nurture a loving, supportive environment to enhance their children's sense of self-esteem, rather than resorting to physical violence when even the smallest child does not behave "properly" (key informant 2014). The recently published National Action Plan on Early Childhood Care and Development 2014-18 (NCECD 2014)

also details the government's ambitious plans to disseminate information to caregivers about a substantial range of issues relevant to the safe and healthy development of their young children (see Appendix 7.1).

The challenge of location

About 90 percent of the country's poorest live in rural areas, particularly in the remote north-eastern provinces (Madhur and Menon 2014, 12), and children in rural areas have less access to preschool opportunities than their urban counterparts. Furthermore, according to the 2008 Cambodian Population Census (UNFPA 2011, 23) indigenous groups comprise around 3 percent of the total population, some of whom are nomadic and most of whom live in the remote north-eastern provinces. They, along with Cambodia's Muslim communities, have home languages that differ from Khmer. Indeed, as the Education Minister HE Dr Hang Chuon Naron reports (2014, 28), 24 ethnic minority languages are spoken in Cambodia and "there is a clear gap in terms of enrolment and dropout between those districts where ethnic minorities are found and other districts": their chances of getting an early start on learning are thus scant and the probability that they will enrol and remain in the education system, slim.

Table 7.1 presents the distribution of the four preschool types by province. To an extent, this shows how community preschools and home-based programmes have endeavoured to fill the gaps in state provision, particularly in the more remote areas. For example, in Mondolkiri, there are just 18 state preschools, but 21 community preschools and 24 home-based programmes. There is only one private preschool. In contrast, Phnom Penh has 152 state preschools, and just 25 community preschools and nine home-based programmes. The concentration of private preschool provision in the wealthier urban areas is reflected in the fact that, while Phnom Penh has 168 such schools, Mondolkiri has just one, Ratanakkiri three, and so on. The table also indicates the importance of all four preschool types, particularly of home-based programmes. Although the latter are run by "core mothers" (see section 7.5.3) who have little training, they have a profound role in complementing the other types.

Table 7.1: Preschools by province

Province	Preschools (state, private and community)			Total number of preschools	Home-based programmes
Banteay Meanchey	253	43	55	351	60
Battambang	256	21	188	465	93
Kompong Cham	333	15	120	468	516
Kompong Chhnang	92	6	82	180	218
Kompong Speu	110	10	288	408	54
Kompong Thom	183	35	179	397	87
Kampot	162	7	48	217	94
Kandal	202	12	85	299	94
Kep	18	1	11	30	18
Koh Kong	47	10	8	65	55
Kratie	63	2	60	125	61
Mondolkiri	18	1	21	40	24
Oddar Meanchey	59	3	109	171	30
Pailin	25	8	12	45	20
Phnom Penh	152	168	25	345	9
Preah Vihear	71	0	37	108	145
Prey Veng	190	2	223	415	114
Pursat	150	3	20	173	89
Ratanakkiri	39	3	10	52	24
Siem Reap	362	23	154	539	260
Preah Sihanouk	44	19	49	112	37
Stung Treng	28	5	91	124	67
Svay Rieng	121	1	250	372	75
Takeo	206	5	95	306	134
Totals				5807	2378

Source: Early Childhood Education Department, Ministry of Education, Youth and Sports 2014.

This provincial distribution is even more clearly indicated in Figure 7.4.

Figure 7.4: The provincial distribution differentiation between state, private and community preschools, and home-based programmes
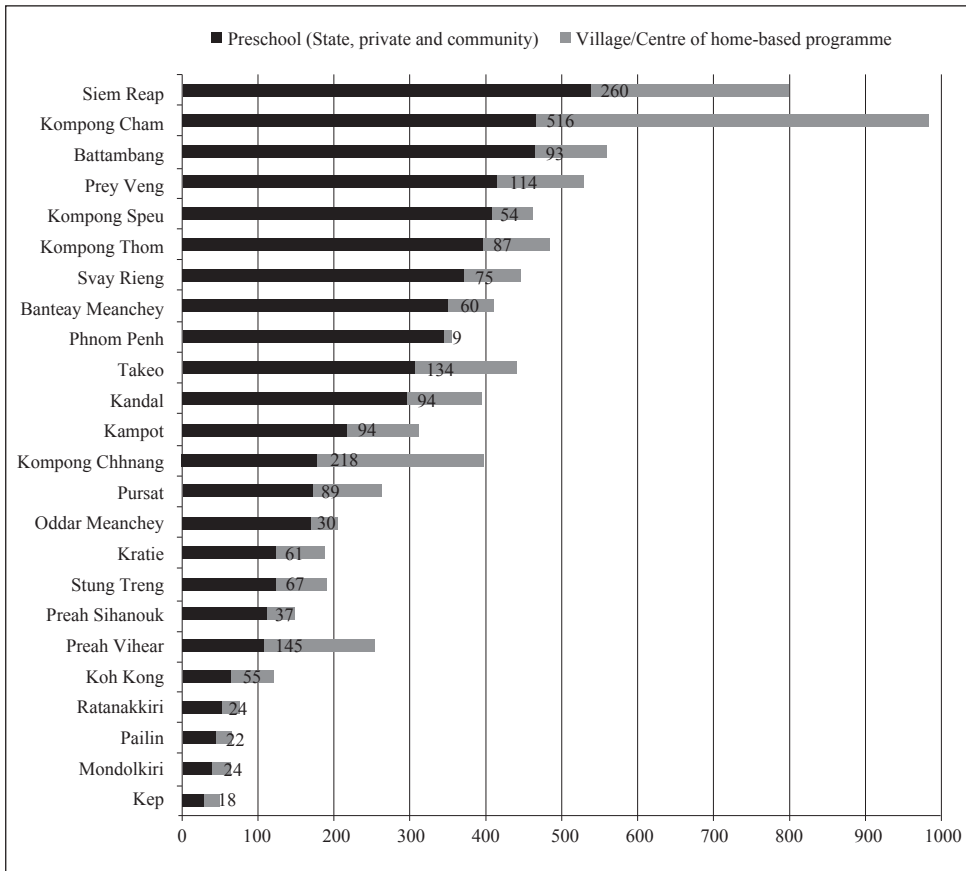
Source: Early Childhood Education Department, Ministry of Education, Youth and Sports 2014

It is clear from Table 7.1 and Figure 7.4 that, through their support for community preschools and home-based programmes, NGOs have to a considerable extent plugged gaps in the formal state preschool provision. There is, however, a sustainability issue: as key informants confirmed, NGOs prefer to set such initiatives up, involve the community and relevant government authorities to develop capacity and a sense of ownership, and then withdraw to start afresh elsewhere. However, limited state funding means that MOEYS is far from being able to meet the need for the foreseeable future, particularly in covering the more remote rural areas. This is especially because many of the hard-to-reach communities do not have Khmer as their home language and some are nomadic.

On a more positive level the official figures (for state preschools), supported by the comments of key informants (relating to all preschool types), indicate that there is gender equality in access to preschool opportunities. The state preschool evidence appears in Figure 7.5.

Figure 7.5: Percentage of females in total enrolments in state preschools
for the academic year 2013/14 (percent)
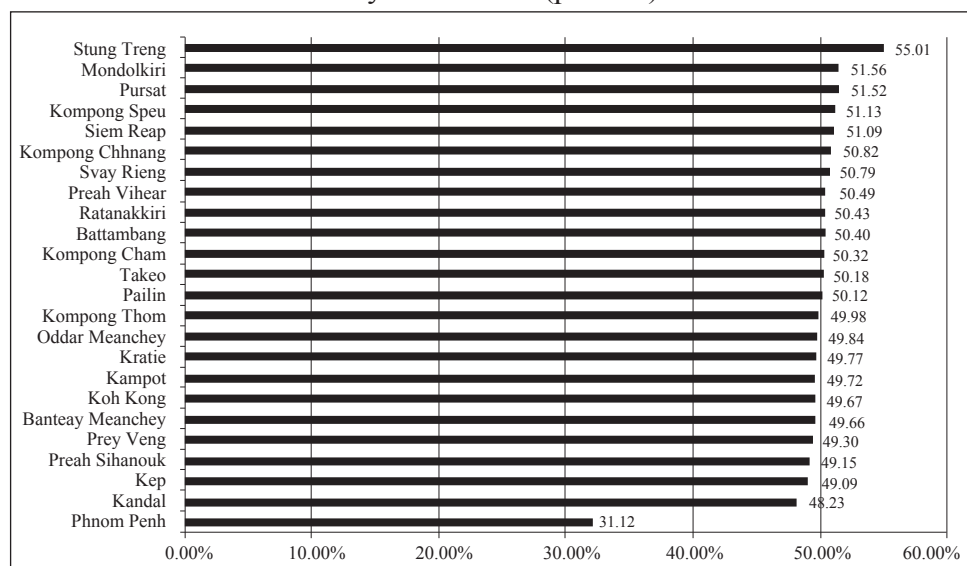
Source: Education Statistics and Indicators, Ministry of Education, Youth and Sports 2013-2014

Although gender issues are not significant, the cumulative effects of the overall national context mean that many Cambodian children are poorly nourished or sick. They will have had negligible intellectual stimulation, little access to books, no grounding in either literacy or numeracy and limited or no parental encouragement to learn. Many will already be child labourers, live far from any kind of preschool facility, or speak a minority language. They will not have been prepared for formal schooling and, even if they complete primary level, they are unlikely to progress any further.

7.4.2 Government response and future plans

The government is keenly aware of many of the problems facing the provision of early childhood education (ECE) in Cambodia and has already made substantial plans to start to counter them. Education Statistics and Indicators from MOEYS (2014a) show that significant progress has been made. In the school years from 2003/04 to 2013/14 the number of state preschools rose from 1238 to 3184: in 1979 to 1980, the year following the defeat of the Khmer Rouge regime, the figure was just 96. The number of students at state preschools rose from 72,224 to 157,288 and the number of state preschool staff from 2697 to 4717. Furthermore, acknowledging the need to attract more teachers to the poorer rural areas, MOEYS has adjusted recruitment qualifications for state preschool teachers. Although in general they are expected to have completed their education to grade 12, if they are going to teach in Mondolkiri or Ratanakkiri they need only to have acquired

a grade nine certificate. These recruitment criteria are the same for preschool and primary school teachers. However, reflecting the limited state preschool provision, this year MOEYS expects to recruit just 250 preschool teachers compared with 3000 who will teach at primary level. The overwhelming majority of preschool teachers (95 percent) are women (Madhur 2014, 13).

The education system in Cambodia includes ECE as the first of its four main layers, and this encompasses children in the three-to-five age group. As the Education Minister HE Dr Hang Chuon Naron reported in his initial outline of proposed reforms (Hang 2014, 10), the expansion of ECE is a relatively recent policy for MOEYS: the ministry sees it as "an important contributing factor to improved learner performance in primary school". It is also seen as a means to reduce grade repetition in primary education, to lessen the dropout rate and to increase parental awareness about education (Hang 2014, 25), as well as to encourage timely entry to primary school. It is thus envisaged to help in combating some of the education system's most significant challenges (Hang 2014, 19). This is supported by the study of Nonoyama-Tarumi and Bredenberg (2009, 44).

As well as adjusting recruitment qualifications to attract more preschool teachers from remote areas (who are subsequently likely to return to teach in these regions), the government has outlined plans to expand the percentage of children enrolled in preschool—state and community preschools, home-based education programmes and private schools—to 80 percent of five-year-olds, 45 percent of four-year-olds and 40 percent of three-year-olds by the school year 2017/18 (MOEYS 2014a, 18). Home-based programmes will also help in the development of children from conception to the age of five. There will be a particular emphasis on children who are poor, who belong to ethnic minorities or who have disabilities.

The newly published National Action Plan on Early Childhood Care and Development also includes orphans among the list of very-high-risk children to whom special attention will be given (MOEYS 2014a, 14). The Action Plan points out that an estimated 600,000 Cambodian children aged from birth to 17 years, are orphans and that only 83 percent are estimated to be attending school (MOEYS 2014a, 4). Residential care facilities are generally failing these children and strategic support is cited as necessary to ensure that children who are separated from, or have no family, receive help. Nutrition and increased health care services will also feature, as will education for parents and guardians (MOEYS 2014a, 17; NCECD 2014, 5-6).

Among the proposed outcomes envisaged by the Education Strategic Plan (MOEYS 2014b), by 2018, 90 percent of children will have acceptable nutritional status and 90 percent will be receiving deworming medicine.

Annual health checks and vaccination schedules are also part of the plan, and, overall, guidelines are being prepared to enable "the private sector, farm and big enterprises to be engaged responsibly in early childhood education" (MOEYS 2014a, 69). Initial plans to realise these ambitions appear in more detail in the Early Childhood Care and Development Action Plan, which focuses on creating the legal framework, standards and mechanisms, providing the necessary training for staff, and expanding health care and "healing services" (MOEYS 2014a, 13) to help the most vulnerable children and their families. Advice for parents and caregivers on the need for good sanitation and hygiene practices, nutrition, health care and child protection is planned, as are efforts to boost birth registration in the country (discussed in Section 7.5).

Given the role that preschool can have in combating disadvantage among the most vulnerable sections of the population, one interviewee urged the government to aim towards making attendance compulsory. He acknowledged, however, that this was unattainable in the short term.

7.4.3 Support from development partners

According to the report by Bouguen et al. (2013, 3), a World Bank Education Fast Track Initiative Catalytic Fund Grant for 2008 to 2011 (the precursor to the current Global Education Partnership funding) enabled the creation of 650 new state preschools, 480 new community preschools and 450 new home-based programmes, many of these targeted at the most disadvantaged communities. This catalytic fund grant was clearly effective and the new funding plans benefit from lessons learned during that initial phase.

To further support government and development partner activities, many key informants maintained that there is a need to nurture an education culture among communities, many of whom do not make the link between a full education, better job prospects and thus more income and a better standard of living. As one interviewee commented, relatively few adult Cambodians read for pleasure—it is considered a chore. In contrast, his three-and-a-half year old daughter, who attends private preschool, has already developed a reading habit that he will continue to encourage when she goes to primary school. A UK early learning school advisor commented that even illiterate caregivers can develop a love of books among their children, stimulating their interest and imagination and increasing their vocabulary simply by discussing pictures.

Given that the home environment is the most crucial—particularly since it is where the child spends the vital first 1000 days of its life—parental education was also highlighted by key informants as important not just in

fostering academic development, but also in ensuring that children have the right nutrition, and that they enjoy positive, stimulating, loving and non-violent interaction with their caregivers.

That said, not all Cambodian caregivers have the means to provide a nutritious diet for their small children. For this reason, school feeding programmes were widely supported by key informants. As one commented, nutritious breakfasts provided free for young children, even if feasible on just a few days a week, would ensure that the poorest children had access to at least some nutritious food to nurture their physical and intellectual development. In addition, organisations like the Council for Agricultural and Rural Development (CARD) strongly recommend programmes that deliver micronutrient supplements to combat deficiencies that damage young children's overall development.

But despite some discouraging figures, it is important to stress again that progress is being made: indeed, Madhur and Menon (2014) paint an optimistic picture of improvement in nearly all indicators of national development. Furthermore, numerous NGO projects exist to care for, and advise, expectant mothers, to provide health care and nutrition for young children, to advise about water, sanitation and hygiene, and to provide preschool opportunities even in remote areas or among indigenous or Muslim groups. For example, Plan International and Save the Children are among many NGOs who adopt a holistic approach in their projects aimed at young children. The largest development partners, including UNICEF and UNESCO, are also increasingly combining their sectoral approaches to address the issues that hinder early childhood care and development in Cambodia, and the World Bank continues to provide substantial funding and technical support to address a range of issues. In terms of preschool activity the work of local and international NGOs, as well as the private sector, is vital in supplementing current state provisions.

> School feeding programmes can be very helpful to many children, attracting them to school and providing nutrition to help them to develop properly. This can be costly, but if there is a real will it can be done… For instance, in Koh Kong a VSO volunteer is working to involve the community in a primary school feeding programme. The community is willing to provide rice and also community members volunteer to cook.

> If you don't understand the lives of these people, you can't help. You need to understand how they themselves were brought up and how that influences the way they treat their children. Without the right intervention there is an endless cycle of damaged people… Violence that children experience in early childhood can destroy their whole lives.

> The problems of malnutrition cannot be overestimated. All related line ministries have to work together to solve that one. Education alone cannot achieve much… and the problems of contaminated water and the provision of latrines also need to be solved. (Key informant interviews 2014)

7.5 Quality of provision

There is no internationally agreed set of quality standards for preschools and, where they exist, they tend to be varied. For instance, the Economist Intelligence Unit (EIU 2012, 10) identifies four major categories against which it has assessed early education across 45 countries. These categories—social context, availability, affordability and quality—include 21 indicators covering quantitative statistical data from each country, as well as unique qualitative assessments. It is a complex attempt to give a fair assessment while demonstrating the breadth of the issues involved in early childhood development. Less detailed criteria are provided in the Serco Early Years Foundation Stage of Ofsted, the UK's school monitoring and evaluation service (BAECE 2012, 5). This practical guide for inspectors specifies seven areas of learning and development: communication and language; physical development; personal, social and emotional development; literacy; mathematics; understanding the world; and expressive arts and design.

The quality of preschool provision in Cambodia is patchy and there is little standardisation or regulation, though plans to improve the situation are well advanced. For example, the new National Action Plan (NCECD 2014) does set out a list of goals and objectives for early childhood care and development. As a developing country many of Cambodia's problems revolve around health and nutrition, and it is thus not surprising that the Action Plan focuses mainly on the provision of care, health education services and nutrition for pregnant women, immunisation and nutrition care for children, the protection of children not only against health risks, but also from abuse, trafficking, and so on. Related advice on parenting skills for caregivers is another major aspect of the Plan. However, although an aim to ensure that "all young children from birth to school age shall enjoy physical, cognitive, mental and emotional development at their own home and centres which provide quality and sustainable health services, nutrition and education" is expressed (NCECD 2014, 2), no specific details are given, particularly about how mental and emotional development is to be nurtured, and this goal remains relatively vague. Similarly, a child's right to identity is recognised largely through a practical aim to increase birth registration, which in 2010 stood at 62 percent, a decrease from the 2005 figure of 65 percent. As the Action Plan points out, birth registration ensures that the child is recognised

in the system, provides concrete evidence that a child is under-age in, for instance, sex offences, early marriage and military service, and is essential for government in planning service provision across the board. However, other more nebulous aspects of a child's rights encompassed within the spirit of the UN Convention, including the right to express opinions and to be respected and listened to especially in matters that concern them, have not been tackled at this early stage.

Even so, the Action Plan recognises (NCECD 2014, 5) that:

> Though Cambodia has achieved significant progress after the devastation by war and subsequent turbulence from 1970 to 1993, the situation of infants and young children remains a big concern. If the situation of young children is not improved quickly enough, the Rights of the Child cannot be realized and many children will still suffer and this country will be short of well educated and trained human resources, a key foundation for achieving the National Development Goals.

In these initial stages, therefore, the focus of early childhood intervention in Cambodia must remain on concrete issues such as food supplements, vaccination, and so on. But when further development does take place, particularly in curriculum design, there are other challenges that will need to be addressed in greater depth. As the British Association for Early Childhood Education guide says (BAECE 2012, 5), these particularly relate to behavioural development—supporting the child's personal, social and emotional growth—and to the nurturing of creativity and an interest in the expressive arts such as art, music, dance, design and technology.

The curriculum is currently being revised, with reference to those of other countries. There is no doubt that the varieties that have been produced by developed countries have evolved from a long and deep review of the needs of young children and warrant consideration by Cambodian education specialists. The curriculum produced by the New Zealand Ministry of Education is an example (Ministry of Education, New Zealand 1996, 9) that, in common with those of other developed countries (for example the UK), puts the child at the centre of the early learning process. As it summarises, its starting point is "the learner and the knowledge, skills, and attitudes that the child brings to their experiences". This resonates with the UK's approach that "every child is a **unique child** [their emphasis] who is constantly learning and can be resilient, capable and self-assured" (BAECE 2012, 3). The Reggio Emilia approach (see Section 7.5.2), has a similar focus and has influenced early years curriculums in many Western countries. However, effective though these approaches are in Western cultures, and desirable

though they may be for the development of a national workforce that can compete internationally, their wholesale adoption in Cambodia might not be feasible: the recent historical, and well rooted cultural contexts challenge this Western approach.

7.5.1 The challenge of recent history

The terrible years of the Khmer Rouge regime from 1975 to 1979 are widely documented, but they form only part of a 30-year period of civil strife from which it will take many years yet for Cambodia to recover. The destruction of infrastructure, the breaking down of cohesive government at all levels, and the elimination of many trained and educated people who would now be guiding the education system are tangible and the effects are ongoing. But arguably just as inhibiting is the psychological legacy of these brutal years. Many academics describe a country that remains "traumatised" (e.g. Fawthrop and Jarvis 2004, 141), while some describe the damaging psychological pattern set during years when "critical thinking and asserting one's rights were life-threatening undertakings" (Bockers, Stammel and Knaevelsrud 2011, 80). Others lament the lack of social and medical services that could help people who still bear enormous psychological scars (e.g. Sen 2008; Simcox and Strasser 2010).These factors continue to govern mindsets which may still be passed down to younger family members. Sen is among the academics who describe how children unconsciously absorb the traumatic experiences of their close family members, and O'Leary and Meas (in Chhay and Pearson 2006, 7) describe how "… living with uncertainty for a prolonged period of time can result in loss of confidence and feelings of powerlessness, lack of trust, fear, passivity and lack of initiative."

Thus, in communities where trust has been shattered, and fear and a weakened social cohesion linger, the "warm, positive interaction" advocated by, for instance, the New Zealand and British early years curriculums is much more difficult to achieve, while being arguably even more desirable in healing old wounds: trust is vital for any society that wishes to prosper. After decades of revealing as little as possible about themselves, keeping opinions unexpressed, and seeking mainly to say and do what will cause the least trouble, it remains challenging for many Cambodians to embrace the "risky" elements of self-expression (Chhay and Pearson 2006, 15; Storer 2009, 2). At the same time, however, the government is supporting the ambitious decentralisation and deconcentration (D&D) reforms that transfer substantial power and decision-making authority down to community level. For this to be successful, even the poorest Cambodians living in the most remote rural areas need to understand their new rights and responsibilities to engage in the running of their communities. They need to form and

express their own opinions and, where necessary, challenge people higher up the chain of government. In developed countries, the nurturing of these qualities, that are crucial for the flourishing of democratic societies, begins in early years' curriculums and will ideally need ultimately to be reflected in Cambodia's equivalent. Indeed, it could be argued that as a means of reducing the damage done to the nation's collective psyche and of healing communities, a focus on encouraging young children to work together, to learn to negotiate and solve problems without conflict, and to develop their own opinions and the confidence to express them, these curriculum aims might prove invaluable.

But there is a further challenge. In aligning the Cambodian curriculum with those of more developed countries, particularly in nurturing "personhood" (with its focus on the rights and value of each person as an individual), the culture and traditions of Khmer society need to be taken into account: not all of the traits mentioned here can be attributed solely to recent history.

7.5.2 The challenge of Khmer culture and tradition

Fear engendered by civil war has damaged the trust Cambodians feel for each other. But this has in many ways deepened a reticence that was already an element of Khmer culture (Chhay and Pearson 2006, 15). There is an acceptance of unequal relationships between people— a respect for a hierarchy that should not be challenged—and a perception that a person is not primarily an individual but more specifically the member of a family group to which he or she belongs and to whose collective opinions he or she rigidly adheres. As Storer comments (2009, 4):

> The combination of the hierarchical, patronage, and a rote learning approach to education has resulted in a widespread reluctance to openly oppose, disagree with or even to question those who have power. Following on, an expectation persists that those people who have knowledge, resources and power (high status) should give advice, manage and control.

The complex elements of culture are beyond the scope of this chapter but, as many commentators have pointed out (e.g. Trompenaars and Hampden-Turner 2000; Cohen 2004), these form the bedrock of people's sense of identity. Furthermore, sociocultural theory, which encompasses the role that cultural beliefs and attitudes—as well as adults and peers— have in how instruction and learning take place, is certainly relevant. Again, these elements are too complex for full discussion here, but must be acknowledged as germane in the assessments made in this chapter. However, in short, it can be argued that sociocultural considerations mean that it would be

undesirable, even if it were possible, to directly transpose the elements of early years curriculums adopted in countries with Western cultures to those within, for instance, Southeast Asia. Even so, democracy demands the vote of the individual; and the ability, as an individual, to develop innovative ideas is arguably an essential element of entrepreneurship that can play an important role in a country's economic progress and international competitiveness. Similarly, initiative—as, for example, an element of independently motivated problem-solving—is a seen as a soft skill that employers believe is lacking among many young Cambodian job seekers. In preparing young Cambodians on these levels, the country's early years curriculum will eventually need to encourage a degree of individuality, along with the ability and confidence when necessary to challenge those in more powerful positions.

As a further challenge, and as Gourley (2009) argues throughout his book, there is tension between the United Nation's Western perception of Child Rights and the Cambodian cultural view in which children have only low status. In the important Khmer family hierarchy, children are not seen to have the right to contribute to decision-making and are not expected to express opinions or challenge older members. In Gourley's opinion, endorsed by the NGO Committee on the Rights of the Child, the need is to find "the middle way" in order to bridge the gap between Cambodian culture and Child Rights as they are internationally recognised. The right of the child to have his or her views respected is one of the core principles of the UN Convention on the Rights of the Child, and is a particular challenge within the Cambodian context. A similar "middle way" will need to be identified and negotiated within Cambodia's early years curriculum: it will need to balance "traditional cultural beliefs and modern values" (Gourley 2009, 5) in preserving Khmer culture—as an essential element of Cambodians' sense of identity—while equipping young children to compete in a wider international context where culture and values are very different.

In this respect, caution needs always to be practised in following Western educational beliefs and practice. The Reggio Emilia approach, for instance, is widely praised in many countries for its determination to consider young children as "active citizens with rights, as contributing members, with their families, of their local community" (Gandini n.d.; Garrett n.d.). This approach sees teachers and children as partners in learning, with no pre-set curriculum, but rather a "process of inviting and sustaining learning". They collaborate in discovering what qualities and assets are already within the child. This "humbling" of the teacher would be at variance with the

understanding of the relative status of adult and child, not to mention teacher and pupil, that exists in the Khmer mind.

By the same token, the importance that concepts of honour and saving face play in Khmer culture also militate against the expression of opinions: these might be considered "wrong" and invite ridicule. Similarly, Western notions that it is healthy for a young child to express feelings and emotions, to challenge bias and prejudice (Ministry of Education, New Zealand 1996, 65 and 74), or that it is acceptable to make mistakes (from which lessons can be learned) would be much more difficult for Cambodian children to accept. The compulsion to maintain harmony—with the consequent suppression of strong emotion—and the preferred approach of saying only what it is presumed that the person of higher status will want to hear, rather than what is really thought and felt (Chhay and Pearson 2006, 17), is likewise the common cultural approach for Cambodians. Again, this is similarly at odds with, for instance, the Reggio Emilia approach within which the teacher encourages the child to express thoughts and feelings and allows the child control over the direction of his or her learning through asking questions in a collaborative relationship.

7.5.3 Current situation in the four preschool types

State preschools

Table 7.2, gleaned from MOEYS (2014a) Education Statistics and Indicators, shows the current student-teacher ratios, as well as other related indicators.

Table 7.2: Pupil-teacher ratios and other indicators

Academic Year	Pupil-Teacher Ratio	Pupil-Staff Ratio	Pupil-School Ratio	Pupil-Class Ratio
2005/06	27.9	26.3	53.0	31.4
2006/07	27.7	26.2	51.1	30.6
2007/08	26.9	25.4	48.7	29.7
2008/09	29.1	27.7	50.1	30.9
2009/10	30.9	29.6	52.3	31.9
2010/11	29.1	27.8	49.4	30.9
2011/12	31.3	30.1	47.1	30.3
2012/13	30.9	29.8	45.6	30.2
2013/14	34.7	33.3	49.4	31.9

Source: Education Statistics & Indicators, Ministry of Education, Youth and Sports 2005-2014

The pupil-teacher ratio (over 34) is dauntingly high and therefore challenging for teachers, and, in turn, detrimental to quality. As the Economist Intelligence Unit reports (2012, 26), in countries that reached the highest positions in their rankings—for instance, Denmark and Sweden—there was an average of just six children per teacher. Although the government hopes to increase teacher recruitment, Figure 7.6 indicates that little progress has been made in recent years.

Figure 7.6: Trends in ratios between pupils and teachers and other factors
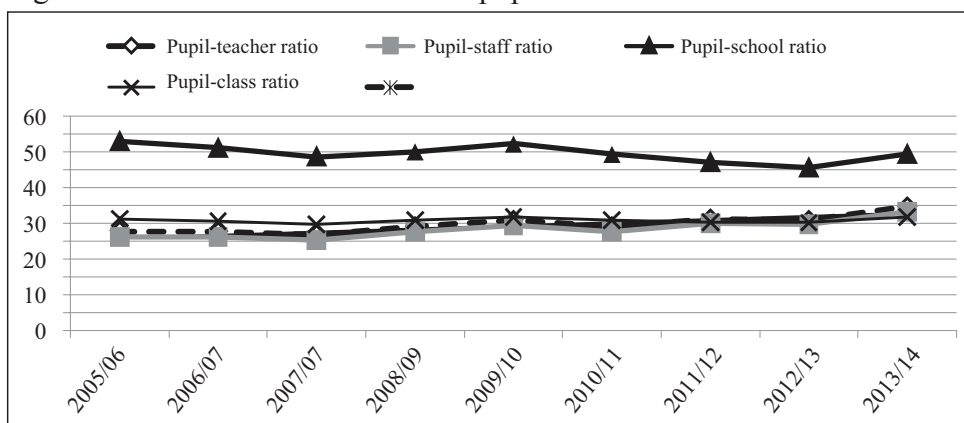
Source: Education Statistics and Indicators, Ministry of Education, Youth and Sport 2005-2014

Teachers, their training and salary

Teachers are government employees who spend two years training at the Preschool Teacher Training Centre in Phnom Penh. In general, they are expected to have completed their education to grade 12. However, to boost recruitment from the remote areas with the most disadvantaged communities, for example, in Mondolkiri and Ratanakkiri, applicants need only to have acquired a grade nine certificate. These recruitment criteria are the same for preschool and primary school teachers. State preschool teachers are remunerated through the government payroll system and are now paid at the same rates as primary teachers—currently 400,000 riels each month (around USD100), though plans have been announced to increase these salaries. There are 3184 state preschool centres and 4717 teachers, and children are in age-segregated classes.

Curriculum and learning materials

The current curriculum was established in 2006 and is based on UNICEF's Early Learning and Development Standards (available on the UNICEF website).

Community preschools

Teachers, their training and salary

There are currently around 2523 community preschool teachers working in 2220 community preschool centres. The teacher-student ratio is 18-25 and classes tend to be multi-age with three, four and five-year-olds. Reports about training suggest an inconsistent picture. However, the UNICEF 2014 report states that teachers undergo 35 days of pre-service training and that MOEYS is responsible for the provision of 10 days of training. To be recruited, community preschool teachers are expected to have completed education to grade 6 and are selected by the local commune council. The report by Rebello Britto et al. (2013) indicates that many community preschool teachers are volunteers but that, at the time, if they worked in a UNICEF-supported province, they received 30,000 riels per month (about USD7.5). In general, the financing of teacher incentives and the maintenance of facilities is the responsibility of commune councils, and community preschool teachers are expected to meet with parents to discuss parenting skills, including nutrition, language development and early stimulation as part of their role. The Ministry of Women's Affairs (MOWA) also helps in encouraging parents to enrol their children.

Curriculum and learning materials

The community preschool curriculum was also established in 2006 and, for unqualified teachers, is simplified (from its formal, state counterpart) and activity-based.

Home-based education programmes

'Core mothers' and their training

There are around 2600 core mothers who volunteer to lead the Mothers Groups that meet each month: they receive stipends only when they undergo training, which has traditionally lasted around five days. There is no standard teacher–student ratio. According to Rebello Britto et al. (2013), these programmes not only benefit children, but also provide supportive social networks for mothers and a forum for sharing experience and knowledge. As many of the mothers have limited education, much use is made of visual training materials such as posters. There is generally no salary payment to core mothers.

For all three of the above types of preschool, teachers and core mothers ideally receive a few days of in-service training each year. Delivery has, however, been patchy due to resource limitations.

Private schools

Curriculums, teacher recruitment and training, in-service training and teacher–student ratios are generally unregulated in private schools. As a result, quality ranges from excellent to poor.

7.5.4 Overall national picture

Teachers: recruitment, training and working conditions

As many of this study's key informants stressed, there must be a stronger focus on quality in preschool activities, with the greater recruitment and pay of preschool teachers a major element of this: infrastructure should not swallow up precious funds at the expense of teacher and teaching quality. As Rao and Pearson (2009, 25) deduced from their study, the quality of early childhood care and education depended on teachers' characteristics, which varied greatly. This supports an earlier study from the same researchers (2007, 5) in which they found that state preschools were more effective in early childhood education and development than community preschools or home-based education programmes, not least because the teachers received more training and were themselves better educated than their counterparts in the other preschool options. As Bouguenet et al. (2013, 21) add, limited incentives for teachers and volunteers, and low and irregular stipends for volunteer community preschool teachers, hampered the effectiveness of programmes. In terms of stakeholder perceptions, state preschools were preferred because of this formal teacher training, as well as the longer hours of operation and the clear lines of management from MOEYS. Concerns about financial sustainability were also among the issues that detracted from confidence in community preschools and home-based programmes. Nevertheless, the community-based options were valued for the role they could play in community cohesion and development, and for plugging the gap in scanty state provision.

Key informants agreed that meagre salaries, large class sizes, little training (particularly outside the state preschool system) and a general lack of incentives do not support high-quality teaching and learning environments. As many commented, this is among the greatest problems in the Cambodian education system as a whole, and preschool teachers are among the lowest paid of all. Teachers in the community preschool system may, or may not, receive better remuneration from NGOs, while core mothers in home-based programmes often receive nothing at all and have only volunteer status. Furthermore, as one interviewee commented, given how stressful and exhausting looking after so many small children can be, it is not surprising that few people want to do such a job. Those who do often have to take other jobs to supplement their incomes; in urban areas some state preschool

teachers also teach in the private sector where salaries and benefits are much better. Key informants also agreed that the establishment of preschool teacher training facilities in the provinces would boost recruitment given that few potential preschool teachers can afford to come to the sole training centre in Phnom Penh. A career progression for teachers—such as Singapore has developed—with rising pay-grades, would also give them an incentive to stay on, and there should be a variety of career paths, including both teaching and managerial routes. This would stem the loss of the best teachers to more lucrative administrative roles.

Cited as a further challenge to both teacher recruitment and teaching quality were class sizes, and it was generally agreed that, in order to facilitate the degree of teacher-pupil interaction needed in the very young age group, the current ratio of 20 to 30 children was far too high. In the UK, staff keep learning journals to record what each child has done each day: in this way, the progress of individual children can be monitored. With smaller classes, Cambodian preschool teachers could adopt this practice, giving them a greater sense of control and job satisfaction and enabling them to focus help where it is most needed.

Curriculums

Until now, the preschool curriculum has generally been considered inadequate in achieving the best outcomes for young children: key informants felt that preschool teachers often had little idea of, for instance, the behavioural, emotional and social development their teaching should be supporting and that there was an over-emphasis on repetitious painting, singing and game playing. As reported in the next section, the curriculum for preschool teaching, as well as those for other levels of the education system, is being revised with reference to those of other countries. The curriculums of Western, developed countries, and their aims and objectives, have been discussed at length in this chapter. It will therefore be interesting to analyse the evolution of the Cambodian variety and to evaluate the extent to which it has adopted the approaches taken in developed countries, and any evidence of influence exerted by the UN Convention on the Rights of the Child. Given the limited capacity of preschool teachers, especially in the non-state sector, and the necessity for large preschool class sizes, it might be difficult initially to integrate activities that demand too much attention on the child as an individual. Furthermore, in an education system traditionally based on top-down instruction, with a focus on rote learning, the whole notion of involving the child in a joint journey of discovery and learning might take a while to fully assimilate. The preschool curriculum in Cambodia will therefore remain a topic for ongoing research and development.

Monitoring and evaluation

Many key informants regretted that monitoring and evaluation efforts were negligible and often subject to corruption; and the lack of attention paid to private school was seen as both potentially dangerous and a missed opportunity. In terms of the dangers, it was commented that there were few checks on, for instance, foreign teachers who were put in charge of small children: the potential for abuse was clear. In terms of the possible benefits, it was stressed that teachers in private schools—many of whom come from abroad —could share new ideas and innovative practices if there were more opportunities for formal liaison with officials. Private schools were generally praised for the positive results they have achieved with small children. But, as key informants confirmed, even these would welcome more state standardisation that would enable parents to both make the right choices and gain a more realistic idea of what the aims and objectives of preschool are. Also recommended was more regulation of private school premises, so that they provided children with adequate space to learn and play and accommodated the needs of children with disabilities. And as a further quality issue, it was pointed out that private schools were often run as businesses—in that making money was more important than the quality of teaching—and that some just picked a textbook and followed it regardless of how relevant it was in the context of Khmer culture. In addition, there was no check on whether teachers at private schools were properly qualified to teach preschool children.

Greater collaboration between all four types of preschool was urged by several key informants particularly as a means of bridging quality gaps. Ideally, an expansion of state preschools was seen as desirable, given that community preschools are not considered comparable. This was also urged as a way of reducing donor dependency that will be inevitable while NGOs still have such an essential role in boosting state provision. As a practical suggestion for creating more networking/experience-sharing forums for the different preschool providers, MOEYS' plan to create 70 model state preschools as examples of good practice was cited as a good starting point: preschools could be clustered around a single model state preschool. A teachers' forum, run by MOEYS and embracing all preschool teachers, was also suggested as a place in which even private preschool teachers could share good practice without feeling constrained by restrictions imposed by the fierce competition in this sector. Encouraging the wider involvement of the community was also recommended: for instance, in some areas, community members have volunteered to provide and prepare food for school feeding programmes.

To address the disparity in quality, one interviewee suggested that the government could first set a strategic framework for monitoring and evaluating early childhood education (ECE).[1] Developed with support from all sectors and from development partners, this could be initially designed to measure performance at state preschools, but could then be expanded to encompass other types, including private preschools. The aim should be for monitoring and evaluation activities to be rigorous and to track not just quantitative elements—numbers of schools, pupils, and so on—but also qualitative factors such as behavioural change in preschool children. The Cambodian workforce needs people with better soft skills, so an early focus on the development of these was recommended.

7.5.5 Government response and future plans

The government has cited ECE as a policy priority and there are ambitious expansion plans. As Bouguen et al. (2013) suggest, scaling-up preschool provision in Cambodia will be challenging, not least from a practical perspective. In addition, the limited budget and the difficulties of staff recruitment and retention will inevitably inhibit some activity. Although progress has been made, the National Action Plan (NCECD 2014, 4) states that "issues on insufficient outreach to most rural areas, standardization of learning quality among the different programmes, and low incentives and retention of community preschool teachers remain as major challenges to be addressed".

However, the political will is there and support from development partners has been promised. For example, the new funding from the World Bank will expand the training of core mothers within home-based education programmes to 35 days. This much-extended training will comprise around 70 lessons covering a wide range of knowledge and skills designed to enable parents and guardians to care for their young children. This will include early stimulation, child protection, health and the provision of a safe and loving environment. The focus on nutrition will encompass the use of home gardens to grow vegetables and food preparation, and caregivers will be encouraged to develop savings and budget plans that take childcare into account. The World Bank funding will also ensure that community preschool teachers all have 35 days of training, along with materials to support their teaching activities.

Preschool teachers' pay, although still low, has recently been raised to match that of primary school teachers, and the government's intention to improve

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1   The National Action Plan on Early Childhood Care and Development 2014-18, which was published after the key informant interviews for this chapter, includes plans to establish greater mechanisms for monitoring and evaluation (see Appendix 7.1).

quality in preschool provision is further underlined by the plans to create the 70 model state preschools that can be used to share knowledge and practice with community counterparts. Furthermore, as MOEYS' ECE Director reported (personal interview 2014), the (preschool curriculum is under review. There will be a greater link with the primary school curriculum (which is being more closely linked with the secondary curriculum), and MOEYS is working with international development partners to emulate the best in the world: particular note is being made of the curriculums of neighbouring countries. Attention is also being paid to making the curriculum relevant to Cambodia's economic development, and the Supreme National Economic Council is consequently advising. The completion of this curriculum revision is expected to improve quality throughout the school system.

At the same time, both the Education Strategic Plan 2014-18 (MOEYS 2014a, 19 and 53) and the National Action Plan on Early Childhood Care and Development 2014-18 (NCECD 2014) express a determination to improve pre-service and in-service training for state and community preschool teachers, and to develop and implement a preschool quality assurance system. A career path will be developed for teachers with promotion based on merit, and the country's demand and supply needs for teachers will be regularly reviewed. The determination is also to equip staff at national and subnational levels to promote ECE at local level through supporting schools and teachers. Among the proposed outcomes for the year 2017/18 is the goal of regularly testing 80 percent of early childhood education services to measure the effects of their activities on children who have reached the age of five.

> Private schools are good but tend to use Western methods and curriculums that come from overseas. State schools have this cultural element, but lack others. So if they could liaise, both could benefit— and there are some generic or universal techniques that could usefully be shared.

> Staff don't want to go to remote places because, on the money they earn, they cannot afford to be away from their homes. And once their capacity has been built, they leave to get better jobs.

> A lot needs to be done on the quality of people recruited to be preschool teachers, and on presenting them with a career progression, rising pay grades and other professional terms and conditions that will attract the best people and make them want to stay. They should be remunerated for being good teachers and not just see this as the first step into a managerial role… The Singapore example shows a variety of career paths—teachers, managers, directors—but that one is not necessarily better than the other. There should be equal status and entitlement.

A lot of private schools have no teaching structure—they often just buy a textbook and base their teaching on that. Many set up schools just to earn money—the school is just a money-making enterprise and not much attention is paid to standards or the needs of children.

Parents push (private) schools to get their children reading as early as possible … They don't understand that there is much more to a child's development than just numbers or letters. (Key informant interviews 2014)

7.6 Governance and finance

7.6.1 Governance

In common with standards of quality, the governance of early childhood development (ECD) and education services also differs across countries. But, as Rebello Britto et al. acknowledge (2013, 5-9), the integration of services to achieve the vital holistic approach always requires broad cooperation across ministries that can be hard to achieve. Their report, which includes Cambodia among the countries analysed, also touches on the consequences of decentralisation in the governance of early childhood development: the fragmented nature of Cambodia's current provision, the various stakeholders involved, the, as yet unfinished, progression of the decentralisation and deconcentration (D&D) reforms and the financial challenges of a country that is still in the low-income bracket, have tended to complicate issues surrounding the governance of preschools and ECD in this country.

As discussed earlier, the holistic approach in Cambodia requires coordination not least among a range of ministries. MOEYS, MOI and MOWA have already been mentioned. But also significant are the Ministry of Health, Ministry of Information, Ministry of Social Affairs, Veterans and Youth Rehabilitation, Ministry of Rural Development, Ministry of Economy and Finance, Ministry of Planning, Ministry of Agriculture, Forestry and Fisheries and the Ministry of Environment. As MOEYS' National Policy on Early Childhood Care and Development continues (2010, 9), to this list of stakeholders must also be added, parents and families, as well as development partners and civil society. The formation of a national committee has been a step forward in coordinating these stakeholders, and the National Action Plan on Early Childhood Care and Development 2014-18 is clear in specifying the organisations and ministries responsible for each of its proposed programmes and activities (NCECD 2014, 18-33).

However, as Rebello Britto et al. highlight (2013, 24), the fact that the D&D reform is not yet complete, along with capacity gaps, particularly in governance at the provincial level, is hindering coordination that would

enable community preschool teachers, home-based caregivers and health workers to act more effectively together. Furthermore, many actors in the governance chain are unsure about their roles and responsibilities. Sparse supervision, insufficient provision of services and disparities in resources, training and facilities, are among the challenges, while overall levels of investment and planning remain weak, the report concludes. Even so, the report stresses (Rebello Britto et al. 2013, 45) that decentralisation will ultimately be helpful, allowing for greater "local participation, ownership and response to contextual needs and situations". This accords with UNICEF's *Local Governance for Child Rights* publication, which stresses that much can be done at commune level to promote parenting skills, especially among the poorest Cambodians, and to encourage the development and use of education, health and social services (UNICEF n.d.).

In coping with the holistic aspects of child development, key informants concurred with the view that communes are the ideal single channel through which resources could most effectively be distributed. But they also agreed that capacity to carry this out was currently inadequate and that the full delegation of power that would support this development had not yet fully taken place. They agreed that there are weaknesses in the chain of responsibility: there was uncertainty about roles, and a lack of knowledge about responsibilities among duty bearers, as well as a lack of capacity to fulfil roles. These weaknesses were particularly evident in the middle links in the chain—the provincial level. The D&D process was seen by key informants as crucial, but they accepted that it would take time to complete particularly since it involves the surrendering of some power by senior officials. In the meantime, the constant wait for decisions to filter down from above was considered unhelpful and inefficient.

On an even more micro level, some key informants recommended that more power be delegated to individual schools—involving not just the principal but also the teachers—enabling them to raise at least some of their own funds, recruit as they saw fit, allocate resources according to need and to feel a sense of ownership and involvement that would enhance job satisfaction. The eventual expansion of the World Bank's Social Accountability Framework (currently being field-tested) to cover ECCD services was seen as desirable. This framework is designed to support the D&D process, encouraging service users and providers to understand rights and responsibilities and to support transparency and accountability.

There was also concern that although government policies were commendable and designed to make progress in ECCD, implementation would not be so easily achieved even with the Action Plan in place. However, the

determination of the new education minister and the ambitious plans already introduced were considered a promising sign.

7.6.2 Finance

Turning to finance, budget restrictions are another factor that inevitably hamper preschool provision, and it is unlikely that reliance on development partners and the private sector to plug the gap in the availability of state preschools will cease in the near future. Indeed, Rebello Britto et al. (2013, 20) state that NGOs currently outspend the government in terms of early childhood services. This not only leaves these services vulnerable to international economic crises, but also to the potential withdrawal of donors: the promotion of Cambodia to lower-middle income status, likely to take place in the near future, might have a detrimental effect on donor funding. However, in the short term at least, through the World Bank Global Education Partnership there is likely to be international support for the government's aspirations to expand preschool provision throughout the country. Ongoing donor dependency in terms of funding, capacity development, support for policy-making and implementation, and in continuing to plug gaps in state preschool provision, is inevitable for the time being.

The government's financial limitations were acknowledged by key informants. Even so, some advocated for more investment in ECCD, particularly since coverage is so limited and much needs to be done to expand it: greater support for community preschools from both MOEYS and MOI was encouraged. In addition, the key informants rightly envisaged that the implementation of the Action Plan on Early Childhood Care and Development would involve significant outlay, especially in the early stages. This is discussed in the following section.

Tackling one area of concern—transparency and accountability—one interviewee suggested that informal fees should be replaced by a more open approach through which parents who had the means to pay were asked, openly, for contributions. These amounts could be set by the individual school principal and directors as a manifestation of their autonomy.

A further element of key informants' "wish lists" was better statistical information. Comments suggested that current data on children in the preschool age group, the numbers of those with disabilities or special needs, attendance rates and so on, is inaccurate or insufficient. Better data would support more effective policy-making and implementation.

In a similar vein, one key informant regretted the paucity of academic studies on issues surrounding early childhood development in Cambodia: the country's leading universities offer very little for would-be professionals

in this field and there is currently little academic research to feed into policy-making. It was suggested that higher education providers and research institutes could be persuaded to conduct more research in this field to further support the government's decision-making.

7.6.3 Government response and future plans

At the initial stage in his ministerial post, HE Dr Hang Chuon Naron expressed a determination "to establish an ECCD National Committee and implement the ECCD Action Plan by promoting a holistic and inter-sectoral approach including nutrition, hygiene, bilingual education, inclusiveness; and to establish an ECE national system … standards, teacher training modules and core trainer regulations" (Hang 2014, 25). This latter element would include a monitoring and evaluation framework and efficient and accurate data collection.

The minister's proposals for ECE were largely based on the National Policy on Early Childhood Care and Development (MOEYS 2010), endorsed by the Council of Ministers in 2010. This accepted the influence the early years had on a child's ability to flourish in life, with a focus on a holistic approach. It also accepted the role of preschools in reducing grade repetition and dropout rates, particularly at primary level, and in helping the government to meet its obligations in respect of the UN Convention on the Rights of the Child. Listing the 13 ministries and other groups that would need to be involved in achieving its objectives, the Policy proposed the formation of a National Committee and a Technical Coordination Committee on Early Childhood Care and Development. In short, its first task would be to compose an Action Plan to achieve the Policy's three main objectives (MOEYS 2010, 5): "to ensure the provision of early childhood care and development services from conception to aged under six; to ensure that children have access to holistic early childhood care and development services; and to ensure that all concerned ministries, public institutions and civil societies work together for early childhood care and development". This included high-risk, vulnerable and disabled children and those living in poverty. There was also a focus on preparing young children for formal schooling.

The National Committee for ECCD has now been established under the honorary chairmanship of the prime minister. Its executive chairman is the minister for education and it includes senior staff from all 11 relevant ministries as well as from the Council of Ministers. It also has representatives from civil society, the private sector, academic and research institutes, and international and UN agencies. As such, it has the power to make, and

implement, decisions that can be expected to have a positive impact on Cambodia's youngest citizens.

As a first task, an Action Plan to work towards the ambitious objectives of the ECCD Policy (and to support the realisation of the Education Strategic Plan 2014-18 and the National Strategic Development Plan 2014-18, as well as helping Cambodia to achieve its Millennium Development Goals along with other national development aspirations) has now been published. This ambitious plan estimates an overall budget of USD56,538,000 to cover the activities deemed necessary in meeting its objectives. The Action Plan's nine strategies and the associated budgets appear in Appendix 7.1. In gathering financial resources, the government acknowledges that donors will remain essential, and the formulation, implementation and funding of many government plans will require continuing support from development partners. To give just a few examples of recent activity, UNICEF has supported the establishment of an Inclusive Preschool programme for children with disabilities, and a Bilingual Preschool Education programme for children from indigenous and ethnic minority groups. The World Bank's support—in funding and technical guidance—will greatly enhance training initiatives in community preschools and home-based education programmes. Save the Children and World Vision have been active in supporting breast-feeding and better quality control of breast milk substitutes. They have also been supporting community groups to promote early childhood care and basic education and life skills, including awareness-raising among parents. Child protection, disaster risk reduction and a curtailment in child labour are other areas of focus in the holistic approaches taken by both organisations. For their part, Plan International's Early Childhood Care and Development programme is continuing in its aim to lower child mortality rates through building collaboration between families, communities and service delivery structures. It has been promoting parenting education, and has established community preschools in remote regions in Ratanakkiri and among the Muslim communities in Kompong Cham. There are many others.

The new Action Plan particularly supports the Education Strategic Plan 2014-18 in proposing new guidelines and governance principles for the management and operations of preschool resources and a revision of functions in order to respond more effectively to D&D policies. The associated legal framework will be modernised (MOEYS 2014b, 17-20). Specifically, the Education Strategic Plan envisages that law and policy modernisation will be needed to achieve "functional transfer to administration at sub-national level, to strengthen the effectiveness of public educational services, to improve responses to anti-human trafficking, child labour, gender discrimination and anti-corruption campaigns, and to support the "resolution of educational

conflicts". These aspirations are strongly reflected in the Action Plan's nine strategies (see Appendix 7.1).

> I feel that there should be more effort from the government especially in that preschool should be a bigger investment … People need to be well prepared from an early age then education is more easily completed—people continue to study because they understand its importance and will try their best to stay in school.
>
> The challenge for government is that D&D is not fully implemented yet. And capacity at national level to adapt using the decentralisation system is not fully developed … There is no Ministry for Children so it is difficult to know who to approach to help children in terms of budgetary support. The Commune Office is the only one that is integrated but they don't have the budget … The D&D approach will address this issue very well—and resources will be available through one channel—but implementation, and understanding and capacity, are not there and also more political will is needed.
>
> When D&D is fully implemented it will help with the interrelationship of issues—collaboration between ministries needs to be strengthened … the key is that they all work together more and more as effective service providers, and working with the private sector and civil society is key to anchoring policies. These organisations have the expertise and resources that the government may not have and in partnership they can achieve a lot more. (Key informant interviews 2014)

7.7 The ASEAN context and other international comparisons

Cambodia has among the lowest preschool coverage in the region especially, as one interviewee commented, in comparison with Thailand, Vietnam, Singapore, the Philippines and Indonesia. However, the government has now recognised the importance of this stage in a child's development particularly in the ultimate contribution it can make to the national workforce and economy: for this reason, there has also been support from the Ministry of Economy and Finance. Reports from international organisations have also urged action, including one from UNICEF's regional office in Bangkok that underlined the healthy return on investment in this age group. It is accepted that Cambodia is lagging behind many of its ASEAN competitors. For instance, in the Economist Intelligence Unit's overall rankings of early education across 45 leading countries (EIU 2012), Singapore is ASEAN's highest achiever at number 29, with Malaysia at 36, Thailand at 38, Vietnam at 41, the Philippines at 43 and Indonesia at 44. ASEAN's other members including Cambodia and its near neighbours Laos and Myanmar do not appear on the list.

For this reason, in its curriculum development activities, the government is referring to those of other Asian countries such as Singapore, which has often been presented as a role model in the region. However, some key informants urged caution in following the example of Singapore too closely: it has recently received negative media coverage for putting too much pressure on small children to achieve academic results that other countries would consider inappropriate, especially in the very young age groups (Chua n.d.). Thus, although Singapore could be considered the best in the region, there might be merit in also considering the countries in the EIU's four top slots—Finland, Sweden, Norway and the UK—and the example of New Zealand (number nine overall in the EIU rankings and number six for quality) has been discussed above. Although these are wealthy countries with preschool systems that are long-established, they have approaches and attitudes that are worthy of consideration. For example, Finland places a high value on preschool teachers—they are paid and treated with the same level of respect as, say, lawyers (EIU 2012, 13). The UK system has detailed guides on what young children should be able to achieve at each stage of their development and how preschool teachers can help to support this progression.

That said, while the wealthy Nordic countries, with their well-nourished and healthy populations, have the luxury of being able to put an emphasis on the personal, social and emotional aspects of early childhood development, the focus in poorer countries must remain on health services and parenting programmes (EIU 2012, 23). Thus, Vietnam (41st in the EIU's ranking) might provide a more realistic example to follow. The influence of cultural differences also suggests that Cambodia needs to view Western approaches with caution, bearing in mind the role that culture plays in people's attitudes: what works so well for children in Finland, New Zealand and the UK, for instance, might cause distress and confusion to young Cambodians.

7.8 Overriding principles

Throughout this chapter some overriding, general principles have emerged. Quality of teachers in all types of preschool—and their teaching practice—linked to adequate training, is clearly a pressing priority. So too is the need for better coordination between types of preschool, government ministries, NGOs, communities and all other stakeholders. Above all, the importance of better communications and awareness-raising has been clear. Civil servants and politicians need to be aware of the ultimate benefits to the country's economy and general well-being from investing in the youngest age groups. Donors should also be encouraged to direct more funding towards the issues of early childhood.

But above all, parents and other caregivers need to be aware of children's needs from conception onwards, the importance of a good education in promoting social, emotional and ultimate economic well-being and their vital role in this. Such an understanding would help to include many of Cambodia's most vulnerable and disadvantaged children in the country's progression. On a wider scale, it would be beneficial in supporting Cambodia's development and in enhancing the country's capacity to compete in today's knowledge-based economies in ASEAN and beyond.

7.9 Future research direction

The complexity of early childhood care and development in Cambodia offers a wealth of research opportunities embracing many disciplines.

Areas for research emerging from this chapter can be grouped under a few general headings, although these are far from exhaustive. There is, for instance, a need to clarify more closely what views parents and caregivers at community level—especially in rural and remote areas—have about the need for their children to go to preschool, what they perceive as its purpose, what their reservations are, why they have these reservations, and so on. The accessibility of preschool opportunities in their areas, and concerns about financial implications, are also of interest. Given the importance of involving parents and other caregivers in the early stages of children's education and in their more general development, research would help to identify the factors that might increase this involvement.

Bearing in mind the need to recruit more preschool teachers, more research into the reasons behind the current scarcity might be helpful. A full understanding of the views, experiences and difficulties of current preschool teachers might also help to improve working conditions and professional incentives.

Preschool curriculum development is already benefiting from lessons learned from those introduced in other countries. There might be scope in further developing this comparative process, not just in curriculum design but also in teaching methodologies and a better knowledge of how other countries understand the learning and development processes in early childhood. Linked to this is the need to gather a better and more precise idea of what Cambodia wishes to achieve through the preschool curriculum—particularly in terms of the child's personal, social and emotional development—and the teaching methods needed to achieve this. Associated issues that could also form the basis of further research include the evolution of monitoring and assessment tools and processes, as well as a more exact analysis of how the

UN Convention on the Rights of the Child could be more fully supported in preschool curriculum development in Cambodia.

The need for a holistic approach to early childhood care and development—and the confirmation by key informants that communes are best placed to act as a single channel to coordinate the different services involved—suggests another area of research: How are communes performing such a coordination role? What are the problems? How could the situation be improved? What examples of best practice exist that could be shared?

Cambodia is at a very early stage in introducing preschool opportunities, but the government has indicated a firm commitment to further development. There might, therefore, be merit in examining the experiences of countries that are further along the development spectrum than Cambodia but that are to an extent culturally or politically similar, or that can also be described as post-conflict with all the problems that this entails. Useful guidance might emerge from the preschool development within such comparator countries.

Although private preschools in Cambodia are to a significant extent unregulated, and quality varies, some are acknowledged as excellent. Research into this sector might therefore discover lessons that could be usefully shared throughout all four preschool types in this country.

Cambodia has only recently made early childhood education a policy priority. At the same time, it is a complex area with many different elements. At this early stage, there is much ground to cover, and the research directions identified here are just one part of what might be a much richer spectrum.

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Appendix 7.1 Action Plan on Early Childhood Care and Development 2014-18: Budget for Each of the Nine Strategies

Topic of Strategies	Budget (USD)
Prepare a legal framework, standards and mechanisms to effectively support and implement the policy by identifying cooperation and the duties of the main stakeholders	1132000
Improve existing or establish M&E mechanisms with involvement of ministries, agencies, communities and development partners, and improve the national and subnational technical coordinating committees with clear division of duties and responsibilities	200500
Build capacity (pre-service and in-service training) for programme practitioners, parents, guardians and child care supervisors and implementers on the content of and how to provide care in line with curriculum and decentralisation and deconcentration policy	455000
Develop national and subnational mechanisms for the provision of certificates or recognition letters to programme practitioners based on actual care service	75000
Expand services and education on health care and nutrition to all pregnant women	1935000
Expand health care and healing services for all infants from birth to three years with regular health check-ups, timely and adequate provision of immunisation and monitoring of nutritional services for children with malnutrition, chronic illnesses, delayed development and disabilities	1653989
Expand early childhood care and development services provision, including state, community, private and home-based services, especially early learning for young children	45012501
Ensure that all households have access to such information and services such as safe water and sanitation, health, nutrition, breastfeeding, food supplementation, immunisation, Vitamin A, iron and iodised salt, early learning, birth registration, prevention of all types of diseases such as HIV/AIDS and malaria, protection from violence including corporal punishment, and other forms of vulnerability	5164900
Develop communication mechanisms on early childhood care and development to attract support for these services	909110
Total	**56538000**

Source: NCECCD 2014

Chapter 8
Educating to Empower: Adding up the Parts

8.1 Introduction

Unless simultaneous attempts are made to tackle the emerging combination of skill shortages and skill mismatches, the problem is likely to get worse and will ultimately pose a dual disadvantage for Cambodia in years and decades to come. It could slow industrialisation and economic modernisation thus reducing long-term growth, and at the same time lead to youth unrest, social turmoil and political instability. Moreover, from a broader socio-economic perspective, skill development for improving young people's employability is critical for their empowerment and achieving the larger objective of human development.

Cambodia's emerging skill gap and the attendant skill mismatches can be seen as the sum of two educational gaps: a schooling gap and a learning gap (Madhur 2014). The schooling gap is mostly about numbers—the result of low enrolment rates, high dropout rates and low completion rates at various levels of education. Simply put, the schooling gap arises because not enough children are getting to school and staying there to complete the required grades. The learning gap concerns the quality of education, and arises because students may not be learning enough even if they go to school, stay there and complete the required grades.

The previous chapters identified the many facets of these two educational gaps and the factors contributing to them in the different segments of the country's education system. Large parts of the education system—from higher education to secondary education through TVET—are marked by both a schooling gap and a learning gap. With the country now close to achieving universal primary education, the primary segment of the education system has done well to close the schooling gap; going forward, the key challenge seems to be one of raising the quality of education. At the preschool stage, although enrolments are increasing sharply, coverage is quite low as is the quality of preschool services.

This chapter collates information already discussed in previous chapters and pulls together the key messages—mostly in the form of key questions for consideration in prioritising the country's education reforms for putting education to work to close the skill gaps.

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8.2 Higher education

The country has made significant efforts to rebuild its higher education hardware in the last two decades. As a result, there are now 104 higher education institutions in the country with a total enrolment of almost a quarter-million students. Yet, Cambodia has one of the lowest tertiary enrolments in the ASEAN region. And those who get a degree seem to specialise in liberal arts, leading to a very small percent of graduates with degrees in STEM (science, technology, engineering and mathematics) subjects for which there is an increasing labour market demand in a rapidly industrialising and modernising economy such as Cambodia. Equally as important, the overall quality of higher education—in both liberal arts and STEM subjects—is poor. Clearly, there is much work to be done across the higher education subsector to achieve the country's ambition of creating a knowledge economy. Against this backdrop, the country's future higher education reforms need to consider the following six issues:

- **Skill mismatch and STEM education:** At about 14 percent, Cambodia has the lowest tertiary enrolment rate among ASEAN countries. Overshadowing that there is the problem of a huge mismatch between what students choose to specialise in and what the labour market needs: too many students are graduating in liberal arts and too few in science, technology, engineering and mathematics. *How can Cambodia gradually correct this mismatch in higher education and bring about a better balance between liberal arts and STEM graduates? Is there merit in the country launching a national campaign to promote usage of mobile devices (smart phones, tablets, laptops) by "Cambodian m-learners" to access massive open online course (MOOC) platforms? Can such a strategy also radically shift mobile device users' behaviour from using their devices mainly for entertainment to using them mainly for educational purposes?*

- **Quality of higher education:** Even for graduates with a college or university degree in liberal arts, the overall quality of education falls far short of regional benchmarks. Although Cambodia has more than 100 higher education institutions, not one of them has made it to the list of the top 300 Asian universities while 43 higher education institutions from other ASEAN countries have, including two from Vietnam in the top 200. There is a need for a more cohesive institutional quality model for both public and private higher education institutions, and for meaningful input from educational institutions at all management levels: international, regional, national, institutional, departmental and individual. *What strategies and policy initiatives would be appropriate for stepping up the overall quality of higher education in Cambodia? Should future efforts to*

strengthen higher education quality place more emphasis on developing entrepreneurial universities? What kind of collaborative arrangements among universities, government and private industry would be required to promote entrepreneurial universities?

- **Private sector and higher education:** About 60 percent of tertiary education enrolments in Cambodia are in private education institutions (one of the highest among ASEAN countries). There are serious concerns about both the kinds of courses these private institutions offer and the quality of the education they bestow on Cambodia's youth. *Is there a need to rethink the private sector's role as a provider of higher education services? What should be the key elements of that rethinking?*

- **AEC and Cambodia's higher education:** In almost all the eight categories of skilled labour allowed freer movement across national borders under the AEC, Cambodia comes out close to the lower end of the ASEAN spectrum—certainly in quality but even in quantity. Indeed, national quality assurance and accreditation procedures should be adapted to the context of the forthcoming AEC. Establishing minimum competency standards in line with the AEC's objective of aligning member countries' national curriculums with the ASEAN minimum qualifications framework will require continuous modernisation of the national curriculum (Madhur 2014). *Which of these eight areas should Cambodia prioritise for policy focus? What kinds of policy initiatives will be required in those priority areas to enable the country to adjust smoothly to the AEC-led skilled labour movement across national borders?*

- **Higher education governance:** Cambodia's public higher education institutions seem to be over-regulated (spider system) while private higher education institutions are barely regulated at all (starfish system) (Madhur 2014). *Is there a need to bring about a better balance between these extreme models of governance for the two segments of the higher education system? How can Cambodia achieve that balance?*

- **Research culture in higher education:** The lack of a research culture in the higher education system is another key constraint on the development of a robust higher education system. *With the vision that Cambodia is moving in line with regional and global trends towards a knowledge economy, what should be the key elements of policy reform and other needed interventions to develop a research culture in higher education?*

8.3 Technical and vocational education and training

Similar to the higher education segment, Cambodia's TVET system has expanded significantly in recent years. Yet, there is a shortage of skilled TVET graduates compared to the huge labour market demand. This study identified the following major constraints in developing a vibrant TVET sector in the country: low enrolment rates (due partly to the low numbers of secondary school students progressing up to even grade 9), misperception of TVET as an inferior education which is not suitable for bright students or women (as perceived by dropout, failed grade 9 or grade 12 students), low public awareness especially among students of the employability of TVET graduates, poor quality of TVET training providers whose curriculums are not kept updated to keep pace with technology developments, weak links between employers and TVET providers, diffused governance structure, and a lack of clarity and coordination among the many stakeholders running TVET courses. Going forward, the following six sets of issues need careful consideration in reforming the country's TVET system:

- **Demand for and supply of TVET graduates:** Given that the development of a robust higher education system is predominantly a long-term project, there is a growing consensus that TVET can act as the short-to-medium term solution to close the country's emerging skill gap. *What are the expected medium-term gaps between the demand for and supply of TVET graduates in different subjects/spheres?*

- **Consolidation of the TVET system:** Cambodia's TVET system is fragmented in that there are too many small programmes/interventions, mostly financed by a number of development partners; many of them are supply-driven by the providers. *How can the country consolidate the national system in the next decade or so and make it contribute effectively to closing the expected demand-supply gap?*

- **Accreditation and quality assurance of TVET:** Many of the existing TVET courses are of questionable quality. Lack of a credible accreditation system for TVET is one of the major constraints on quality assurance. *How can the country best implement a reliable and valid accreditation and quality assurance system for TVET?*

- **Integration of TVET within higher education:** The current TVET system is a stand-alone segment of the higher education system with little flexibility for TVET students to pursue general higher education degrees once they enter the TVET stream. There is a need to integrate the TVET system and nest it well within the general higher education system, though very few countries have been successful in such an integration of

TVET. *How desirable is it for Cambodia to attempt such an integration of TVET? And how can the country bring about the desired degree of integration within the general higher education system?*

• **Private sector and TVET:** The private sector in Cambodia plays an insignificant role in the direct provision of TVET; its role in forging closer ties with TVET providers in deciding the types of courses and curriculums is also insignificant. *How can Cambodia entice and enable the private sector, consisting of a huge number of small and medium enterprises, to play a stronger role in developing a robust national TVET system? What kind of public-private partnerships would encourage or motivate the private sector to play a greater role in investing in TVET, curriculum design, pedagogy development, and training, apprenticeship and internship provision?*

• **Reorientation of public perception of TVET:** A major constraint on developing a credible TVET system in most countries around the world is the common perception of youth that TVET degrees are inferior to general higher education degrees. That perception presents a major obstacle in Cambodia, with most young people seeking college and university degrees that would land a white-collar job. *How pervasive is this socio-cultural constraint on developing the national TVET system? Is it easing quickly enough to encourage more and more secondary school graduates to take up TVET? What policy initiatives including interventions to educate the public about TVET are appropriate to ease this constraint?*

8.4 Secondary education

Secondary education provides the major link between initial schooling and learning and tertiary education, whether higher education or TVET. Hence it plays a crucial role in the country's overall education system. Indeed, one of the major constraints on developing a robust TVET system in the country is the low number of students completing even the lower secondary level (up to grade 9). This is due to low secondary enrolments as well as high dropout rates. The quality of secondary graduates is also highly questionable, evident from the sharp decline in the percentage of secondary school students passing the national exam last year following the tightening of invigilation standards. After MOEYS introduced strict measures to prevent cheating in the 2014 national exam, only one-fourth of students passed the first exam while in 2012 and 2013, when blatant cheating was not checked, more than 80 percent passed. Efforts to improve secondary education therefore face the twin challenges of reducing gaps in schooling and learning. The following issues deserve heightened focus:

- **Higher enrolments:** The net lower secondary enrolment rate is a lowly 38 percent and at 18 percent the figure is almost half that at the upper secondary level. Without better enrolment rates, the country will have huge difficulties in achieving a complete turn-around with TVET, irrespective of whether the public or the private sector takes the lead in restructuring the subsector. Encouragingly, the Education Strategic Plan 2014-18 aims to increase the secondary enrolment rate significantly. *What can the government, secondary schools and the parents of secondary school-age children do to bring about a major increase in secondary enrolment rates? Is lack of hardware a constraint, given that in many rural areas students have to commute 10-11 km to the nearest secondary school?*

- **Better completion rates:** Increasing secondary enrolments will go part of the way in strengthening secondary education. Reducing dropout rates is equally, if not more, important. High dropout rates mean that only 41 percent of children enrolled in lower secondary schools complete their education. The completion rate in upper secondary education is even lower, at around 27 percent. Even more worrying is the downward trend in the overall completion rate at lower secondary school, from 49 percent in 2009 to 41 percent in 2012. Reflecting the low enrolment and completion rates, the country has the lowest percentage of adults with secondary education among ASEAN countries. *What policies, programmes and projects should be designed and implemented to bring about a major turnaround in secondary education completion rates? Given that about 50 percent of parents gave family resource-related reasons for their children dropping out of school, is there a need for scaling up conditional cash transfer programmes to improve secondary completion rates?*

- **More qualified teachers:** The quality of secondary schoolteachers in the country leaves much to be desired. That, in turn, leads to poor learning by the students. The poor results from the grade 6 and grade 9 learning assessments conducted by MOEYS in 2009 is a testimony to this (Madhur 2014, 7). The current practice of using underpaid and underqualified teachers results in some teachers just collecting money from students in return for good exam marks. The sharp drop in the percentage of secondary students passing the national exam in 2014 is a good indicator of this undesirable practice. *What actions can be taken to improve the quality of secondary school teachers so that students can secure a high-quality secondary education?*

- **Strengthened pedagogy for secondary schools:** Poor learning and low student achievements at secondary school are also due to pedagogical barriers. A school's approach and attitudes towards teaching and learning

are important aspects of pedagogical leadership contributing to student achievement. School reform represents a change in pedagogical approach that aims to provide improved student learning opportunities, as well as professional development for teachers. It requires school leadership that is purposeful, supportive, positive and academically stimulating. An appropriate pedagogical approach should take into account students, teachers and school principals. *How can the country improve secondary school pedagogy?*

• **Enhanced accountability of schools and their management:** The demand for accountability has brought substantial pressure on school principals, who are expected to demonstrate improvements in student achievement. In efforts to improve schools and provide better learning for students, education policymakers have sought to increase schools' public accountability, measured particularly by students' test scores. There is a need to inspire leadership in schools, building vision and setting directions, understanding and developing people, redesigning the organisation and managing teaching and learning. *What strategy should be developed to make schools and their management more accountable for the huge dropout rates and poor student learning? Should it emphasise better leadership by school principals, better working conditions for teachers, better learning environments for students, or greater roles for parents and civil society in improving the accountability of school management? How can this be brought about through the existing School Support Committees?*

8.5 Primary education

Without a full course of primary schooling that imparts solid literacy and numeracy skills, it will be hard to train students at the subsequent stages of education. Cambodia has made huge strides in improving both primary education enrolment and completion rates in the past two decades. Even as the country sustains these achievements, much more attention will have to be paid to improving the quality of primary education. This study highlights four major areas for special focus:

• **Quantity to quality primary education:** With Cambodia close to achieving universal primary education, the emphasis needs to shift from meeting quantitative targets to enhancing the quality of primary education. *How can Cambodia bring about this shift in the primary education system and at the same time sustain the impressive gains in access to primary education (quantity of primary education)?*

- **Tackling trained teacher shortage:** Shortage of trained teachers is a major, indeed the single most importa**n**t, constraint on strengthening Cambodia's primary education. *What policy options are available for addressing this constraint and what are the pros and cons of each of these options? How can Cambodia fund alternative teacher development strategies? Should the country rely on imported teachers or import high quality teacher trainers? Or should it instead rely on an import-substitution strategy of developing a cadre of well-qualified and highly motivated primary teachers?*

- **Curriculum development for the 21ˢᵗ century:** Cambodia has made many attempts at revising the curriculum for primary schoolchildren. Yet there is a major concern that the current curriculum is too content-based and standardised to impart the foundational skills in numeracy and literacy—both ICT literacy and English language literacy—needed by 21ˢᵗ century children. *What are the policy options for continuous curriculum revision to keep it relevant? Importantly, what is the right balance between curriculum standardisation and customisation for Cambodia?*

- **Teaching methods for the future generation:** Cambodia's teaching system continues to follow the conventional "chalk and talk" method. *What is the scope for introducing more interactive teaching methods? How best to anchor ICT instruction in the context of mass open online courses? What would it take to develop teaching practices that are more interactive?*

8.6 Pre-schooling and early childhood development

Unlike two to three decades ago, learning today starts long before a child enters primary school. Access to affordable and quality preschool services is key for enabling children to learn at an early age. But even before that, for preschool to be effective, evidence suggests that children's cognitive development should be nurtured from conception. That, in turn, requires parents to focus on early childhood development (ECD), including maternal and child health, as "… 'nutritional stunting' in early childhood is a precursor to 'educational stunting' in youth" (Madhur 2014, 20). Encouragingly, in Cambodia's ESP 2014-18, preschool and ECD is one of the three priority areas; subsequently, the government has also come up with an Action Plan for ECD. Integrated within the overall framework of these strategic plans are four sets of issues that are crucial for imparting early education to Cambodia's children:

- **Expanded coverage:** Only about 50 percent of 5-year old children in the country have access to some form of preschool. The figures are much lower for younger children—only 21 percent of 3 to 5 year olds and 3 percent of under-3 year olds. *How can coverage be expanded towards achieving universal preschooling for 3 to 5 year olds and higher ECD coverage for under-3 year olds?*

- **Robust hardware:** Lack of preschool facilities is pervasive in Cambodia's countryside, where about 80 percent of the people live. *How much investment would it require to expand preschool services and ECD and how best to finance it? Should preschool services be entirely financed by the government, or should development partners, parents and civil society bear at least part of the cost? How can a pragmatic financing modality be designed and implemented?*

- **Heightened awareness:** Lack of awareness among the parents and caregivers of preschool-age children of the value of preschooling and ECD is a key constraint. Without educating parents about the value and importance of early learning for their children's skill development over their lifetime, no amount of investment in hardware will raise preschool enrolments. *What should be the key elements of the country's strategy to raise such awareness? What are the roles of civil servants and politicians— at the various layers of government—in such an awareness raising strategy? How can the media be used in raising the awareness of rural people, especially given lack of access to electricity and television?*

- **Consolidation of multiple programmes for better quality:** Lack of coordination between types of preschool, government ministries, NGOs, communities and other stakeholders is emerging as a constraint on providing quality preschool and ECD services. It also adversely affects the quality of preschool teachers and teaching practices and hence the quality of preschool education itself. *How best to design such a consolidation and quality assurance programme? Should it be the responsibility of government alone? Or should such a programme have better involvement and ownership by communities and parents? How can such a participatory consolidation programme be structured and implemented?*

8.7 Conclusion: A visionary approach needed

Overall, it is important to bear in mind that "building a highly skilled workforce is a shared responsibility between the government, education and training providers, employers, students and parents" (World Bank 2013, 25). Improving the quality and relevance of education and training does

not come cheap. A substantial increase in expenditure on education will be required. The mobilisation of financial resources for education will be the joint responsibility of the government, private sector and development partners.

Strong political leadership is crucial for calibrating the country's education culture. Without clear vision and direction, it will not be possible to bring about the required change in the society's mindset to create and promote a culture of education and learning. Equally important, political leadership is critical in mobilising the public resources required for financing the pressing education reforms. At present, public spending on education is about 2.6 percent of GDP, higher than only in Laos and Myanmar among ASEAN countries but much lower than Vietnam's figure of about 6.6 percent. While there is significant potential to get more out of existing public expenditure through efficiency-enhancing institutional reforms, higher expenditure will also be required to make big strides in improving the education system (Madhur 2014). Even to gradually increase public spending on education to, say, UNESCO's international benchmark of about 5 percent of GDP would require huge political commitment.

Cambodia is experiencing a youth bulge in its population: 53 percent of the population is less than 24 years old, 45 percent below 20 years, 30 percent below 15 years, 22 percent below 10 years, and 11 percent below 5 years. The country thus has a large potential skill pool. It is large because the numbers of youth are large as a percentage of the population. Crucial to converting this significant potential into actual skills for jobs and growth is more schooling (narrow the schooling gap) and better schooling (narrow the learning gap) (Madhur 2014).

Not providing young people with quality education and skills needed in the country's labour market could amount to forgoing the demographic dividend. This demographic window of opportunity will gradually close as the proportion of the population below the age of 15 years begins to decline in the next decade and half (Madhur 2014, 27). That is why the sooner the country acts on education reforms the better it will be for future generations. Otherwise, today's education gap will simply become tomorrow's skill gap, just as the past gaps in education now show up as a major skill gap—an outcome that the country can ill-afford.

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