

MATCHING ASPIRATIONS



Skills for Implementing
Cambodia's Growth Strategy



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FOREWORD

Workforce skills influence a nation's performance in economic development, poverty reduction, and jobs creation. Investment in the skills of the workforce not only contributes to higher productivity and enhanced competitiveness but also provides employment and more inclusive growth. Member nations of ASEAN, including Cambodia, recognize the importance of skills for prosperity and seek to promote skills development and the free flow of skilled labor.

A skills development agenda is vital for Cambodia. Owing to Cambodia's comparatively young population, the country will see its future economic performance, technological change, and new jobs determined by young people's ability to acquire skills. Accordingly, the Royal Government of Cambodia has recognized the importance of acquiring skills as part of the Rectangular Strategy for Growth, Employment, Equity and Efficiency.

The Supreme National Economic Council (SNEC) invited the World Bank to contribute and collaborate on an analysis of the emerging imbalance of skills facing Cambodia's economy, underlying causes, and possible responses. The result of this fruitful collaboration is this report.

Both the report's early findings and the proposed skills development action plan were discussed at a roundtable meeting held in Phnom Penh on March 31, 2011. The discussion involved representatives of multiple ministries, private companies, and other stakeholders. The discussion highlighted the importance of adopting a life-cycle approach to skills development – recognizing that a critical foundation for skills is established in early childhood as part of basic education. Furthermore, private sector representatives emphasized the need to match the skills learned in Cambodia's education and training systems with the needs of the labor market.

This report provides valuable insight for Cambodia to develop the skills necessary to match the country's development aspiration. At the same time, it outlines specific actions to create opportunities for access to information in the skills market, to expand household-oriented interventions, to improve school retention, and to strengthen second-chance options – including technical and vocational education and training. This report further proposes how to expand financing for early childhood development effectively, to strengthen institutions, and to promote incentives toward better results among skills providers, including higher education institutions.

The analysis in this report represents an important collaborative contribution to Cambodia's growth strategy and human development agenda. We hope you will find it useful.

Hang Chuon Naron



Secretary of State
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Country Manager for Cambodia
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ACRONYMS

AusAid	Australian Agency for International Development
CAMFEB	Cambodia Federation of Employers and Business Associations
CARD	Council for Agricultural and Rural Development
CDC	Council for the Development of Cambodia
CSES	Cambodia Socioeconomic Survey
D&D	Decentralization and De-concentration
ECD	Early Child Development
EMIS	Education Management Information System
GDP	Gross Domestic Product
GMAC	Garment Manufacturers Association in Cambodia
IFC	International Financial Cooperation
IT	Information Technology
ITC	Institute of Technology of Cambodia
MEF	Ministry of Economy and Finance
MEYS	Ministry of Education, Youth and Sports
MLVT	Ministry of Labor and Vocational Training
NEA	National Employment Agency
NGO	Non-Governmental Organization
NTB	National Training Board
NTTI	National Technical Training Institute
RGC	Royal Government of Cambodia
SEZ	Special Economic Zone
SNEC	Supreme National Economic Council
SPCU	Social Protection Coordination Unit
STEP	Skills toward Employment and Productivity
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Educational, Scientific and Cultural Organization

EXECUTIVE SUMMARY

The Government has rightly emphasized skills as part of Cambodia’s Rectangular Strategy for Growth, Employment, Equity and Efficiency.¹

Over the past decade, Cambodia improved the skills of its workforce at a slower rate than other countries in East Asia. And, although Cambodia’s firms do not perceive skills as their main business constraint, skills shortages may negatively affect the process of both industrial and agricultural upgrading and economic diversification. The percentage of firms reporting skills as a major constraint to growth in the 2007 *Investment Climate Survey* increased to 15.5 percent from 6.5 percent in 2003. Furthermore, 22 percent of Cambodia’s foreign firms identified skills as a “severe” or “very severe” constraint to their businesses. Because foreign direct investment appears positively correlated with technology adoption and skilled workforce utilization, any unrealized foreign direct investments generates opportunity cost. Moreover, with 56 percent of the population below 25 years of age in 2008, the ability of young people to acquire skills will influence Cambodia’s economic performance and growth opportunities.

Employers point to a structural imbalance in skills supply, including a relative shortage of vocational training graduates compared to university graduates. In a new survey of 78 employers by HRINC 2011, 73 percent of employers reported that university graduates do not have the right skills (while only 12 percent said that there are not enough university graduates);

62 percent of employers noted that vocational training graduates do not have the right skills (while 38 percent suggested that there are too few vocational graduates). Moreover, 31 percent of employers noted that it is difficult to train or upgrade their existing workforce – this may reflect not only a low quality and availability of training programs but also a weak skills foundation on which to build.

Employers perceive the sharpest skills shortages in senior management; they identify soft skills as the most important type of skills lacking in employees. In the HRINC 2011 survey, over 70 percent of employers reported a major shortage in management skills, 36 percent in middle management and supervisor skills, and 34 percent in professional staff skills. Among the most deficient soft skills, 52 percent of employers identified work attitudes in unskilled workers; 45 percent cited decision-making skills in semi-skilled workers; and 64 percent mentioned analytical skills in skilled workers. Furthermore, employers complained about difficulties in finding employees with not only specific vocational skills but also basic skills such as literacy and numeracy.

Many employers provide formal training to address skills gaps; however, they report difficulties in accessing good training providers. The survey conducted for this policy note found that 55 percent of employers are training at least half of their workforce; whereas, most other employers train at least some of

¹ This note follows on the 2010 World Bank report, *Providing Skills for Equity and Growth* and complements the World Bank 2010 note *Implementing Cambodia’s Growth Strategy after the Crisis*. It builds on the discussions during the World Bank Social Protection mission in November 2010 and on the policy debates at the Cambodia Economic Forum of 2011. It aims to support the Government in identifying actions to address constraints and to outline Cambodia’s skills strategy for the future.

their workforce (HRINC 2011). This survey also revealed that 64 percent of employers experience major difficulties in finding good training providers. As a remedy, employers demand more information – including information on workplace training providers, quality of vocational training centers, availability of particular skills, and quality of universities – and they would like to develop links with universities.

In the supply of skills, Cambodia is facing major constraints in the earlier stages of the life cycle, starting with early childhood development. Empirical evidence shows that effective early childhood development programs have a very high payoff; conversely, handicaps built early in life are difficult and costly, if not impossible, to remedy later. In Cambodia, however, acute malnutrition remains widespread – negatively affecting children’s mental development and future skills potential. Lack of food in the household has been associated with lower school attendance and completion.

Primary education exhibits weaknesses in completion and learning. Government policies have raised net enrollment rates at the primary level to nearly 95 percent in 2009/10 in both urban and rural areas. Wastage in primary education is, however, high with repetition and dropouts at 11 percent and 49 percent, respectively. Reasons for non-attendance and dropouts are linked primarily to conditions in households including poverty, household chores, and income generation (reported as the main reasons by 13 percent of children aged 6-11 not attending school). Additional reasons for non-attendance include children being perceived as too young to attend – although they have reached the official age of attendance (54 percent) – and a disinterest to attend (17 percent). Reasons for being uninterested or considered too young for school may reflect early childhood problems, including development delays and mental impairment owing to malnutrition and reduced mental activity due to insufficient stimulation in the early years of life. Furthermore, the national student assessment tests for Khmer language skills and math (grade 3, 6, and 9) demonstrate that students’ basic learning achievements, although improving somewhat, remain low. Teachers’ availability and qualifications appear to be a key constraint.

Secondary education – and technical and vocational education and training (TVET) – faces not only low attendance but also an underestimation of its value. Net enrollment rates remain low at about 32 percent for lower-secondary education, about 12 percent for upper-secondary education, and less than 6 percent for TVET. (EMIS 2010 and CSES 2009) Less than one-half of students complete their secondary education. The reasons for non-attendance and dropouts are mainly financial, with 52 percent of those not attending lower-secondary education, and two-thirds of those not attending upper-secondary education – reporting poverty, requirements to earn income, and household chores as the main reasons. (CSES 2009)

The Ministry of Education, Youth and Sports (MEYS) has begun to recognize and subsidize households to keep children in school. Further initiatives, although urgently needed, seem constrained by Cambodia’s low level of education expenditure. Moreover, household perceptions of the immediate financial loss from keeping a child in school seem compounded by underestimating the value of education, owing to a lack of information about financial return from both secondary education and TVET. For instance, returns to TVET at the secondary level – reaching 60 percent compared to primary education and 112 percent for post-secondary TVET compared to lower-secondary education. But only 17 percent of students express a desire to enroll in TVET. Consequently, low attendance at the secondary level calls for both second-chance programs and non-formal training.

Finally, to produce high-level skills, Cambodia is disconnected from the market and fields of study, which is becoming a more critical challenge than low tertiary enrollment. Cambodia’s institutions of higher education supply a relatively large amount of graduates in accounting, finance, and management (one-half of all bachelor students in 2009/10), compared to civil engineering (1.5 percent of students), and science and technology (0.1 percent of students). 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. Part of the explanation stems from recent youth surveys that show that students neither understand the skills demanded by employers nor possess access to reliable information on study and career opportunities.

Overall, the causes of Cambodia’s skills gaps and mismatches appear in the areas of information and coordination, as well as in education financing, coverage, and quality.

Employers seem to lack channels either to communicate their demand for specific skills or to influence skills development policies. Strengthening the National Training Board (NTB) to enable firms to convey their needs to the government and the provider community can play an important role in addressing information problems. On the supply side, the causes include the challenge of managing resources in ways that create incentives for good performance and accountability for results, the challenge of teaching soft and technical skills, and the ability of bringing schools and industries closer together to promote quality and relevance to market demand. This also covers the challenge to further assist households to prepare children for school and to have them attend. Finally, the skills market mainly suffers from weak market institutions (such as coordination mechanisms, employment

services, quality assurance, licensing, regulation, and accreditation) to connect the demand with the supply of skills. Market institutions are unlikely to emerge in the private sector due to their public goods nature.

Complementing policy initiatives already underway; Cambodia’s skills action plan needs to address the main impediments for skills to match its aspirations.

As an immediate priority, the government can create opportunities to access information in the skills market, to expand household-oriented interventions to improve school retention, and to strengthen second-chance options – including TVET. To lay a foundation for the future, the government should expand financing for early childhood development, strengthen institutional development, and promote incentives toward good results among skills providers, including higher education institutions. The proceeding table summarizes the proposed actions for consideration.

Skills Development Action Plan: Immediate priorities and laying the foundation for the future

Objective	Skills supply	Laying the foundation for the future
1 Information access	<ul style="list-style-type: none"> Enhance employment counseling and job search services Use media to show study and career opportunities, promote TVET 	<ul style="list-style-type: none"> Enhance the NEA’s capacity and partnership with the private sector
2 Coverage in the “missing middle”	<ul style="list-style-type: none"> Mainstream good TVET programs 	<ul style="list-style-type: none"> Strengthen the capacity of the NTB to deliver employer-focused reform of education and training Consider ways to encourage employers to invest in training their workforce
3 Quality and market relevance	<ul style="list-style-type: none"> Begin upgrading a small number of skills providers, including non-formal training centers, in collaboration with local industries 	<ul style="list-style-type: none"> Reform secondary curriculum to improve the teaching of science, math, engineering and other technical disciplines, entrepreneurship, and soft skills Strengthen accountability of communities and schools as part of the D&D process
4 Financing efficiency	<ul style="list-style-type: none"> Expand household-oriented financing instruments for school retention 	<ul style="list-style-type: none"> Increase expenditure on cost-effective interventions early in the life cycle Explore different financing tools to promote incentives toward good results among skills providers, including higher education institutions

1

CAMBODIA'S GROWTH STRATEGY DEMANDS BETTER SKILLS

Cambodia has begun laying the foundation for a more diversified, productive economy.

Following the crisis, the government has not only seized short-term opportunities for recovery but also moved Cambodia's growth strategy to the next stages: (a) diversifying the economy based on existing comparative advantages; and (b) upgrading endowments to move up the ladder of comparative advantages – beyond the current mix of abundant land, a geographically strategic position, and a low-cost labor force.²

Cambodia's existing skills constraints and bias toward low-skill labor-intensive industries undermine its growth strategy.

Low wages and labor costs, attributable to the large supply of unskilled labor, are influencing the types of industries coming to Cambodia. Low-skill, labor-intensive production has expanded, with clothing and apparel accounting for 88 percent of the country's exports. In the near future, Cambodia expects to continue attracting low-skill, labor-intensive industries that compete on the basis of low labor costs.³ This trend, together with Cambodia's low human resource base, slows the desired change from low-tech agriculture, agribusinesses, light manufacturing, and tourism to the adoption of more advanced technology-based industries. This in turn, discourages individual incentives to invest in skills.

The upgrading and diversification of the industrial structure faces multiple coordination and information challenges.

⁴ In particular, market information and coordination failures inhibit entrepreneurship and new business development, which would otherwise create employment in new industries of the economy. *The World Bank's Doing Business Survey* ranks Cambodia 147th out of 183 countries in 2010 – suggesting that it is costly to set up a business there. The Investment Climate Survey identified governance, regulatory policies and administration – along with tax rates and access to electricity – as the main constraints to growth.

In the labor market, information and coordination challenges surface as both persistent skills shortages and surpluses.

Schools and training centers – together with students and trainees – appear to be locked into patterns of investment that perpetuate skill imbalances. While the economy is focused on low-skill production, there are simultaneously unmet demands for higher level skills in selected industries and occupations. Lack of adequate market information and coordination are parts of this structural problem.

² For discussion, see for instance World Bank (2010a). Cambodia's Rectangular Strategy for Growth, Employment, Equity and Efficiency emphasizes the following areas: agriculture; water and irrigation system; transport infrastructure; electricity; human resource development; labor-intensive industry and food processing industry for exports; tourism; oil, natural gas and other minerals; information / communication technology; and trade.

³ The Government has identified 19 priority sectors that largely conform as part of its Trade Integration Strategy: beer, cashew nuts, cassava, corn, fishery, footwear, garment, livestock, rice, rubber, silk, soybeans, fruits and vegetables, wood products, light manufacturing assembly, tourism, labor services (including construction), transport-related services, business processes / web-based services.

⁴ Coordination and information challenges belong to three key constraints – along with challenges of appropriation and costs of electricity and logistics – of Cambodia's growth (World Bank 2010a). The appropriation challenge refers to Cambodia's weak system to resolve disputes and fight corruption. High costs of electricity and the costs and unreliability of logistics (including trade) prevent entrepreneurs from engaging in viable projects.

Importantly, Cambodia's development challenges include poverty and rising inequality.

More than two-thirds of households in the lowest income quintile depend on agriculture; at the same time, intra-rural disparity is the dominant reason for Cambodia's rising inequality.⁵ Analysis suggests that reducing poverty and reversing the trend of rising inequality entails not only the upgrading of agricultural practices but also the release of labor to pursue employment off the farm. This requires functioning labor markets, entrepreneurship, and equitable access to basic public services such as education and health. These services would also support the country's future growth prospects.

Meeting these challenges and developing an adequate skills base is essential for realizing the potential of the large numbers of young people entering Cambodia's labor force.

The working age population increased from 54 percent in 1998 to 62 percent in 2008, largely owing to the increase of young people in the country. (National Institute of Statistics 2010) Although Cambodia is moving toward the end of this demographic transition and fertility rates have declined from 5.3 in 1998 to 3.1 in 2008⁶, a large influx of young people into the labor force is expected to continue. Skills will largely determine the ability of young people to engage in productive jobs or entrepreneurship.

Skills will influence Cambodia's future jobs opportunities. With 56 percent of the population

being below 25 years of age in 2008, the ability of today's young people to acquire skills will influence Cambodia's economic performance and growth opportunities for the future. In particular, technology adoption and skills development throughout the working life tend to be determined by the skills foundation developed in early life. Limited education among young people entering Cambodia's labor force restricts the scope for the creation of decent jobs – as well as for future industrial upgrading and technological change.

Although skills are not the most important constraint to Cambodia's growth currently, they will influence its economic performance in the future.

The 2009 Investment Climate Assessment showed that Cambodia's firms ranked skills as the 9th most important constraint to growth from a list of 18 skills. (World Bank 2009) The percentage of firms reporting skills as a major constraint to growth in this survey, however, increased to 15.5 percent from 6.5 percent in a similar survey conducted in 2003. Firms evidenced their interest in skills with half providing training for their workers (Table 1). Experience suggests that education is closely linked with occupational employment outside agriculture (Figure 1) and secondary education leads to higher value-added production off the farm (Figure 2). Hence, if not developed quickly, the current inadequate skills base will restrain Cambodia's ability to develop its economy and to become a middle-income country.

Table 1 Firms' feedback on skills supply and demand

	Skills supply	Skills demand	
	Share of unskilled workers reported by firms (%)*	Firms offering formal training to workers (%)	Firms reporting workforce skills as a major constraint (%)
CAMBODIA	25.7	48.3	15.5
India	36.3	15.9	14.5
Indonesia	20.4	4.7	4.5
Lao PDR		11.1	18.7
Malaysia	65.0	50.1	20.2
Nepal	35.8	8.8	5.9
Pakistan	19.1	6.7	8.1
Thailand	83.5	75.3	38.4
Vietnam	20.8	43.5	8.9
<i>Avg. for selected countries</i>	38.3	29.4	15.0
<i>World Average</i>	33.7	34.1	26.1

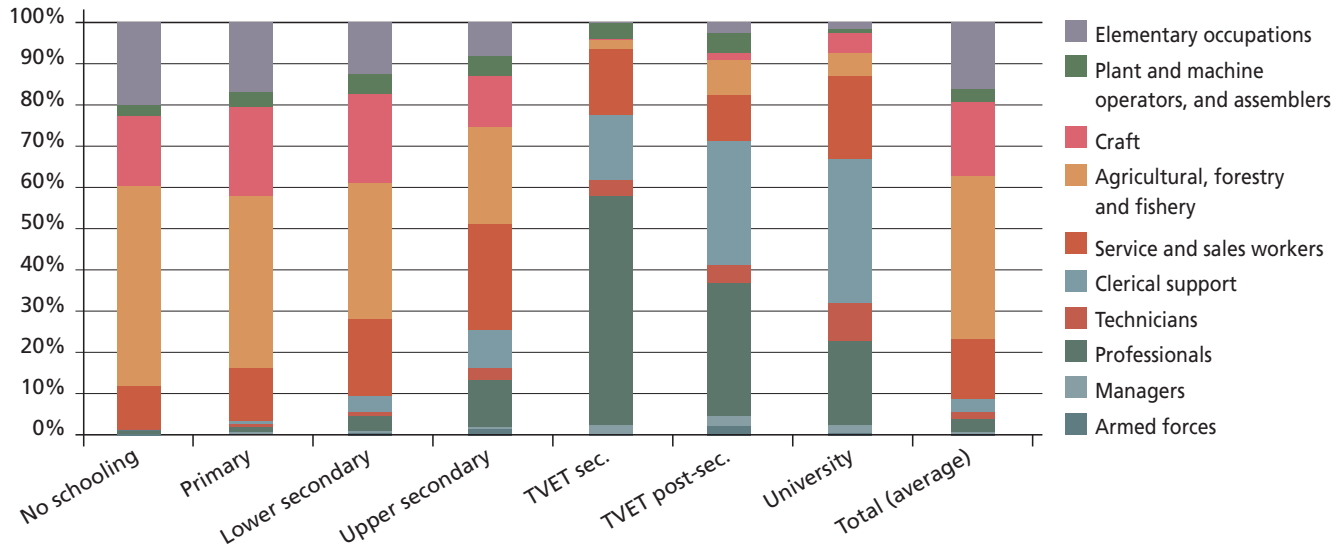
Source: World Bank's Enterprise Surveys, 2006-09. For methodology see, World Bank 2011.

Note: *For some countries, the 2006-07 survey data covers the share of unskilled workers in manufacturing sector only.

⁵ Income inequality in Cambodia is high by regional standards, with Gini coefficient approaching 45 percent. For data see East Asia Regional Poverty Monitoring Database.

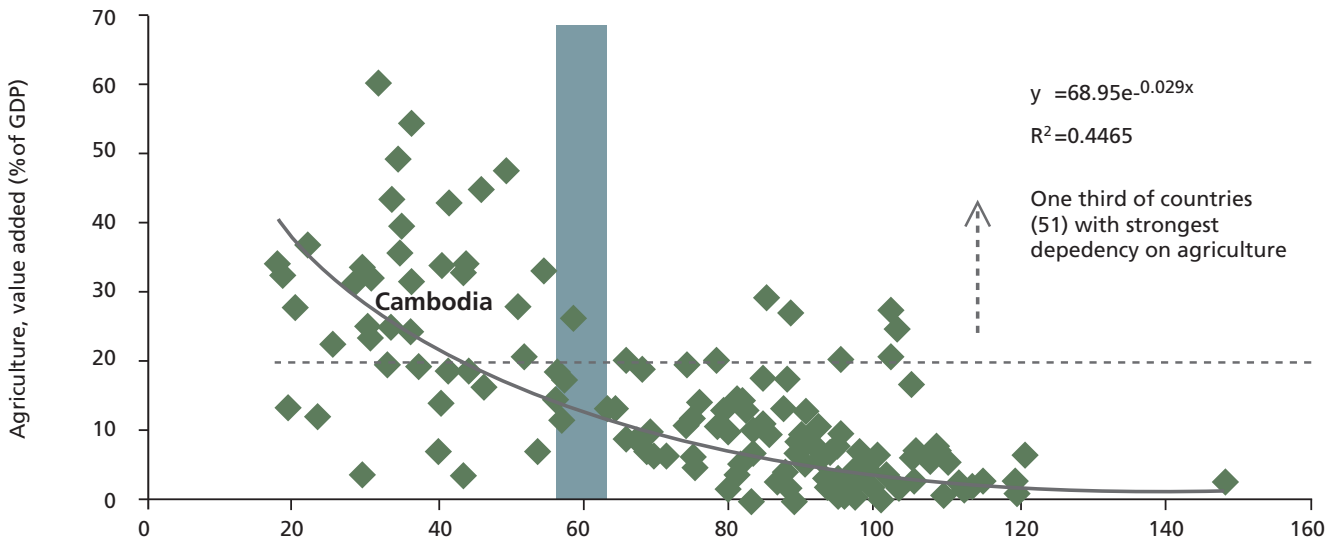
⁶ Similarly, to National Institute of Statistics (2010), Cambodia Demographic and Health Survey (2011) shows a decline in total fertility rates from 4.0 in 2000 to 3.0 in 2010.

Figure 1 Occupations by education among 20-29 years old, 2009



Source: CSES 2009.

Figure 2 Secondary enrollment and agriculture as a share in GDP



Source: World Development Indicators 2010.

Over the past decade, Cambodia has improved the skills of its workforce at a slower rate than other countries in East Asia.

Cambodia and Mongolia are the only two countries in the region that experienced a stagnating proportion of skilled workers among workers with reported earnings. (This can be attributed to the increasing share of workers with tertiary education being counteracted by the declining share of workers with upper-secondary education in Cambodia).⁷

From 1997 to 2007, wage premiums have remained the same with the exception of returns to post-secondary education, which might be a source of this stagnation. Industry wage premiums at this time exceeded skill wage premiums, suggesting that industry premiums are the main reason for wage differentials in the economy. In turn, the higher dispersion of industry premiums suggests that the labor market in Cambodia is more segmented than in other surveyed countries in the region. (Di Gropello and Sakellariou 2010)

Persistent skills shortages negatively influence foreign direct investment and its corresponding contribution to technology advancement. In the 2007 Investment Climate Survey, 22 percent of Cambodia's foreign firms (compared to 15.5 percent of all firms) identified skills as a "severe" or "very severe" constraint to their business. Because foreign direct investment appears positively correlated with technology adoption and skilled workforce utilization, any unrealized foreign direct investment generates opportunity cost. Moreover, data from Cambodia and other East Asia countries show that firms with more educated managers (managers that have more than secondary education) are also more likely to employ more educated workers. (Almeida 2009)

Cambodia expects to move to the next stage of development after the comparative advantage of its low cost labor is exhausted and wages begin to rise. This pattern is found in virtually all market economies that have moved to a higher income status and a more knowledge-intensive economy. Labor markets, if working efficiently, will signal this transition by increasing wages of low skilled labor as the supply of this labor is exhausted; in so doing, they will provide the incentive for more capital investment and an increased demand

for skilled labor to work with this capital. Capital brings with it new technology that leads to skill-biased technological change. At that point, Cambodia's economy will shift from competing on the basis of low wages to competing on the basis of high productivity. This pattern has been seen in Korea, Taiwan, and Hong Kong; it is now taking place in Guangdong and other provinces along China's east coast.

Waiting until this transition point is reached without taking action on the skills agenda risks waiting too late to develop the policies, institutions, and capacities needed for a more advanced economy. Developing policies, institutions, and capacities to create opportunities for skills development requires substantial time before it can be fully realized. For example, Korea took steps in the 1980s to build the capacity of its higher education system, well in advance of the actual emergence of demand for these graduates. In view of the substantial time needed for this process (even though skills may not be at the top of Cambodia's present investment climate agenda) the government is right to pursue the skills agenda to lay the foundation for a more diversified and productive economy.

Workforce skills will contribute to implementing Cambodia's economic development strategy. Improvements in workforce skills will promote diversification in the medium-term; simultaneously, it will advance Cambodia's comparative advantage in the long-term. Such improvements will ease the move of Cambodia's firms up the value chain; at the same time, it will not only boost entrepreneurship but also stimulate the development of small and medium enterprises – thus supporting job creation. Skills will also help agricultural upgrading and increase added value at the farm level and further down the chain. This will manifest sustainable management of land and natural resources; it will also create the transfer of labor from agriculture to industry and services with higher returns. Moreover, skills will assist the government in economic management and growth facilitation; simultaneously, it will provide a strong foundation for an effective civil service and the public administration in Cambodia's increasingly decentralized environment.

⁷ For analysis see Di Gropello and Sakellariou (2010). Surveyed countries include Cambodia, China, Indonesia, Mongolia, the Philippines, Thailand and Vietnam. The study defines skilled workers as workers with upper secondary and above education.

2

WHAT IS THE NATURE OF THE SKILLS MISMATCH AND ITS CAUSES?

In analyzing the available evidence on skills gaps and mismatches in Cambodia, this section explores the situation from the perspective of the employers and providers, particularly – but not limited to – the education system. This section identifies a number of important skills imbalances facing the economy in the near future. Finally, it reveals the underlying causes of the gaps and mismatches in terms of market failures and points to possible actions in response.

2.1 What skills gaps and mismatches do employers face?

Box 1 What are “soft skills”?

“Soft” (or “life”) skills generally refer to competencies and personal attributes that enable individuals to deal effectively with the demands and challenges of everyday life, e.g. problem solving, creativity, communication, and teamwork.

According to the 2007 World Development Report (World Bank, 2006), soft skills can be classified into two groups: a) thinking skills such as critical and creative thinking; and b) behavioral skills, which include perseverance, self-discipline, teamwork, and the ability to negotiate conflict and manage risks. Some behavioral soft skills such as punctuality and teamwork, can be learned on the job. Others, such as self-discipline are best founded in early childhood.

Thinking skills are probably best learned in institutional settings like schools and training centers. The more recent literature emphasizes the importance of soft skills, both in the process of human capital development and as a determinant of schooling and employment outcomes.

Generally, “soft” skills complement “hard” skills, which are technical abilities specific to a task or activity. Examples of hard or technical skills include machine operation and computer literacy. These skills are usually easier to observe and quantify, and are relatively easier to impart in schools or at the workplace.

Although not a severe constraint to current growth performance, skills shortages are increasingly pronounced in certain specific areas. Employers point to a structural imbalance in skills supply, including a relative shortage of vocational training graduates compared to university graduates, and a big shortage of graduates “with the right skills”. In 2008, a survey of 220 employers by CAMFEBA (2008) found that only 13 percent of employers agree that graduates have “all or most” of the right skills for the job market, while 11 percent reported that young people do not possess the right skills at all. In a survey of the three booming sectors outside of agriculture (namely garments, tourism, and construction), only one out of five firms reported that vocational training graduates have the necessary set of skills to perform their job. (HRINC 2010)

Other surveys confirm the skills mismatch. In a new survey of 78 employers by HRINC (2011), 73 percent of employers reported that university graduates do not have the right skills (while only 12 percent said that there are not enough university graduates); 62 percent of employers noted that vocational training graduates do not have the right skills (while 38 percent suggested that there are too few vocational training graduates). Moreover, 31 percent of employers noted that it is difficult to train or upgrade their existing workforce, which may reflect a low quality of available training programs – as well as a weak skills foundation on which to

build. A survey of 24 leading companies by HRINC (2010) found that 63 percent of employers felt that it is becoming more challenging to find the needed skills in the market. Although not hindering the firms' current performance, shortages of technical skills complicate the adoption of new, more productive technologies. These problems have been recognized by the government in the 2011 Cambodia Economic Forum and a recent report released by the National Institute of Statistics (2010).

Some employer surveys indicate that Cambodia is experiencing growing shortages in management skills. Available information suggests that the sharpest skills shortages (and the ones that employers perceive as the greatest constraint) are in senior management. In the HRINC 2011 survey, over 70 percent of employers reported major shortage in management skills, 36 percent in middle management and supervisor skills, and 34 percent in professional staff skills. Shortages in management, middle management, supervisor, and professional skills represented a major constraint for 64 percent, 48 percent, and 50 percent of employers, respectively.⁸ Also, shortages of management skills may be surfacing in civil service and public administration – especially in the process of decentralization and de-concentration – which requires a wider dispersion of skills for policy analysis and implementation.

Next, employers report a growing unmet demand for workers with a mix of soft and technical skills (Box 1). Such a mix of skills is not sufficiently provided up and down the education ladder, including vocational training. In particular, employers identify soft skills as the most important type of skills lacking in most employees. In the CAMFEBA 2008 survey, 76 percent of employers deemed that graduates are not equipped with the required set of skills – in particular soft skills rather than technical competencies – they need to perform their jobs. Among the soft skills most difficult to find, 52 percent of employers identified work attitudes in unskilled workers; 45 percent cited decision-making skills in semi-skilled workers; and 64 percent mentioned analytical skills in skilled workers. Many employers also complained about skills shortages in leadership (for management staff), problem solving, and communication. Moreover, soft skills appear to be a severe limitation for recent young graduates: 89 percent of employers indicated difficulties working with recent young graduates because of behavioral issues.

Then, employers report difficulties in finding specific vocational and occupational skills.

As discussed in World Bank (2010b), foreign languages, IT, sewing, plumbing, carpentry, and blacksmithing are all skills that are in high demand but difficult to find. In the hospitality sector, employers identify difficulties finding chefs, receptionists, and food and beverage managers. In the garment sector, positions that stand out as the most difficult to fill are in sales and sewing. In the construction sector, it is hard to recruit carpenters, plumbers, blacksmiths, and electricians.

Finally, employers complain about difficulties in finding employees with basic skills such as literacy and numeracy. This reflects the relatively low literacy rate in Cambodia's population, 15 years old and above (77.6 percent) and 15-24 years of age (87.5 percent), which in turn reduces the effectiveness of training at later stages.

To address some of these skills gaps, many employers provide formal training. CAMFEBA (2008) indicated that employers pursue the following training priorities: technical skills, decision-making and problem-solving, communication, teamwork and leadership, marketing, sales, and customer service skills.⁹ Many of these skills are not taught in schools and vocational training centers. According to the World Bank's 2007 Investment Climate Survey, 48 percent of employers provide training to at least some of their workforce (a higher level than in the majority of other countries, as illustrated in Table 1). The survey conducted for this policy note found that 55 percent of employers provide formal training to at least half of their workforce while most others provide training to at least some of their workforce (HRINC 2011). To conduct such training, employers generally use in-house programs (53 percent of employers), local providers (43 percent of employers), or foreign training providers, particularly for senior management (27 percent of employers). Employers are more likely to train a workforce that already has basic skills.

Limited access to good training providers constrains enterprise training. In the HRINC 2011 survey, 64 percent of employers identified the lack of good training providers as their single largest constraint in providing adequate training to their employees. Other main constraints included high training costs, lack of time, high employee turnover, and a lack of information about training

⁸ World Bank 2010b and HRINC 2011. More rigorous surveys of employers and employees would be needed to provide reliable evidence on the exact extent and type of skills gaps and mismatches.

⁹ Cambodia Skills Development Center recently revealed employers' training priorities in more detail as part of a confidential study, highlighting interpersonal skills, human resources and industrial relations skills, sales and marketing skills, business and computing skills, and financial management skills.

opportunities. Such constraints appear more severe for small and medium-sized enterprises than for larger firms. This is a pattern observed in many countries with particular importance to economies with large informal sectors. To overcome their skills shortages, employers demand more

information – including information on workplace training providers, quality of vocational training centers, availability of particular skills, and quality of universities. They also want to develop links with universities (Figure 3).

Figure 3 Employers' proposed solutions to overcome skills shortages



Source: Survey by HRINC Cambodia, March 2011.

2.2 Where are the gaps in skills provision?

A life-cycle skills development framework, which starts with early childhood development and continues into the working life, helps organize the analysis of skills development issues and policies. This framework breaks the life cycle of an individual into several distinct stages: starting with the early foundation of childhood development and basic education that prepares an individual for acquiring skills for employment. It continues with the pre-employment stage when the individual is acquiring vocational and technical skills in apprenticeships, schools, and training centers for their first job. It culminates at the work and re-skilling stage when workers are upgrading their skills and re-skilling for employment in a changing market. Each stage involves a different mix of actors, policies, funding sources, and performance monitoring mechanisms for skills development.

Cambodia seems to be facing major constraints in skills development in the earlier stages of the life cycle, starting with early childhood.

a) Establishing the foundation for skills in early childhood: The challenge of nutrition and stimulation

Internationally, there is a growing recognition of the importance of early child development (ECD) in establishing the foundation for lifelong learning. Nobel Laureate James Heckman and others have demonstrated that ECD is the most cost-effective form of human capital investment compared with primary education or any subsequent schooling.¹⁰ Three types of outcomes in early childhood are critical for future development in life: (i) physical growth and well-being; (ii) cognitive development; and (iii) socio-emotional development. ECD policies and programs can directly affect these outcomes and therefore benefit both individuals and societies.

Empirical evidence shows effective early childhood development programs have a very high payoff. Evidence has proven that interventions in the form of mother's health and knowledge, child nutrition, and activities to promote cognitive and socio-emotional development of young children (such as positive caring practices and rich language and exploration opportunities) have a positive impact on school preparedness and learning performance throughout their life with strong social and private returns on

¹⁰ See, for instance, Heckman, Stixrud, and Urzua (2005). Early childhood development is generally taken as the period from when a child is conceived to when that child is six to eight years of age.

such investments. (Alderman 2011 and Barnett 2008) Conversely, international evidence shows that the handicaps built early in life are difficult and costly, if not impossible, to remedy later. Acute malnutrition negatively affects Cambodia's skills development potential. The 2010 Cambodia Demographic and Health Survey indicates that the share of children stunted, wasted, and underweight in their first 59 months of life has remained high, reaching 40 percent, 11 percent and 28 percent, respectively in 2010. These levels are similar – and in case of stunting, which refers to acute malnutrition – even higher in 2010 compared to 2005. Internationally, malnutrition and insufficient stimulation have been shown to imply impaired mental development, dropouts, behavioral problems, and failures later in life.

Lack of food in the household has been associated with lower school attendance and completion. (See Figure 4) According to the Cambodia Socioeconomic Survey (CSES), every fifth child lives in a household without enough food. Such children are less likely to attend and complete school. Among children 6-17 years of age, 20 percent of children living in households without enough food never attended school, compared to 8 percent of children from households with enough food. A similar difference (21 percent compared to 8 percent) is reported among 18-22 year olds. Among those who ever attended school in the 15-17 age group, only 52 percent of children living in households without enough food were reported to be currently attending school compared to 61 percent of children with enough food. The relationship between food and schooling also applies across generations: 59 percent of respondents above 15 years of age in households without enough food have no schooling.

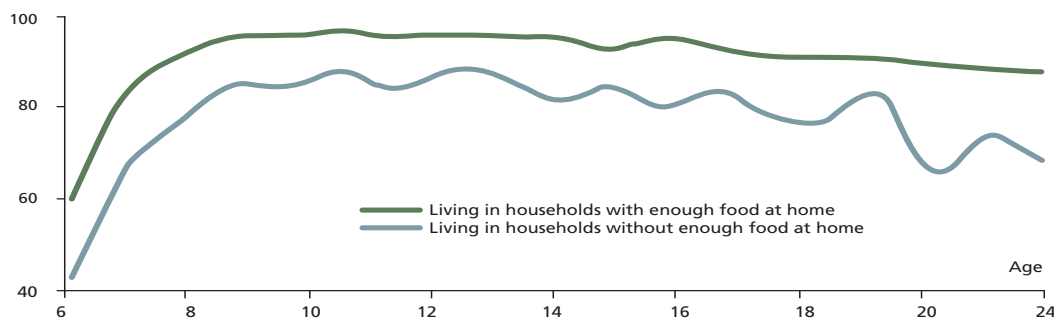
Pre-primary education and community outreach programs are expanding but still limited. Cambodia has nearly doubled pre-primary enrollment over the past decade, with pre-primary gross enrollment reaching about 13 percent. The expansion has been supported by both private and public institutions, with private institutions accounting for 30 percent of the provision in 2008/09 compared to 20 percent in 2000/01. Pre-primary enrollment in Cambodia is, however, still relatively low by international standards. Gross pre-primary enrollment exceeds 45 percent globally, and is about 44 percent in China and Indonesia, and 88 percent in Thailand.¹¹ Separately, ECD programs, including community outreach programs to improve nutrition and child rearing practices, are being piloted and evaluated.

b) Primary education: Strong enrollments but weak completion and learning

Government policy to achieve universal access to basic education has been successful in raising net enrollment rates, particularly at the primary level. Primary net enrollment rates increased from under 83 percent in 2000/01 to nearly 95 percent in 2009/10. According to EMIS data, enrollment rates are strong in both urban and rural areas, including remote areas. The expansion has been largely supported by public institutions, which cater to 99 percent of primary students.

Uncompleted primary education remains a challenge. According to the 2009 CSES, one in ten children 6-17 years old have never attended school. At age 15-19, only 71 percent completed primary education (69 percent of 20-24 years old). Among non-Khmer and non-Cham ethnicities, less than 22 percent of 15-19 years old and

Figure 4 Share of children/youth with and without enough food who ever attended school, 2009



Source: Calculations based on data from CSES 2009.
 Note: The survey sample covers 22,914 observations for those living in households with sufficient food and 4,576 for those living in households without sufficient food.

¹¹ For more country data, see World Development Indicators (2010).

Table 2 Share of children who are not in school and the reasons for non-attendance, 2009

	Primary (age 3-5)	Primary (age 6-11)	Lower secondary (age 12-14)	Upper secondary (age 15-17)	Total (age 6-17)
Share of age group out of the school system					
Share who never attended	84.3	14.7	4.8	6.2	9.9
Share who attended but not currently	1.1	1.4	10.9	40.3	14.7
Reasons why not attending or never attended					
Did not want to	2.0	16.8	18.3	12.4	14.8
Did not do well in school	2.1	4.1	16.1	17.2	12.7
No suitable school available/school too far	0.9	6.7	4.7	3.0	4.5
No teacher/supplies	0.4	2.4	2.0	0.9	1.6
High cost of schooling	0.2	0.2	0.1
Must contribute to household income	0.1	0.7	14.3	27.9	16.6
Must help with household chores	0.1	1.9	14.3	15.9	11.0
Too poor	1.0	10.5	23.5	17.6	16.2
Too young	93.1	53.5	2.2	0.8	18.6
<i>Number of observations</i>	2,839	1,186	595	1,793	3,574

Source: Calculations based on data from CSES 2009.

19 percent of 20-24 years old have completed primary education. As a source of concern, the recent increase in overall primary enrollment was accompanied by declining completion rates. The EMIS data indicated that the primary completion rate peaked at 90 percent in 2005/06 and declined to 83 percent in 2009/10. Moreover, wastage in primary education is high with repetition and dropouts at 11 percent and 49 percent, respectively. Hence, the future challenge is not only how to enhance completion rates for those now in school, but also how to address further skills needs of the young people that fail to complete primary education.

Reasons for non-attendance and for dropouts are linked primarily to conditions in households.

Among children aged 6-11 not attending school, non-attendance was mainly explained by the following: (a) lack of schools, teachers, and supplies (9 percent); (b) poverty, household chores, and income generation (13 percent); (c) perceived as too young — even after reaching the official age of attendance¹² (54 percent); and (d) being uninterested in attending (17 percent). Reasons for being uninterested or perceived as too young for school may reflect childhood development problems, including development delays and mental impairment owing to malnutrition or reduced mental activity because of insufficient stimulation in the early years of life (Table 2). (CSES 2009)

Finally, concerns remain about learning outcomes.

The national student assessment tests on Khmer and math (grades 3, 6, and 9) showed that students' learning achievements, although improving somewhat, remain low. Teacher availability and qualifications appear to be a constraint. In primary education, the pupil-teacher ratio exceeds 49,¹³ being high by international standards and above average among the low income countries in the region (Figure 5). Over the past decade, the share of teachers with upper-secondary or higher education increased from 29 percent to 50 percent. Still, 46 percent of teachers acquired only lower-secondary education and 4 percent only primary education, which is perhaps not sufficient for quality teaching. (EMIS)

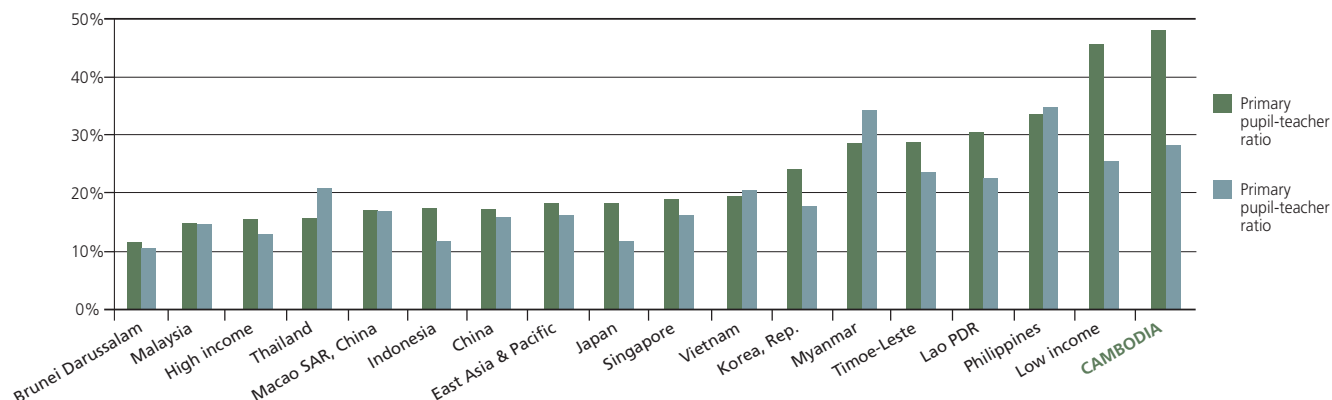
c) Developing core skills in both secondary education and technical and vocational education and training (TVET): Low attendance and recognition of benefit

Compared to primary education, secondary enrollments have shown a slower improvement since 2007 and remain low. According to EMIS data, net lower secondary enrollment was about 32 percent in 2009/10 with a pronounced disparity amid urban (48 percent), rural (29 percent), and remote (11 percent) areas. The level is low by international comparison (Figure 6). Net upper-secondary enrollment is especially

¹² Cambodia's official age of primary school attendance is consistent with international practice.

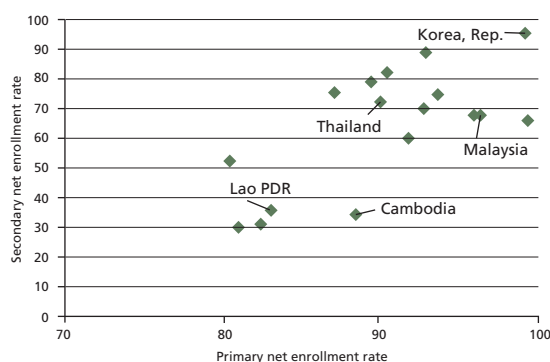
¹³ EMIS 2009.

Figure 5 Primary and secondary pupil-teacher ratios in East Asia



Source: EdStats (latest available during 2005-09).
 Note: East Asia & Pacific refers to developing countries only.

Figure 6 Net enrollment rates in primary and secondary education in the East Asia region



Source: EdStats (latest year available during 2005-09).
 Note: EdStats figures for Cambodia somewhat differ from EMIS.

low: estimated at about 12 percent. Among people 20-24 years old, less than 6 percent report attending TVET (only one third of this 6 percent attend post-secondary TVET). (CSES 2009)

Low completion and limited choices in secondary education remain a significant challenge. Lower-secondary completion rates lingered around 49 percent during 2007-10. In 2009, only 29 percent of young people 15-19 years old, and 36 percent of those 20-24 years old, completed 9 or more years of schooling; only 17 percent of young people 20-24 years old completed 12 or more years of education, and less than 2 percent received a TVET certificate. (CSES 2009) In contrast, 99 percent of this eligible age in China now receives 9 years of basic education. Enrollments in secondary technical and vocational education in Cambodia are among the lowest in Asia – suggesting that TVET is not

a readily available option or an appealing choice for students. The low secondary, and particularly TVET, completion rates are constraining the creation of a skilled labor force in Cambodia. In this respect, international experience suggests that the availability of TVET as a choice for secondary students can increase both retention and graduation rates, while contributing to overall economic competitiveness.¹⁴

The reasons for non-attendance in secondary education are mainly financial. As shown in Table 2, 52 percent of young people not attending lower-secondary education reported poverty, a necessity to earn income, and household chores as their main reasons. These reasons were echoed by two-thirds of young people not attending upper-secondary education in the given age group. (CSES 2009) The Ministry of Education, Youth and Sports (MEYS) has already started addressing such financial obstacles through a scholarship program subsidizing households for keeping children in school. Internationally, such programs, raising the private returns to schooling, have been found to increase enrollment. (Filmer and Schady 2009) Further initiatives, although urgently needed, seem constrained by the low level of education spending in Cambodia at 1.6 percent of GDP in 2007 in comparison with nearby countries like Bangladesh (2.4 percent), India (3.2 percent), Indonesia (3.5 percent), Lao PDR (2.3 percent), Malaysia (4.5 percent), Vietnam (5.3 percent), and Thailand (4.9 percent). (World Development Indicators 2010) Similarly, the capacity of the Ministry of Labor and Vocational Training (MLVT) to create opportunities for the expansion of formal TVET appears limited.

¹⁴ See, for instance, Bishop and Mane (2005) and OECD (2010).

Household perceptions of immediate financial loss from keeping a child in school may be compounded by underestimating the value of education.

Information about financial returns to secondary education and TVET is not easily available. This may prevent households from fully appreciating the value of education for future earnings, a problem common in developing countries. Actual estimates of the value of education in Cambodia are favorable, indicating positive economic benefits to those who remain in school. The estimated wage premium for lower-secondary education is 38 percent compared to primary education and 24 percent for upper-secondary compared to lower-secondary education. (CSES 2009) Returns to overall secondary education appear comparable with those in the Philippines but lower than those in Indonesia and Thailand. (World Bank 2010b)

Returns to TVET are perhaps the most underestimated.

Returns to TVET reach 60 percent for TVET at the secondary level compared to primary education and 112 percent for post-secondary TVET compared to lower-secondary education. In fact, recent household surveys and private sector salary and benefit surveys indicate (Figure 7) that returns to post-secondary TVET are nearly equal to those for tertiary education (and more than three-fold among technicians and associate professionals).¹⁵ Surprisingly, however, only 17 percent of students express a desire

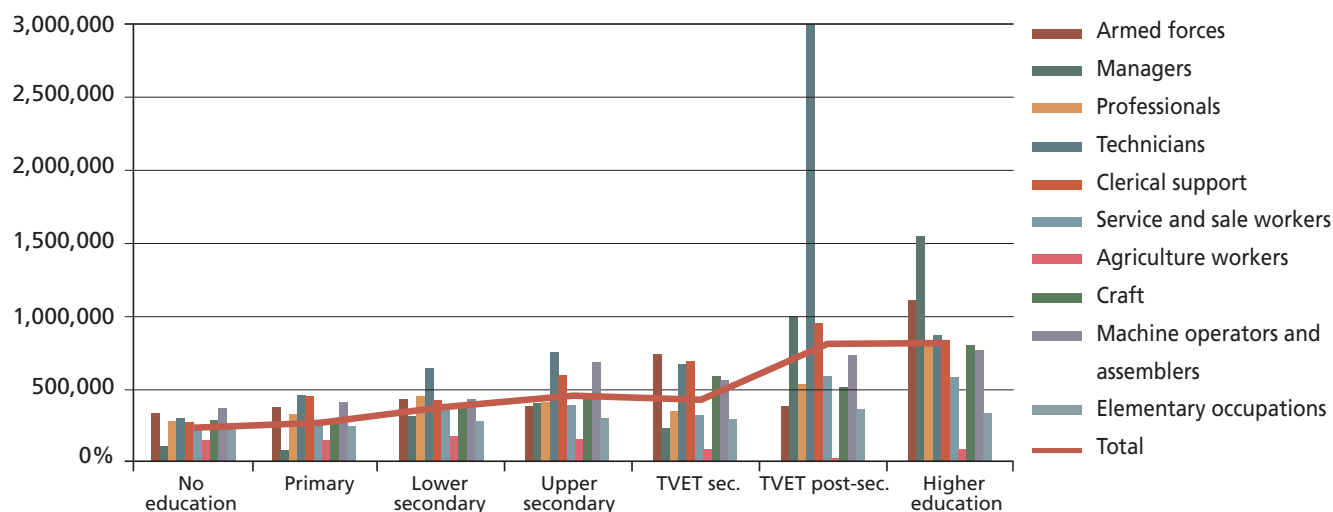
to enroll in TVET compared to 30 percent who prefer to find a job and 50 percent who wish to obtain a university education after high school.¹⁶

This discrepancy reveals market information and coordination failures, and possibly, an underlying social bias against TVET education.

Low attendance at the secondary level implies a stronger role for second-chance programs and non-formal training.

International experience suggests that second-chance programs (particularly those emphasizing entrepreneur support and combined workplace and classroom training) tend to be cost-effective and have a positive labor market impact.¹⁷ In Cambodia, a large and increasing mix of providers offers non-formal training to prepare young people, including dropouts, for a first job, or to upgrade and retrain older workers. Attendance in non-formal training, however, has been limited thus far. Only 6 percent among those 15-59 years old report having ever attended a non-formal training class (13 percent among 15-19 years old and 9 percent among 20-24 years old). (CSES 2009) Among those who have attended non-formal classes, 82 percent of respondents learned foreign languages, 6 percent computer literacy, 6 percent vocational skills, and nearly 3 percent basic literacy. Among young people 15-19 years old, 90 percent of those who have attended non-formal training classes learned foreign languages. (CSES 2009)

Figure 7 Monthly wages by level of education and occupational groups, 2009 (Riels)



Source: Calculations based on CSES 2009.

¹⁵ Survey findings from CSES 2009 and HRINC 2011.

¹⁶ For details, see CAMFEBA (2008).

¹⁷ For examples and analysis, see for instance, World Bank Youth Employment Inventory at <http://www.youth-employment-inventory.org/>

Non-formal training and TVET, however, lags behind. In particular, non-formal training and TVET appear to be under-funded, are of uneven quality, and are somewhat disconnected from market demand. (World Bank 2010b) The diversity of training programs requires a market that matches job seekers and workers with skills that are in demand. This necessitates market information and information about quality. For the time being, public programs lack certification accepted by employers. The National Qualification Framework for setting competency standards, now being developed by the MLVT, would support the needed certification system. Furthermore, the National Training Board (NTB) with government, industry, and other organizational representation was re-instituted in 2006 to oversee TVET policy formulation and implementation, and to provide a governance framework for harmonizing the diverse provider community. However, the progress in developing standards, qualifications, and assessment practices has been slow.

Teaching soft skills. Teaching practical and life skills is already required in the curriculum (and demanded by employers). Schools, however, are short of teachers trained to teach practical and life skills. The share of secondary school teachers with upper-secondary or higher education increased from 40 percent to 71 percent in the past decade. While qualifications are being raised, teachers may still lack training in teaching soft skills. In particular, teachers may need skills in using different methods of instruction, for example, learning in teams, written and oral presentations, role playing, and group problem solving exercises to develop practical and life skills within the existing curricula.

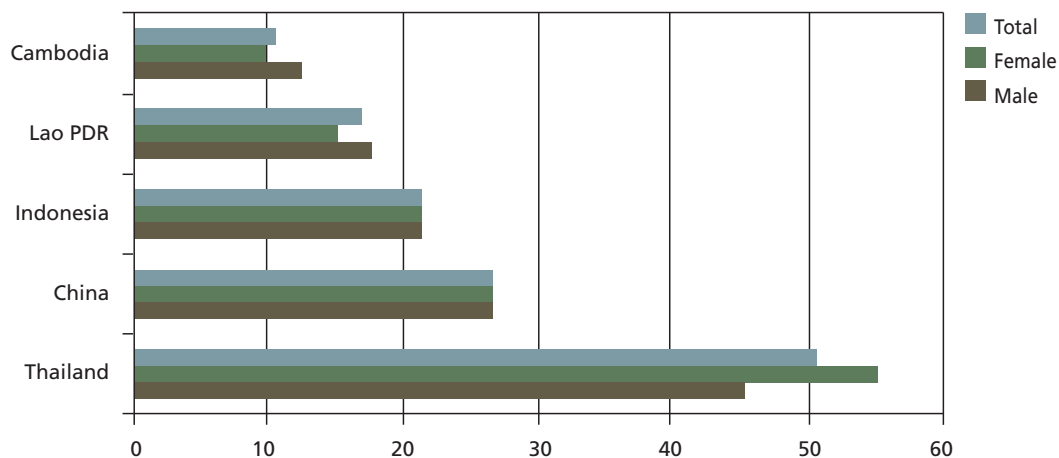
d) Producing higher level skills: Mismatches in disciplines at the tertiary level

Higher education must meet the needs of current industries and new industries yet to come. This enables workers to upgrade their skills and keep pace with technological change. Higher education institutions are important not only for enabling research and development but also helping to transfer and adapt technology to meet the local industry’s needs. This is critical for moving to a more advanced economy.

Total higher education enrollments in public and private institutions in Cambodia have grown rapidly over the past decade, albeit from a very low starting point. Currently, 5 percent of the tertiary age group is enrolled in tertiary education, with 7 percent for males and 4 percent for females. These enrollment rates are only about one-third of those in other developing countries in the region (Figure 8), but consistent with the current labor-intensive economy and wage differentials.

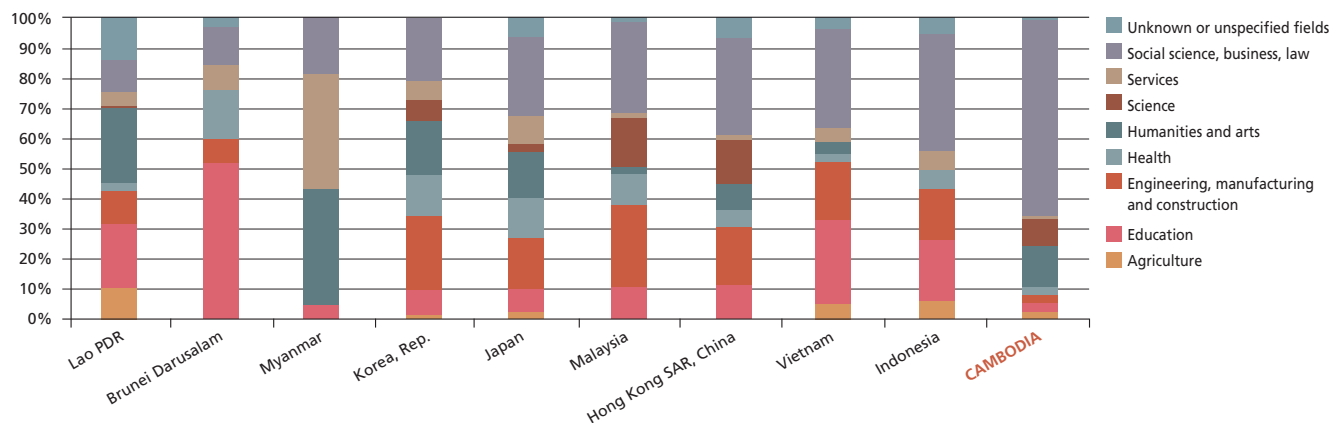
A more critical challenge than low enrollment is the poor connection from the market to fields of study. Cambodia’s institutions of higher education supply a relatively large amount of graduates in accounting, finance, and management (46 percent of all bachelor students in 2009/10), compared to civil engineering (1.5 percent of students) and science and technology (0.1 percent of students). Moreover, the proportion of female students in engineering, science, and technology is minimal (Table 3). Although agriculture and the off-farm rural economy are Cambodia’s key industries in need of upgrading, only 2.3 percent of graduate students study disciplines related to these industries. The amount of graduates in disciplines related to agriculture, education (including teacher training),

Figure 8 Gross enrollment rates in tertiary education by gender



Source: UNESCO Institute for Statistics (2009 or closest year).

Figure 9 Share of tertiary graduates by discipline internationally



Source: EdStats (latest year available during 2005-09).

Note: The aggregate discipline groups are based on categories established in the questionnaire collected from the UNESCO Institute for Statistics (2009): Education (Teacher training; Education science), Humanities and arts (Arts; Humanities), Social sciences, business and law (Social and behavioral science; Journalism and information; Business and administration; Law), Science (Life sciences; Physical sciences; Mathematics and statistics; Computing), Engineering, manufacturing and construction (Engineering and engineering trades; Manufacturing and processing; Architecture and building), Agriculture (Agriculture, forestry and fishery; Veterinary), Health (Health; Social services), and Services (Personal services; Transport services; Environmental protection; Security services).

engineering, manufacturing, and construction are low – particularly by international comparison (Figure 9). The mismatch between the tertiary skills being generated by schools and those needed by the market is becoming visible. (World Bank 2010c) Graduate unemployment and underemployment is a concern with 10 percent of graduates reporting an “unpaid” employment status and 5 percent of graduates 29 years old and younger reporting unemployment. (CSES 2009)

The low number of graduates in engineering and sciences – along with the small numbers of TVET graduates with post-secondary training – will restrain Cambodia’s ability to upgrade its agriculture and industrial base.

Based on its current development pattern, The World Bank study (2010b) estimates that Cambodia will see an over-supply of higher education graduates in business and law, while shortages will remain in engineering and the sciences. Moreover, continuing weaknesses in teachers’ training and studies of education related disciplines may hinder efforts to enhance the performance of the country’s education and training system.

Information and coordination problems partly explain the structural imbalances in higher education. Recent youth surveys indicated that students do not have a good understanding of the skills required by employers. For instance, only 7

percent of current students believe their biggest challenge is that education providers do not teach the right skills (whereas 16 percent of employed young people believe this is their biggest challenge). (HRINC 2011) Furthermore, some surveys showed that young people may have limited access to reliable information on study and career opportunities (Figure 10). In particular, information provided by the government and employers fails to reach young people, and formal methods of support, such as career counseling, appear weak. (HRINC 2011 and CAMFEBA 2008) Information sharing and coordination appear difficult because many public and private actors are involved in higher education, including as many as nine government ministries and agencies providing higher education services, in addition to private institutions operating under the control of the MEYS. Little access to reliable information and formal support, plus reliance on informal networks in making study and career choices, are a common problem in developing countries with a proven adverse effect on the labor market.¹⁸

Higher education financing contributes to the distortions. Government spending on higher education (low at 0.1 percent) has focused more on expansion than strategy or quality. (World Bank 2010c) Public subsidies may be distorting private economic returns for social science disciplines. In these oversupplied disciplines, higher fees could facilitate market incentives for

¹⁸ World Bank Youth Employment Inventory at <http://www.youth-employment-inventory.org/>.

Table 3 Disciplines studied by bachelor students, academic year 2009/10

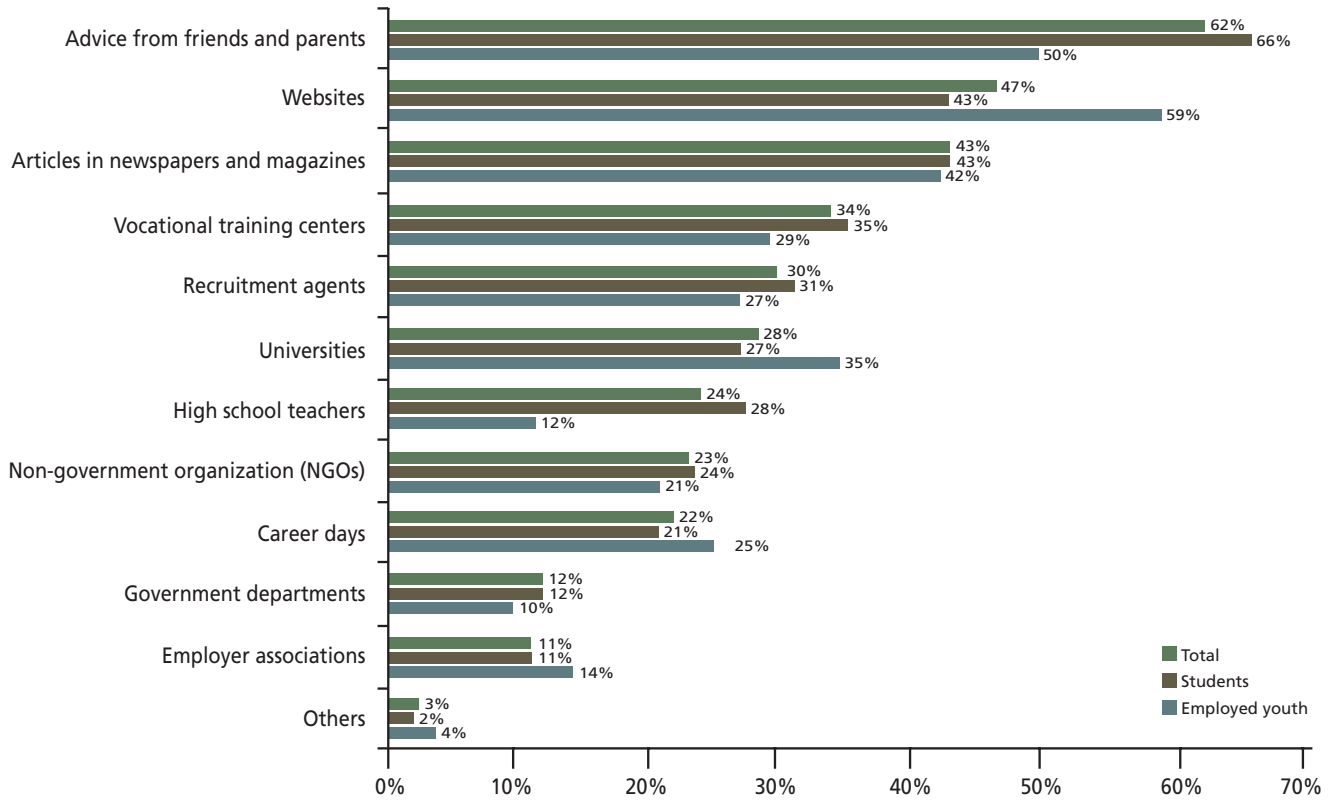
Discipline of study	Share	Number of students	Share of female students
Accounting, and Accounting and Finance	13.0%	20,978	74.7%
Finance and Banking	11.0%	17,760	41.1%
Business Management and other Business and Management	10.3%	16,694	36.4%
English Language and Literature	11.3%	18,325	54.4%
Management and General Management	7.2%	11,640	28.2%
Computer Sciences and other computer related sciences	6.4%	10,323	7.4%
Medicine, Nursing, Pediatrics, Dentistry and Pharmacology	5.8%	9,407	46.8%
Law, and Law Science	5.4%	8,787	22.4%
Economics and related disciplines	5.3%	8,485	34.9%
Education and related disciplines	2.4%	3,808	29.1%
Agriculture, including Fishery and Forestry Sciences, and Rural Development	2.3%	3,753	29.1%
Khmer Literature and Science	1.7%	2,794	43.6%
Marketing and Marketing Management	1.7%	2,694	26.5%
Tourism, Hotels and Hospitality	1.7%	2,771	39.3%
Civil Engineering	1.5%	2,371	1.7%
Other Social Sciences (Public Administration, Political Science, and Sociology)	1.4%	2,310	39.5%
Architecture and Design	1.3%	2,058	21.3%
Mathematics	1.3%	2,071	21.5%
Biology and Chemistry	0.9%	1,386	40.8%
Engineering and related disciplines	0.9%	1,399	4.5%
Arts, Humanities and Languages, and Philosophy and Religion	0.8%	1,306	30.9%
Human Resources Management	0.6%	991	17.0%
Physics	0.6%	908	24.3%
Animal Science and Veterinary Medicine	0.5%	879	19.1%
Other languages (Korean, Japanese, French, and Thai)	0.5%	873	47.1%
Geology	0.3%	476	39.9%
History	0.3%	558	32.8%
Science and Technology	0.1%	201	6.0%
Other disciplines (Military, Police Academy etc.)	3.4%	5,510	33.0%
<i>Total</i>	<i>100.0%</i>	<i>161,516</i>	<i>39.4%</i>

Source: Calculations based on EMIS data.

individual investment. Conversely, disciplines like engineering, science, and math (which are almost completely missing) are necessary for advancing Cambodia's economic base. These required disciplines in the hard sciences are not receiving the needed strategic focus and resources throughout the education system. Given the

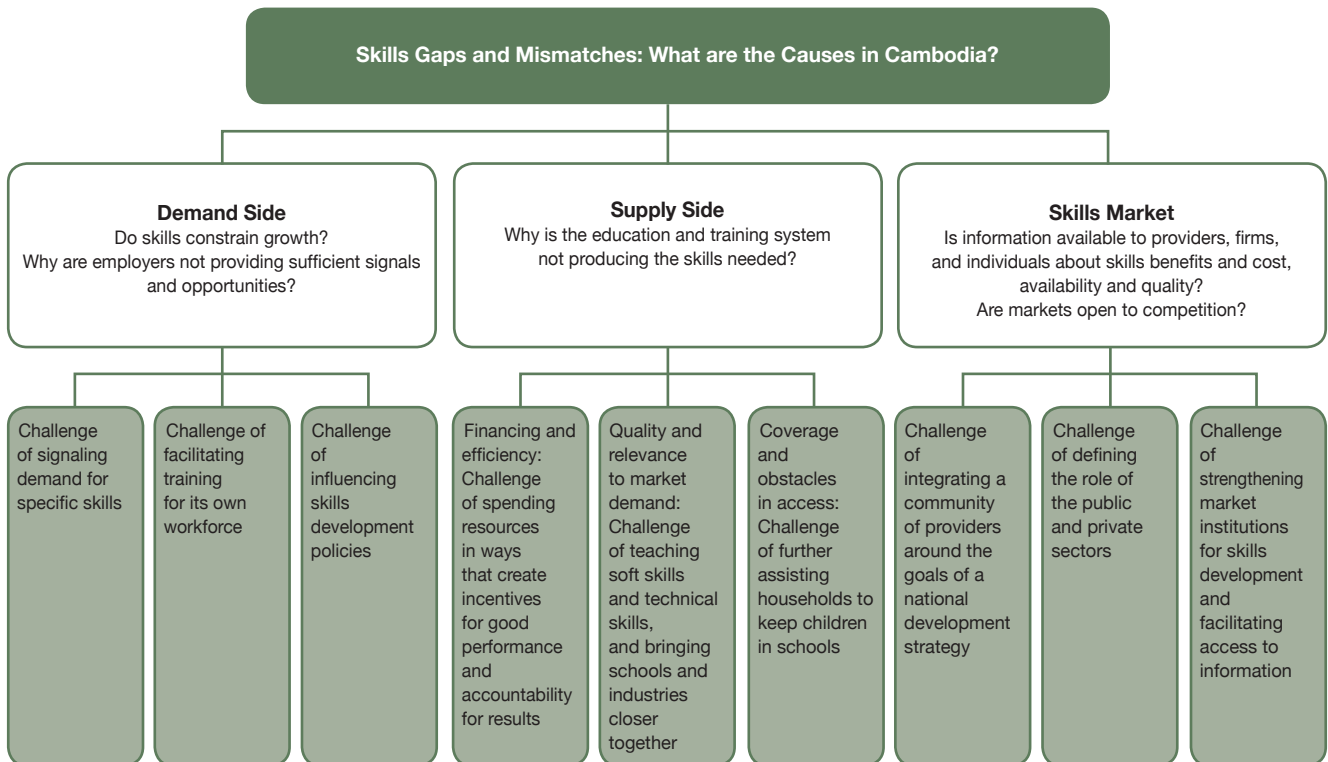
low level of public spending on education and the large numbers of young people who are not acquiring a basic education, these findings indicate an urgent need to review the allocation of education spending in Cambodia and to reset the priorities for the use of public resources.

Figure 10 Sources of information on study and careers



Source: Survey of youth conducted by HRINC Cambodia, March 2011.

Figure 11 Identifying the causes of skills gaps and mismatches in Cambodia



Source: Survey of youth conducted by HRINC Cambodia, March 2011.

2.3 What are the causes of the skills gaps and mismatches in Cambodia?

The possible causes of the skills gaps and mismatches in Cambodia appear particularly in the areas of information and coordination.

Information and coordination failures are obvious in both the labor market (on the demand side) and the skills market. On the supply side, the causes are more complex. Figure 11 summarizes the main causes identified in this policy note.¹⁹

On the demand side, firms seem to lack channels to communicate their needs. Wage signals appear insufficient, and firms seem to be ineffective in communicating their demand for specific skills and in influencing skills development policies. As evidenced in the preceding illustration, private companies' difficulties in contributing to the right type of training for their own workforce also highlight information-related causes. The introduction of the National Training Board (NTB), with membership from the private sector, is to offer a mechanism whereby firms can convey their needs for specific skills both to the government and to the provider community. In other countries, NTBs are often engaged in the review of government policies for education and training and the allocation of public finance for this purpose. Strengthening the NTB to play its role and empowering employers as members can play an important role in addressing information problems.

On the supply side, the set of causes relates to financing, quality, and coverage of education and training. This particularly includes the challenge of managing resources in ways that create incentives for good performance and accountability for results, the challenge of teaching soft and technical skills (and teachers' qualifications and training in general), and the challenge of bringing schools and industries closer together to promote quality and relevance

to market demand. It also covers the challenge of how to best assist households in keeping children in schools. These challenges require careful attention and perhaps different responses at each stage of the life cycle. Policies will need to define the roles of both the public and private sectors in the provision, financing, quality, and coverage of education and training.

The existing weaknesses in the skills market predominantly reflect weak market institutions.

To connect demand with the supply of skills, market institutions involve five key functions:

- *coordination* to bring both sides of the labor market together (the role of the NTB);
- *employment services* to advise job seekers on job vacancies and where skills can be obtained (the role of the newly formed National Employment Agency – NEA);
- *quality assurance* to set, test, and certify skill standards (the role of the National Qualification Framework under development);
- *licensing and regulation* to set minimum standards for private skills providers and to create opportunities for consumer protection; and
- *accreditation* to provide information on the quality of education and training offered by schools and training centers.

Such institutions facilitate the efficient operation of skills markets; it is unlikely that the private sector can develop these skills markets owing to their public goods nature. The government can fill this gap and play a lead role in monitoring the performance of labor markets and developing appropriate policies.

¹⁹ Understanding the causes of skills gaps and mismatches requires looking at potential market and governance failures that move the supply and demand of skills away from a "social optimum", and affect the matching between skills supply and demand in the labor market. Some of these failures are related to the structure of the education and training systems, others involve constraints facing individuals in terms of information and access to credit, yet others may simply reflect knowledge weaknesses at the household level. Certain characteristics of the labor and product markets can also affect the incentives of firms to pay for certain skills or train workers, and workers to invest in higher level skills.

3

ACTIONS AND STRATEGY FOR SKILLS TO ADVANCE ECONOMIC DEVELOPMENT

Cambodia's human resource base points to a number of strengths on which the country can build. In its current labor-intensive stage of development (and laying the skills foundation to realize its growth strategy) Cambodia needs to ensure adequate early childhood development and the completion of nine years of good quality basic education for all young people. Building this foundation for later skills development is essential for not only efficiency but also equity. It will not be possible to adequately train workers at a later stage in the life cycle without providing a good quality basic foundation for training. This was the approach taken by China as it opened its economy in 1979, and by other countries such as Chile, Mexico, Singapore, and South Korea. Each of these countries began by providing a good quality basic foundation for later skills development.

Cambodia should prioritize quality basic skills foundation and pre-employment skills – particularly in math, science, and engineering. This will require a partnership with the non-governmental sector in the delivery and financing of these skills, including higher education. By strengthening market institutions that promote quality and relevance of the investments made in education and training, Cambodia can improve the results

3.1 Developing a skills action plan

Complementing policy initiatives already underway, Cambodia's skills action plan needs to address the main impediments for skills to match its aspirations. As an immediate priority, the government can create opportunities for access to information in the skills market, expand household-oriented interventions to improve school

of public and private expenditure. By reallocating its own spending for education and training and working in partnership with non-governmental providers of skills to meet the social demand for skills, the government can use its resources in a more strategic manner to meet market needs and to support diversification of the economy.

Led by the NTB, good initiatives are already underway for pre-employment skills and their utilization. The NTB intends to complement its focus on policy development and system governance with the practical work of developing standards, qualifications, and assessment practices. In 2009, recognizing the need for better market information, the NTB established the National Employment Agency (NEA) to provide employment services and labor market information services to job seekers, employees, employers, training providers, and the general public. Finally, the NTB has been coordinating the Strengthening TVET project (co-financed by the ADB). The objective of the project is to develop an expanded and more integrated training system that is endorsed by industry and better aligned with the basic and mid-level skills required in core industries and fields.

retention, and strengthen second-chance options, as well as TVET. To lay the required foundation, the government should expand financing for ECD, strengthen institutional development, and promote incentives for skills providers, including higher education institutions. Table 4 summarizes the proposed actions for consideration.

Table 4 Skills development action plan: Options for Cambodia

Objective	Immediate priorities	Laying the foundation for the future
1 Information access	<ul style="list-style-type: none"> Enhance employment counseling and job search services Use media to show study and career opportunities, promote TVET 	<ul style="list-style-type: none"> Enhance the NEA's capacity and partnership with the private sector
2 Coverage in the "missing middle"	<ul style="list-style-type: none"> Mainstream good TVET programs 	<ul style="list-style-type: none"> Strengthen the capacity of the NTB to deliver employer-focused reform of education and training Consider ways to encourage employers to invest in training their workforce
3 Quality and market relevance	<ul style="list-style-type: none"> Begin upgrading a small number of skills providers, including non-formal training centers, in collaboration with local industries 	<ul style="list-style-type: none"> Reform secondary curriculum to improve the teaching of science, math, engineering and other technical disciplines, entrepreneurship, and soft skills Strengthen accountability of communities and schools as part of the D&D process
4 Financing efficiency	<ul style="list-style-type: none"> Expand household-oriented financing instruments for school retention 	<ul style="list-style-type: none"> Increase expenditure on cost-effective interventions early in the life cycle Explore different financing tools to promote incentives toward good results among skills providers, including higher education institutions

1. Facilitating access to information in the skills market

Adequate access to information generates efficiencies in the labor market and benefits not only households but also employers. Achieving adequate access to information requires strengthening market institutions discussed in Section 2.3, which will take time. Targeted actions, however, can help remove limitations more rapidly. Steps taken to improve employment services and labor market information for job matching in the transitional economies of Central Europe in the 1990s, for instance, created good results in promoting labor mobility and the efficient use of labor.

a) Immediate priorities to facilitate access to information in the skills market

As an immediate priority, Cambodia could consider steps to enhance employment counseling and job search services; in addition, it could use the media to share information on study and career opportunities, which promote TVET:

Priority 1: Enhance employment counseling and job search services

Some universities and TVET institutions maintain employment counseling units to provide employment information, career advice, and job search assistance to their students. However, there is considerable room for improvement in

the quality of information and services provided by these units. The capacity of these units can be strengthened by MLVT and MEYS (as well as relevant personnel in TVET institutions) by creating opportunities for the development of a training program for the units' counseling staff. Employment and career-related services and job seminars should also be provided at the secondary school level. The NEA should attempt to build stronger links with such employment counseling units and to assist actively in their access to relevant market information.

Priority 2: Use television and radio to show study and career opportunities, promoting TVET

The government can promote public-private partnerships for public service radio and television programs on education and career opportunities, with a focus on industries and occupations facing persistent labor shortages. It can further focus on the role of TVET as a respected alternative to a university education.

Programs can be downloadable from the internet, distributed on DVD and CD at the annual career forum, provincial training centers, communities, village festivals, and other venues where young people gather. Singapore has been particularly successful in raising the image of TVET institutions through these means and by investing heavily to improve the quality of TVET services offered. Investments have included support from the private sector through public-private partnerships.

b) *Laying the foundation for access to information in the skills market in the future*

To lay a foundation for the future, the government should consider how to enhance the NEA's capacity and partnership with the private sector.

For the Future 1: Enhance the NEA's capacity and partnership with the private sector

The NEA may need capacity building and partnerships with the private sector in the following three main areas related to its core responsibilities: (i) labor market information collection and analysis; (ii) the development of labor market information systems; and (iii) the provision of information on education and employment services.

First, with respect to the collection, analysis, and dissemination of labor market information, the NEA can reach providers of basic training in labor market models and surveys, basic and advanced training in data analysis, and training in presentation, communication, and information dissemination.

Second, to refine and expand its labor market information system, the NEA can seek collaboration with employer associations and private sector research providers. Specifically, the NEA can review labor market models already available in Cambodia (possibly in cooperation with MEYS and the private sector) to update and refine a supply and demand model. International agencies such as the ILO provide technical assistance to developing countries for this purpose. In line with international good practice, the NEA can work with schools and training bodies to implement a tracer survey on the labor market outcomes of graduates – perhaps starting as a pilot project involving one or two large universities.

Complementing these possible approaches, the NEA can undertake regular telephone-based surveys targeting employers who have recently advertised for positions in selected occupations, with the aim of identifying positions that are difficult to fill.²⁰ Finally, the NEA can publish brief annual employment statistics by subject, by enrollment in subjects, and by institutions. This will help new entrants make more informed decisions when applying for training. Such information dissemination efforts could target

three different groups: education and training providers, potential employers, counselors and students.

Finally, to provide information on education and employment services, the NEA can seek to consolidate and extend the provision of information on education and employment opportunities, which at present is far from comprehensive. This effort could involve partnerships with employment service providers in the private sector, as well as NGOs, who also provide such information. The aim is to create a truly effective online 'career portal' to be used by students and their advisors. This career portal could be used in secondary schools and by employers. The portal can contain information on higher education providers, courses, and occupations, with links to the NEA's labor market information system.

2. Expanding coverage in the “missing middle”

The 2011 Cambodia Economic Forum and the Cambodia Outlook Conference²¹ rightly prioritized strengthening the “missing middle” of skills. Overcoming the low secondary enrollment, including extremely low enrollment in TVET, partnerships with employers is needed to prepare the large number of young people entering the labor force for employment and further skills upgrading.

a) *Immediate priorities in expanding coverage in the “missing middle”*

As an immediate priority, the government could mainstream good TVET programs (and expand household-oriented financing instruments as discussed under financing efficiency).

Priority 1: Mainstream good TVET programs

Cambodia already offers some excellent TVET programs, such as computer courses at CIST, which could serve as a model for mainstreaming and expansion. Training programs could be identified by MLVT that are highly regarded by employers. These programs could then be replicated in public TVET schools. In addition, MLVT could help these programs access bigger facilities and enroll more students. In partnership with private industries, MLVT could invest in one or more well established centers in several

²⁰ Perhaps private employer associations such as CAMFEBA or local research agencies could assist in such a survey, which in turn could also involve creating more job opportunities in training and building capacity of youth.

²¹ As reflected, for instance, in speeches by H.E. Hun Sen, Prime Minister in both events.

regions for secondary technical and vocational education. Such actions could enlarge the share of young people developing good technical and vocational skills that are linked to industry needs. Mexico's National Technical Professional Schools (CONALEP) offer a successful model for guiding school-industry partnerships.

b) *Laying the foundation for expanding coverage in the “missing middle” in the future*

In the future, the government may consider new ways to strengthen the capacity of the NTB and encourage employers to invest in training their workforce.

For the Future 1: Strengthen the capacity of the NTB to deliver employer-focused reforms of education and training

Strengthening the NTB's capacity may involve streamlining the membership of the board, increasing employer representation and influence, and developing the capacity of the NTB secretariat. It may also involve NTB playing a more active role in the practical work of developing standards, qualifications, and assessment practices, in addition to promoting broader policy development and system governance. To promote the NTB's performance further, the government could introduce key performance indicators for NTB and monitor progress in this manner. Many countries have NTBs under a variety of names; covering various roles and responsibilities. Strong secretariats are an essential feature to empower these NTBs to carry out their assigned functions; NTBs can provide an umbrella organization for oversight of other market institutions for labor market information, employment services, quality assurance, regulation, monitoring, and policy development.

For the Future 2: Consider new ways to encourage employers to invest in the training of the workforce

Cambodia cannot expect to finance all its training needs from public sources. It needs to diversify this financing and encourage private spending. A majority of large enterprises are already providing training to their workers, but more can be encouraged. Malaysia and Singapore, for instance, successfully encouraged enterprise training through a levy-grant system, which has been particularly effective for medium-sized enterprises. Experience shows that levy-grant

systems administered through national training funds are more effective under conditions in which employers play an important role in their governance and policies. Separately, tax credits on education and training tend to be effective for small firms, which tend to be exempted from the levy due to compliance costs.

3. Improving quality and market relevance in skills development

To improve the relevance and quality in skills development, Cambodia needs to reform schools and training centers. It also needs to connect them with industry. School-based reforms need to accomplish the following: (i) change to a competency-based curricula and place greater emphasis on training outcomes rather than inputs for improving efficiency and accountability; (ii) alter the method of instruction from a teacher-centered approach to a learner-centered approach – consistent with helping the students and trainees become lifelong learners; (iii) introduce methods of instruction that develop not only the soft skills sought by industry but also entrepreneurship skills to benefit the private sector and to reduce poverty; and (iv) strengthen school and training center management to improve efficiency and responsiveness to changing local markets. Australia and Singapore, for instance, have considerable experience with such reforms. China is testing a comprehensive package of such reforms in schools along its east coast. In addition, a number of countries offer valuable experience on connecting schools and industry. Successful approaches include the Japanese model in which schools place students in industry upon graduation; the Singapore model in which industry uses production problems for training; the German model in which schools and industry cooperate in dual training; the United States' approach in which career academies provide work-based learning; Mexico's CONALEP partnering in which industry connects with modular, competency-based secondary education; or Brazil's Senai and Senac, in which employers lead training centers.

a) *Immediate priorities in promoting quality and market relevance*

While the effort led by MEYS and MLVT in formulating comprehensive reforms and capacity building should continue, the government could immediately begin upgrading a small number of non-formal training centers in collaboration with local industries.

Priority 1: Begin upgrading a small number of skills providers in collaboration with local industries

Focusing on development zones and key growth sectors in the economy, the government could foster local partnerships between industry and skills providers, not only including non-formal, and formal training centers but schools as well. These partnerships give industry a role in the governance of training institutions and their management of training services. In schools and training centers, public and private financing can support improvements in management, instruction, facilities, and equipment. Work experience and training can be combined to improve the quality and relevance of the training offered (Mauritius has been successful in adopting this approach to serve a number of its special economic zones). Furthermore, localized skills strategies developed and implemented by local governments in partnership with local employers and skills providers would exemplify the benefits of staying in school and obtaining technical qualifications – as opposed to becoming an unskilled laborer.

b) Laying the foundation for promoting quality and market relevance in the future

In the future, Cambodia needs to reform its secondary curriculum and to strengthen accountability of its communities and schools.

For the Future 1: Reform secondary curriculum to improve the teaching of science, math, engineering, and other technical disciplines, as well as entrepreneurship and soft skills

Reflecting Cambodia's economic development strategy, a renewed effort can be launched by MEYS to adapt the school curriculum, particularly to shift emphasis to technical disciplines and to modernize teaching methods. Such efforts – with a strong attention to teacher training – would naturally complement the promotion of the early grade math program led by MEYS at the primary level. At the higher education level, these efforts could be accompanied by steps to strengthen at least one higher education center of either science, math, engineering, or IT, which could test and demonstrate possible approaches for consideration in future reforms of higher education. Experience in promoting better instruction in math and science can be drawn from

countries like Finland and Singapore, and more recently from China's Shanghai municipality.

Practical case studies and project work can be introduced on a pilot basis to assist in building entrepreneurship skills. While such curricula can be offered in secondary and tertiary institutions – from international experience – it is most relevant when offered in non-formal training institutions that reach adults who may be currently self-employed or working for others but aspiring to open their own business. For people interested in becoming an entrepreneur, these programs can provide useful tools for improving businesses. Regarding soft skills, secondary curriculum could pilot modules for teaching multiple soft skills subsets. Such pilots should be monitored and evaluated before brought to scale.

For the Future 2: Strengthen accountability of communities and schools as part of the decentralization and de-concentration (D&D) process

Cambodia's ongoing D&D process offers an opportunity to promote autonomy and accountability for results in education at the local level. In the context of D&D and the national public administrative reforms, MEYS could work with other ministries in identifying the role and functions for the different sub-national government levels. In areas such as monitoring, evaluation, and performance management, a coordinated allocation of functionalities at the different government levels with respect to education, health, and other social sectors could create better results management in the decentralized context. A coordinated approach across sectors could also facilitate the necessary capacity building for sub-national government officials and school staff. Furthermore, school operational guidelines (complemented by already tested initiatives such as the School Report Card Initiative²²) should enable communities and commune council participation in school performance monitoring and in developing an action plan to improve teacher performance management.

4. Enhancing financing efficiency in skills development

Financing the cost of skills development raises two sets of issues: the first issue is how to mobilize resources in the public and private

²² This initiative has been piloted and evaluated under the Cambodia Education System Support Project co-financed by the World Bank to gather and analyze parents' and community experience, and encourage parents to take an active interest in, and demand improvement from schools.

sectors at each stage of the life cycle; the second issue is how to spend the resources in ways that create incentives for good performance and accountability for results. These issues run across other public services — not just skills development — and the response requires adherence to good public finance principles such as those who benefit most should bear more of the cost. This is especially true in building job-relevant skills where households and businesses can realize the benefits of skills development and share the financing burden.

a) Immediate priorities in enhancing financing efficiency in skills development

As an immediate priority, the government should increase expenditures on cost-effective household-oriented financing instruments for school retention.

Priority 1: Expand household-oriented financing instruments for school retention

Cambodia's strong experience in implementing the scholarship program to promote secondary enrollment offers useful lessons to build on. Experience shows that the demand of such subsidy programs can be cost-effective in maintaining children in schools. Similar programs can be considered also for TVET — in partnership with the private sector. Experience in several countries throughout Latin America, as well as in Indonesia and Bangladesh, has demonstrated the success of these programs in encouraging retention and completion in education programs.

b) Laying the foundation for future financing efficiency

In the future, the government needs to increase expenditures on cost-effective interventions in early childhood; it also needs to explore different financing tools to promote incentives toward good results among skills providers, including higher education institutions.

For the Future 1: Increase expenditures on cost-effective interventions early in the life cycle

Continuing the trend of rising public expenditure on education as a share of GDP, Cambodia needs to make more resources available to improve the preparation of children for not only acquiring skills

for employment but also acquiring skills for their first job. For example, additional financing will be required to realize MEYS's core breakthrough indicators aimed at the following:

- (i) expanding the coverage of education, starting with early childhood programs and the completion of primary education; and (ii) improving the quality and efficiency of education services, including a reduction of repetition rates in schools and an increase in standardized national assessment of student achievements. The imperative will be to support teacher training and national assessment systems — as well as the ability of poor households to keep children in school.

In this context, government financial allocations should recognize the importance of early childhood as human capital development with high social and economic returns; therefore, it should increase support to highly cost-effective investment in young children. International experience shows that this can be effective through targeted social protection programs — such as cash transfers with child development co-responsibilities that are envisaged under Cambodia's National Social Protection Strategy.²³ Such cash transfers could be conditional on participation in cost-effective interventions, including nutrition; maternal and child health; and parental and early childhood education. This could be done in a similar manner to the scholarships that are currently paid to households on the condition of school attendance.

For the Future 2: Explore different financing tools to promote incentives toward good results among skills providers, including higher education institutions

Internationally successful reforms such as: (i) performance-linked budgeting; (ii) the use of competitive skills development funds; and (iii) the empowerment of beneficiaries through the use of vouchers and learning accounts for skills development, takes time. Chile, through its national skills agency SENCE, has encouraged better services from public and private skills providers by procuring these services competitively. Australia is taking steps to promote competition and to ensure more relevant training through the use of targeted vouchers. Such approaches to demand-side financing shift the incentive framework for performance by empowering beneficiaries of skills development. For the public sector, they encourage a focus on the outcomes of training to justify public

²³ Cambodia's National Social Protection Strategy was approved by the Prime Minister and Full Cabinet Meeting in March 2011.

expenditure. As Cambodia has done in the context of the voucher program under the ADB TVET project or various scholarship programs, pilots could be designed and tested in the short term. With careful monitoring and evaluation of their effectiveness they could then be used to inform future policy decisions.

The higher education financial mechanism needs to enhance efficiency and transparency. Given the rapid growth in higher education and low public financing supporting these higher education institutions, fees collected by both public and private institutions can support long-term sustainability. MEYS will need to evaluate the utilization of resources in higher education and

the possible distortions caused by the existing financing mechanisms in higher education. Lessons from Cambodia and elsewhere suggest that the action plan should be time-bound, with strong oversight, monitoring, and disclosure of results. Key performance indicators should be identified for monitoring. These indicators should include both intermediate and final milestone indicators subject to rigorous evaluations. A clear division of responsibilities for implementation and thorough oversight will be critical to remain on schedule. In developing the action plan, the above outlined set of actions provides specific options that can serve as an input for discussion between the government and other stakeholders.

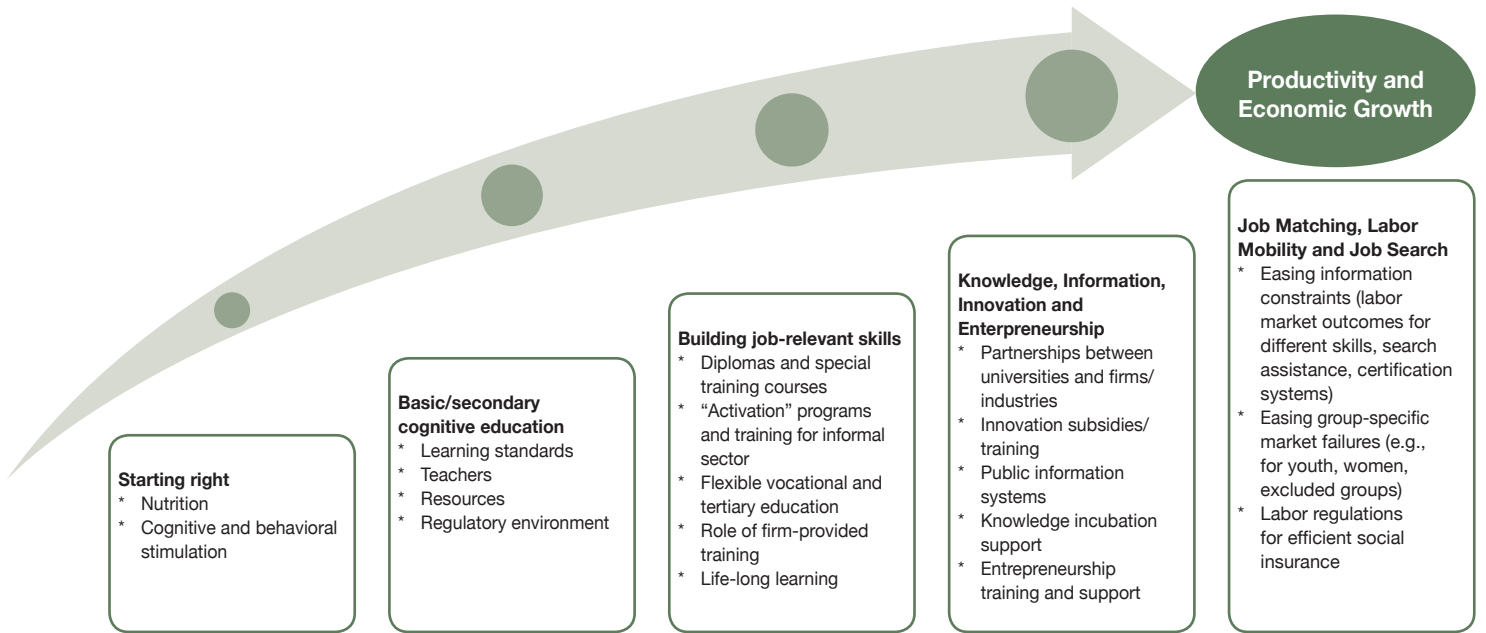
3.2 Implementing the action plan and considering a more comprehensive strategy beyond

To facilitate such discussion and implementation, the government can establish a “skills community”. The community could include mid-level officials across ministries and the private sector, as well as government agencies. International experience has shown that such communities can be effective in promoting policy debates and can serve as the embedded ambassadors of reforms during implementation. They tend to be established for a limited period of time, meet on a periodic basis, participate in training, and actively share insights and disseminate reform proposals in their respective sectors.

Finally, considering the skills development agenda for the medium-term, Cambodia can adopt an

integrated approach as captured by the life-cycle skills development framework (Figure 12). A simple conceptual framework, Skills toward Employment and Productivity (StEP), can help policymakers in designing the systems that impart skills leading to higher productivity and growth. While Cambodia is likely to reap the highest returns in focusing on the first three steps, entrepreneurship training (under Step 4) and easing information constraints (under Step 5), are also necessary to effectively transform skills into productivity gains. The integrated approach should build on a rigorous analysis: this analysis should comprise the causes of skills gaps, the mismatches, and an evaluation of the effectiveness of past policies and actions.

Figure 12 Systems to support the development of skills in the life cycle



Source: World Bank (2010d).

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