Unofficial Translation

Kingdom of Cambodia
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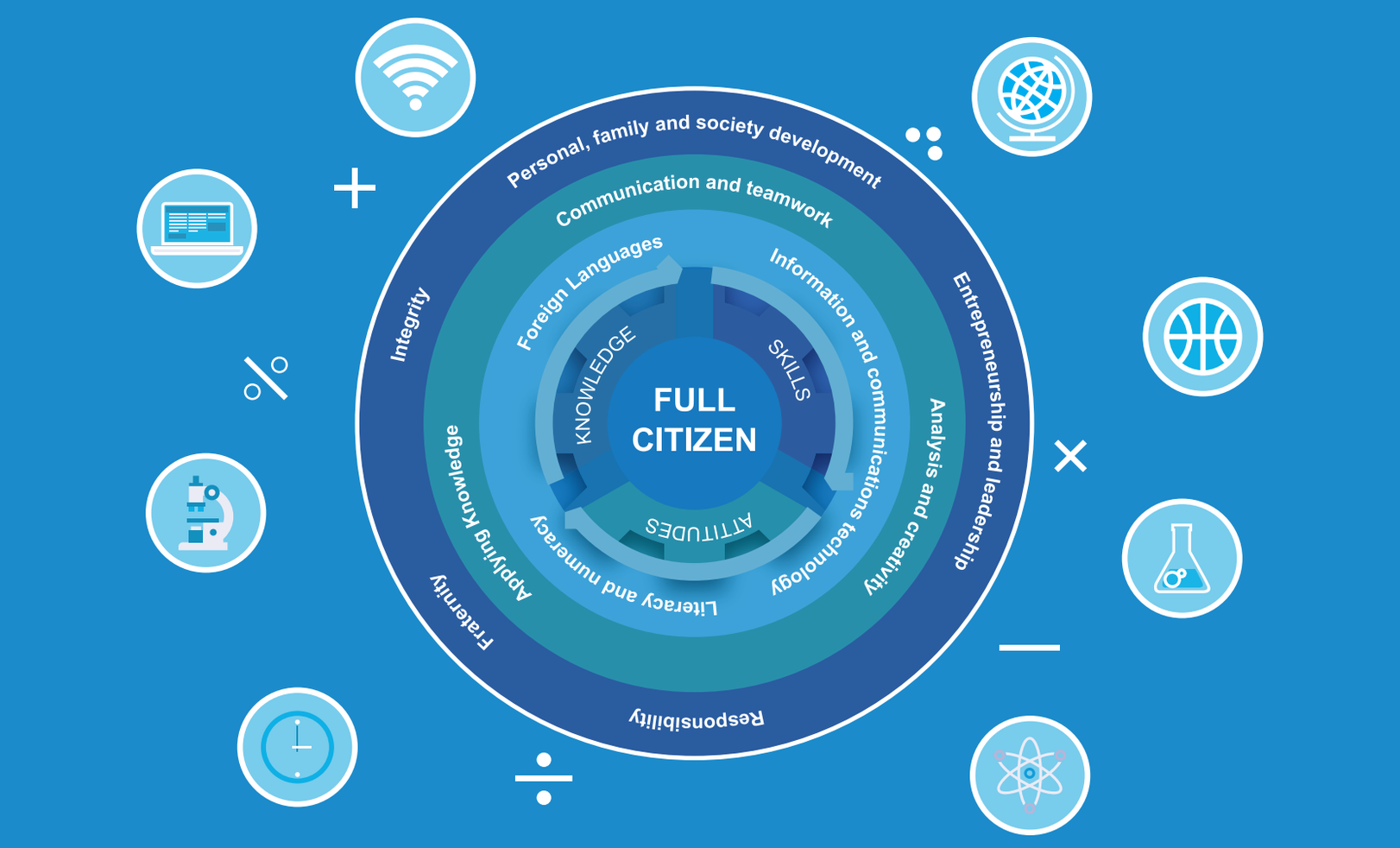
Ministry of Education, Youth and Sport

CAMBODIA SECONDARY EDUCATION BLUEPRINT 2030



May 2021

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CAMBODIA SECONDARY EDUCATION BLUEPRINT 2030

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VISION

The Ministry of Education, Youth and Sport vision is to establish and develop human resources that are of the very highest quality and are ethically sound in order to develop a knowledge-based society within Cambodia.

Preface

Rapid economic growth and diversification in Cambodia have been accompanied by an increase in demand for a skilled workforce. However, the education and technical training system has not kept up with these structural changes and skills gaps are significant. While there has been substantial progress in access and quality at the primary education level, challenges remain at the secondary level. Although modest gains have been realized to improve access to and quality of secondary education over recent years, the speed at which technological progress is evolving requires accelerated efforts to achieve a secondary education system that will be able to keep pace with the changes and close the skills gaps. The need to produce higher level skills required by the global economy and the technological advances brought about by the fourth industrial revolution led Cambodia to intensify efforts to improve its education system to address these challenges.

The Ministry of Education, Youth and Sport (MOEYS) developed the Cambodia Secondary Education Blueprint (henceforth CAMSEB 2030 or Blueprint) during 2020 and early 2021 through a collaborative and rigorous consultative process with relevant ministries, education institutions, development partners, and civil society. CAMSEB 2030 aligns with existing policies and strategies such as the Education Strategic Plan 2019–2023, Industrial Development Policy 2015–2025, Cambodia's Sustainable Development Goal 4 Education Roadmap 2030, and the Rectangular Strategy Phase IV. CAMSEB 2030 presents the rationale and objectives of secondary education in Cambodia, challenges and successes in the current system, key priorities, breakthrough outcomes, action plan, and monitoring and evaluation framework. It also presents the long-term expenditure framework that estimates the resource requirements up to 2030 under alternative scenarios, in line with the key priorities.

CAMSEB 2030 presents eight key priorities not only to address the challenges in secondary education, but also to propel the country toward achieving its long-term visions of becoming an upper-middle-income country by 2030 and high-income country by 2050:

1. Improve student access to and quality of general secondary education, including General and Technical High Schools (GTHS)
2. Continue the systemic emphasis on improving school leadership and management in secondary schools
3. Align curriculum, instruction, and assessment in all subjects, especially Science, Technology, Engineering, and Mathematics, with 21st century quality education
4. Integrate digital education in secondary education
5. Institutionalize a comprehensive Teacher Policy in secondary education
6. Continue the systemic emphasis on improving secondary teacher education
7. Diversify and strengthen technical secondary education outcomes to meet local economic and labor market needs
8. Improve secondary and postsecondary linkages and engagement

The CAMSEB 2030 action plan includes breakthrough outcomes together with outputs addressed under each of the eight priorities. The implementation of this Blueprint has been structured so that it can be implemented as a series of phases from one to the next, dependent upon the results achieved through robust and regular monitoring of progress with specific targets to be met during each phase (see section 12: Monitoring and Evaluation Framework).

MOEYS would like to thank all government personnel, Asian Development Bank team, development partners, and civil society organizations that supported and contributed to the development of the CAMSEB 2030 despite the challenges presented by the coronavirus disease or COVID-19 pandemic. MOEYS is strongly committed to collaborate with relevant ministries and agencies toward successful implementation of the CAMSEB 2030 and calls for all relevant partners, including students and parents, to support the Royal Government of Cambodia in developing human resources that are of the very highest quality and are ethically sound in order to develop a knowledge-based society within Cambodia.

Phnom Penh, 18 ***May 2021***

Dr. HANG CHUON NARON
Minister
Ministry of Education, Youth and Sport

Table of Contents

Acronyms and Abbreviations

ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
BEEP	Basic Education Equivalency Program
CAMSEB	Cambodia Secondary Education Blueprint
CDE	Centre for Digital Education
CPD	Continuous Professional Development
CQF	Cambodian Qualifications Framework
DEXA	Department of Examination Affairs
DGSE	Department of General Secondary Education
DHE	Department of Higher Education
DIT	Department of Information Technology
DCD	Department of Curriculum Development
DoC	Department of Construction
DoF	Department of Finance
DoP	Department of Personnel
DoPo	Department of Policy
DP	Development Partner
ESL	early school leaving
ESP	Education Strategic Plan
ETCP	Education, Training and Career Pathways
EU	European Union
GDP	gross domestic product
GEIP	General Education Improvement Project
GER	gross enrollment rate
GPE	Global Partnership for Education
GPI	gender parity index
GTHS	General and Technical High School
HCI	human capital index
HEI	higher education institution
ICT	information and communication technology
ILO	International Labour Organization
IMF	International Monetary Fund
INSET	In-Service Teacher Education and Training
KAPE	Kampuchean Action to Promote Education
LSS	lower secondary school
MEF	Ministry of Economy and Finance
MOEYS	Ministry of Education, Youth and Sport
MoH	Ministry of Health

MLVT	Ministry of Labour and Vocational Training
MSS	Minimum Service Standards
NFE	Nonformal education
NGO	Nongovernment organization
NGPRC	New Generation Pedagogical Research Centre
NGS	New Generation School
NIE	National Institute of Education
NLA	National Literacy Assessment
OOS	out-of-school
PISA-D	Program for International Student Assessment for Development
PRESET	Pre-Service Teacher Education and Training
PTC	Provincial Training Center
RGC	Royal Government of Cambodia
RTTC	Regional Teacher Training Center
SBM	school-based management
SDG	Sustainable Development Goal
SDPDS	School Director Performance and Development Standards
SEAMEO	Southeast Asian Ministers of Education Organization
SEIP	Secondary Education Improvement Project
SIDA	Swedish International Development Agency
SMC	School Management Committee
SRC	Secondary Resource Center
SRS	Secondary Resource School
STEM	Science, Technology, Engineering, and Mathematics
TCPP	Teacher Career Pathways Policy
TEC	Teacher Education College
TEI	teacher education institution
TPDS	Teacher Performance and Development Standards
TTD	Teacher Training Department
TTI	technical training institute
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Education, Science, and Cultural Organization
UNICEF	United Nations International Children's Fund
USESDP	Upper Secondary Education Sector Development Project
USS	upper secondary school
VOD	Vocational Orientation Department
VTC	Vocational Training Center
WASH	water, sanitation, and hygiene

List of Figures, Tables, Boxes

1. Introduction

"It must be remembered that the purpose of education is not to fill the mind of students with facts…it is to teach them to think."[1]

1-1. Vision, Mission, and Objectives for Education

VISION

The Ministry of Education, Youth and Sport (MOEYS) vision is to establish and develop human resources that are of the very highest quality and are ethically sound in order to develop a knowledge-based society within Cambodia.

MISSION

To achieve this, MOEYS has the mission of leading, managing, and developing the education, youth, and sport sector in Cambodia, responding to the socioeconomic and cultural development needs of its people and the reality of regionalization, globalization, and the fourth industrial revolution or Industry 4.0.

1-2. Secondary Education Objectives

Secondary education will engender a sense of national and civic pride, high moral and ethical standards, and a strong belief in young peoples' responsibility for Cambodia, its citizens, and its natural environment. Secondary education graduates will meet international standards, will be competitive in global job markets, and act as catalysts for Cambodia's social and economic development. To achieve these aims, the key objectives of secondary education in Cambodia are as follows:

1. To equip Cambodia's young people with the subject knowledge, 21st century skills and competencies (including at least one foreign language), and good citizenship values and moral character, to enable them to become productive members as Cambodia transitions to a knowledge-based economy.
2. To provide equal opportunities for all Cambodian youth to access quality secondary education regardless of gender, social status, geography, ethnicity, language, and religion.
3. To open and expand pathways for secondary education students' advancement to either higher education, technical and vocational education, or productive employment.

The Cambodia Secondary Education Blueprint 2030 (henceforth CAMSEB 2030 or Blueprint) is grounded in two major MOEYS policy documents: the Cambodia SDG4 Education Roadmap 2030 and the Education Strategic Plan (ESP) 2019–2023. Both documents emphasize the importance of secondary education within the education sector and more widely, the Cambodian society and economy.

The **Cambodia SDG4 Education Roadmap 2030** highlights five main objectives related to general secondary and technical education and higher education:

1. All Cambodian students complete a minimum of 9 years of free, publicly funded, inclusive, equitable, and quality basic education that includes functional literacy and numeracy skills, subject knowledge and cognitive and noncognitive skills that enable them to reach their full potential.
2. All Cambodian students have access to upper secondary education that provides options to undertake affordable, quality technical and vocational education or preparation for higher education. Ideally, there will be bridges to allow movement across both streams.

[1] R.M. Hutchins. 1969. The Learning Society. New York: Praeger Publications.

3. High quality standards of teaching and learning strengthened by enhanced teacher education at both preservice and in-service levels are achieved.

4. Outstanding leadership and management standards at all levels that promote high levels of teaching and learning is visible in all Cambodian secondary schools.

5. Increased number of youth have increased access to quality and relevant technical and vocational programs responsive to local economic and industry needs.

The **Education Strategic Plan 2019–2023** emphasizes three main policy objectives for secondary education:

1. Improve access to and retention in equitable and inclusive secondary education.
2. Improve the quality of teaching and learning in line with 21st century skills.
3. Strengthen leadership and management in secondary education.

As stated, the Blueprint will build on both of these key planning documents and also consider the Cambodian Qualifications Framework (CQF).

Table 1: Cambodian Educational System at a Glance, School Year 2019/20

Indicators	Type	Preschool	Primary	Lower Secondary	Upper Secondary
Levels		-	Grades 1-6	Grades 7-9	Grades 10-12
Ages		3-5 years	6-11	12-14	15-17
Gross enrollment rate (%)	Public school	23.4	104 (103.8%F)	56.6 (61.6%F)	28.9 (32.9%F)
	Private school	4.2	7.1% (7.3%F)	3.3 (3.5%F)	2 (2.2%F)
Net enrollment rate (%)	Public school	39.9	91 (91.4%F)	45.7 (51.7%F)	23 (27.1%F)
	Private school	N/A	6.3 (6.5%F)	2.9 (3.1%F)	2.1 (2.2% F)
Number of students	Public school	233,132* (116,096F)	2,023,473 (970,053F)	618,968 (325,504F)	334,712 (183,394F)
	Private school	56,004 (27,831F)	137,637 (67,994F)	36,087 (18,546F)	23,841 (12,209F)
Number of schools	Public school	4,409	7,282	1,757	544
	Private school	594	574	254	171
Number of teachers	Public school	5,414 (5,145 F)	44,914 (25,922F)	27,738 (12,451F)	15,159 (5,524F)
	Private school	3,182 (2,668F)	6,572 (4,431F)	5,318 (1,843F)	
Pupil–teacher ratio	Public school	43.1	45.1	22.3	22.1
	Private school	17.6	20.9	N/A	N/A
Pupil–classroom ratio	Public school	34.3	44.7	50.2.	49.6
	Private school	21.6	23.1	16.1	25.1
Gender parity index	Public school	N/A	0.98	1.19	1.31

F = female, **N/A** = not available.
* Excluding children enrolled at community preschools.
Source: MoEYS Public and Private Education Statistics and Indicators, 2019-2020.

1-3. The Role of Education in Society

Upper secondary students involved in collaborative project -based learning *(Photo by Andrew Jones)*

Education plays a central role in any country's pursuit of economic growth and national development. There is no better predictor of a nation's future than what is currently happening in its classrooms. In today's global economy, a nation's success depends fundamentally on the knowledge, skills, and competencies of its people. It is no surprise that nations with higher education levels tend to enjoy greater economic prosperity. Education is also fundamental to nation building and unity. It provides individuals with the opportunity to improve their lives, and to become lifelong learners and successful members of the community and active contributors to national development. Through interacting with individuals from a range of socioeconomic, religious, and ethnic backgrounds—and learning to understand, accept, and embrace differences—a shared set of experiences and aspirations for Cambodia's future can be built. It is through these shared experiences and aspirations that a common national identity and unity is fostered.

In recent years, the Cambodian education system (particularly the secondary sector) has come under increased public scrutiny and debate, as parents' expectations rise and employers voice concerns regarding the ability to adequately prepare young Cambodians for the challenges of the 21st century and Industry 4.0. Given the complexity of the education system, it will take several years for fundamental changes to be felt, which makes the need for ambitious actions to be taken now with some urgency.

1-4. The Importance of the Secondary Education Blueprint

The Cambodian Secondary Education Blueprint 2030, as a strategic vision, maps out agreed upon strategies and activities that will contribute to considerable improvements within secondary education and among its various relationships with other subsectors and the private and public sectors.

MOEYS has experienced considerable success with innovation over the past 20 years, which has included early development of the child-friendly schools approach, primary school clusters, district training and monitoring teams, mother-tongue education, Khmer e-Learning, New Generation Schools (NGS), school-based management, 21st century learning skills, resourcing of libraries, and professional development programs for mentoring and coaching. Cambodia experienced what was arguably a quality school leadership development program at the time under the Cambodian Education Sector Support Project (2005–2009).[2] Government, development partners, and civil society partnerships have over the years contributed to the development of these many innovations.

Policy makers are well aware of the perennial issues that exist within the education system in Cambodia. The strengths and weaknesses of the secondary education subsector are well-known and have been extensively documented since 2010 in various situation analyses, planning documents, and projects funded by government and development partners supporting secondary education. In order to address the barriers that are hindering the development of an enhanced secondary education subsector and at the same time build upon the successes, MOEYS initiated the development of this Cambodian Secondary Education Blueprint 2030.

[2] World Education Inc. 2009. External Qualitative Evaluation of the Impact of Cambodian Education Sector Support Project (CESSP) Activities in Schools. Phnom Penh.

There are schools and districts across Cambodia that have achieved outstanding results and shown improvements in participation and completion rates. These examples show that pockets of excellence do exist across the system, and that there are many opportunities to learn from within. The Blueprint therefore not only pinpoints issues and gaps, but also seeks to identify, highlight, and understand the good practices and successes that exist within the education system today for replication.

Improve the quality of student learning as the key focus of reform

Policy changes that build on the successes within the system and address the challenges faced must be based on improving educational quality in secondary education. This means that **improving student learning outcomes must be placed at the center of reform efforts.** What effects do changes in the policies and structures of education systems have on educational outcomes? Which school factors under the control of policy makers produce the best performance outcomes for students? These questions are at the heart of this Blueprint. It proposes a strategic and coordinated action plan that builds on successful initiatives and interventions already underway in lower and upper secondary education along with new strategies to improve teaching and learning. Large complex systems such as education take several years for fundamental policy changes to have substantial impact. Successful project interventions are not always scaled up to the whole country or institutionalized in MOEYS' programs usually because of human resource and budget constraints. The question becomes one of determining how to introduce policy change at a national level that is effective, efficient, sustainable, and above all relevant and hence acceptable to all Cambodian stakeholders at central, provincial, district, and school levels. This Blueprint advocates for ambitious actions that MOEYS should address with some urgency for full implementation by 2030.

The Blueprint will discuss challenges and successes that currently exist within the subsector and identify opportunities that will improve subsector outcomes over the coming decade. The Blueprint includes a long-term (10-year) expenditure framework to ensure adequate resources to support implementation of government's secondary education reforms and priorities from 2021 to 2030 (section 11).

Guiding principles of the Cambodia Secondary Education Blueprint 2030

- **(i)** Relevance and Quality
- **(ii)** Accountability and Responsiveness
- **(iii)** Efficiency and Effectiveness
- **(iv)** Partnership and Collaboration
- **(v)** Respect for Equity
- **(vi)** Transparency and Flexibility

1-5. The Purpose of Secondary Education

There are four global themes around the purpose of secondary education:

1

Developing human capital for economic prosperity,

2

Academic preparation for a university education,

3

Technical and vocational education and training to prepare students for the labor market, and

4

A broad and general education to prepare students for postsecondary education and, or employment.

Secondary education can also be viewed as academic (knowledge), skills, and attitude preparation for students entering (i) technical and vocational education and training (TVET); (ii) higher education; and (iii) career opportunities and the world of work with 21st century and Industry 4.0 skills.

The dominant view of secondary education in the development sector has been shaped by economic priorities: the search for growth; fears around economic downturns; and the issues of poverty, inequality, and unemployment. Education and skills development as defined by labor market needs are often regarded as the solution to the problems of economies and society [3]. Critics of this approach would suggest that people are reduced to human capital as productive workers, while education is seen as an input for economic prosperity.

A second view is one where secondary education is viewed as academic preparation for university and is organized around helping students to pass high-stakes examinations to enable entry to higher education. Upper secondary school curricula and methods of instruction have historically been subject-specific and university-oriented. Even though large numbers of Cambodian upper secondary graduates do not continue to university (gross enrollment rate was 13.7% as of 2018) [4], the upper secondary curriculum has traditionally offered an academic emphasis with the curriculum divided into two streams, Science and Social Sciences.

A third consideration is a recognition that Cambodian secondary schools should also provide TVET for adolescents to better prepare for the labor market. There are currently 14 General and Technical High Schools (GTHS) located around the country. It will be important to strengthen the existing GTHS as a foundation for any future expansion of the secondary technical education system.

A fourth perspective is that secondary education should provide young people with a broad and general education upon which they can build further education or training or employment. This view envisions a holistic education that allows young people to make more informed choices about their future endeavors post-secondary education. The focus here is on learning including social-emotional learning as well as acquiring specific knowledge and skills to match labor market needs. This latter perspective also allows more time and space to include 21st century skills such as critical and creative thinking, problem solving, decision making, team building, collaboration, and communication.

These different perspectives for secondary education are not necessarily exclusive from one another. Secondary education can and should be a combination of two or more of these approaches to provide young people with a relevant and quality education that better prepares them for post-secondary education and/or employment and career opportunities.

1-6. A Sense of Urgency

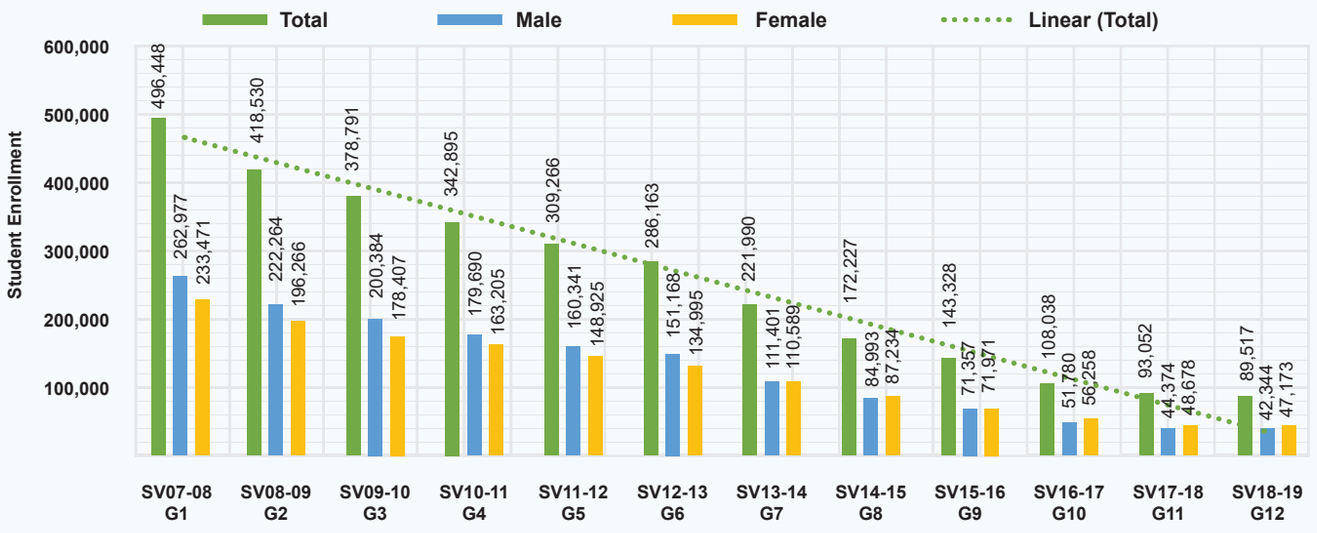
"Cambodian education has been characterized as the education utterly in need of reforms to revive from the high rate of grade repetition, school dropout, and low student achievement. Despite success in increasing school enrollment in the fact that almost every child can attend school in the primary education, Cambodia is facing a learning crisis, which requires immediate yet visionary and systemic solutions." [5]

At present, both primary and secondary formal education filter out students as they progress through formal education. Figure 1 clearly shows this "filter effect" in Cambodia wherein hundreds of thousands of children enroll in Grade 1, but only a small percentage of that cohort actually progress to enroll in Grade 12. Even fewer actually graduate from secondary school (~20%). In SY2019/20, Cambodia had one of the lowest gross enrollment rates in the region for Grade 10 at 28.9% (33.9%, female), which contributes to relatively low upper secondary completion (Figure 2).[6] The notable decrease in SY2013/14 was due in large part to the Grade 12 examination lockdown (see section 3-4). Available data indicates that there

[3] D. Balwanz. 2015. *Perspectives from South African Academic and Vocational Secondary Schools on the Purpose of Secondary Education.* University of Maryland-College Park, MD. Unpublished PhD dissertation.
[4] UNESCO. 2020. Sustainable Development Goals: Cambodia. Paris: UNESCO Institute for Statistics. http://uis.unesco.org/country/KH#slideoutsearch.
[5] Ministry of Education, Youth and Sport (MOEYS). 2018a. *Education in Cambodia: Findings from Cambodia's Experience in PISA for Development.* Phnom Penh: Education Quality Assurance Department. p. 130.
[6] MOEYS. 2019b. *Education Statistics and Indicators Preschool and General Education for Public.* Phnom Penh: RGC. p. 41.

are students who leave the formal public education sector to attend private schools, nonformal education (NFE), and informal (private sector) vocational training programs.[7]

Figure 1: Cohort Progression from School Year 2007/08 to 2018/19



G : grade.
Source: Ministry of Education, Youth and Sport. 2019a. Education Management Information System (EMIS), 2018–2019. Phnom Penh.

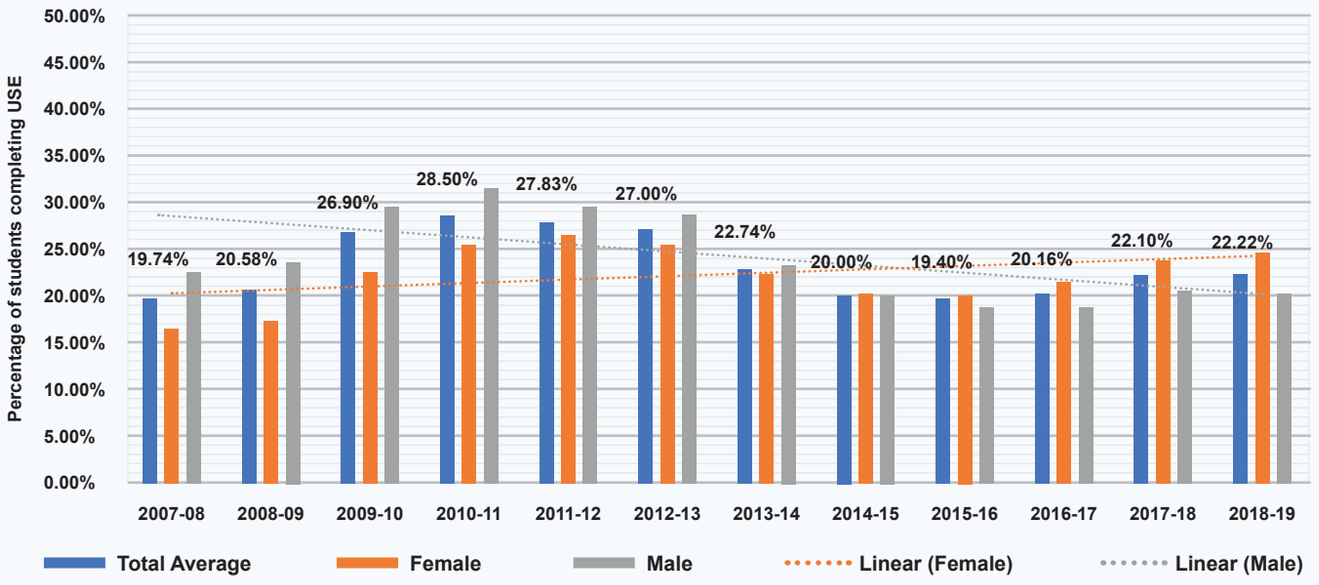
Students leave school systems early for several reasons many of which are beyond their control.[8] In response, measures such as increased testing and assessment operating in tandem with narrowly defined curriculum and instructional practices are often instituted to improve the 'quality of education'. MOEYS acknowledges that the issue of early school leaving exists within the education system and that the challenges need to be addressed in the blueprint for secondary education.

Figures 1 and 2 show that the human resource and financial investments made over the 12-year period in formal public education have limited success in terms of graduating a large percentage of the original Grade 1 entrants. This issue is reinforced by regional and national research data or, more specifically, the Human Capital Index (HCI) and national and international student assessments conducted in 2018. These reveal serious challenges for Cambodia to address.

[7] World Bank. 2010. *Providing Skills for Equity and Growth: Preparing Cambodia's youth for the labor market.* Washington, DC: World Bank.

[8] Early school leaving (ESL) is a preferred term as *dropout* typically has a negative connotation suggesting failure on the part of the student and may impact on a student's self-esteem. Stigmatization and student self-esteem are two of several possible factors in a student or family's decision to withdraw from school early. The term *dropout* further compounds the problems faced by young people trying to achieve in an often-challenging academic environment. Students leave school early for many reasons, not all of which are academic and many of which are beyond their personal control (parental attitudes, personal or family illness, family debt load, opportunity costs, irrelevant curriculum, weak pedagogy, geographic distance, weak school leadership and management, low gender responsiveness, early marriage, and pregnancies, etc.). It could be argued that the education system fails these students by not providing the appropriate quality of education required by the student and society.

Figure 2: Completion Rates for Upper Secondary Education



Source: Ministry of Education, Youth and Sport. 2019a. Education Management Information System (EMIS), 2018–2019. Phnom Penh.

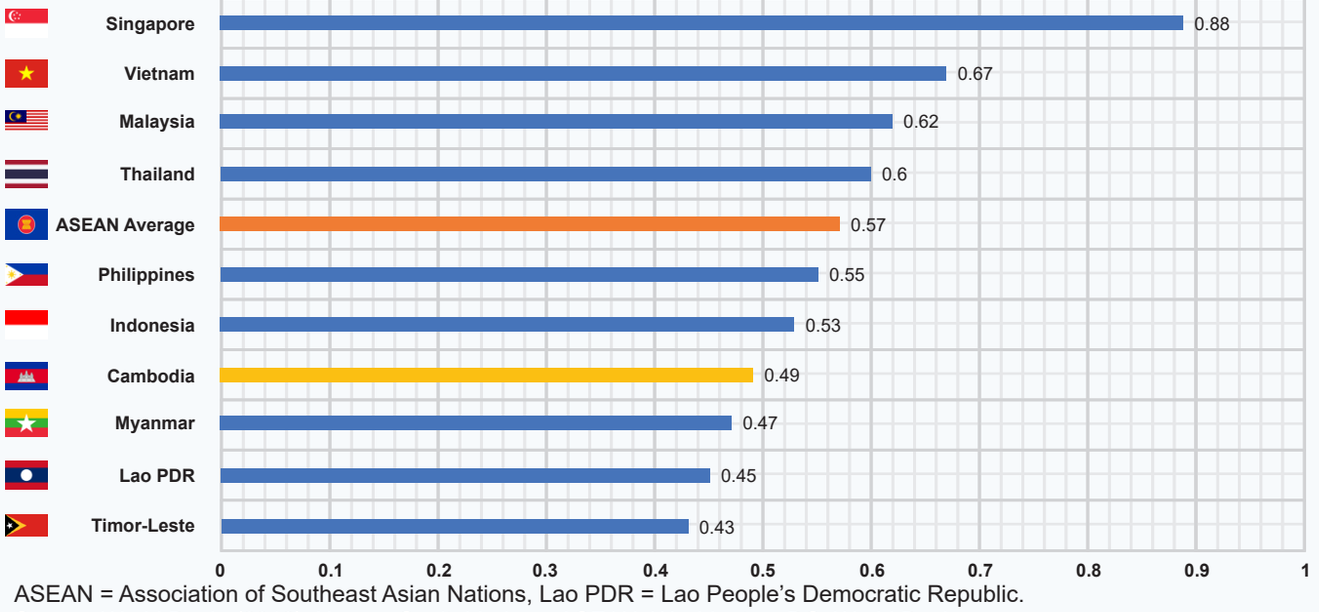
Human Capital Index

The HCI is defined as "A single, globally comparable measure of the expected productivity a child born today will have when they reach the age of 18—given current risks to survival, health, and education—compared to a child with complete education and full health."[9] The HCI is composed of three elements:

- *Survival.* Will children today survive to school age?
- *School.* How much school will they complete and how much will they learn?
- *Health.* How much health will children leaving school have? Will they be ready for further learning and/or employment?

The aggregate HCI for Cambodia of 0.49 (Figure 3) is well below the average for the Association of Southeast Asian Nations (ASEAN) of 0.57 and the HCI for Singapore at 0.88.[10]

Figure 3: Human Capital Index for the Association of Southeast Asian Nations

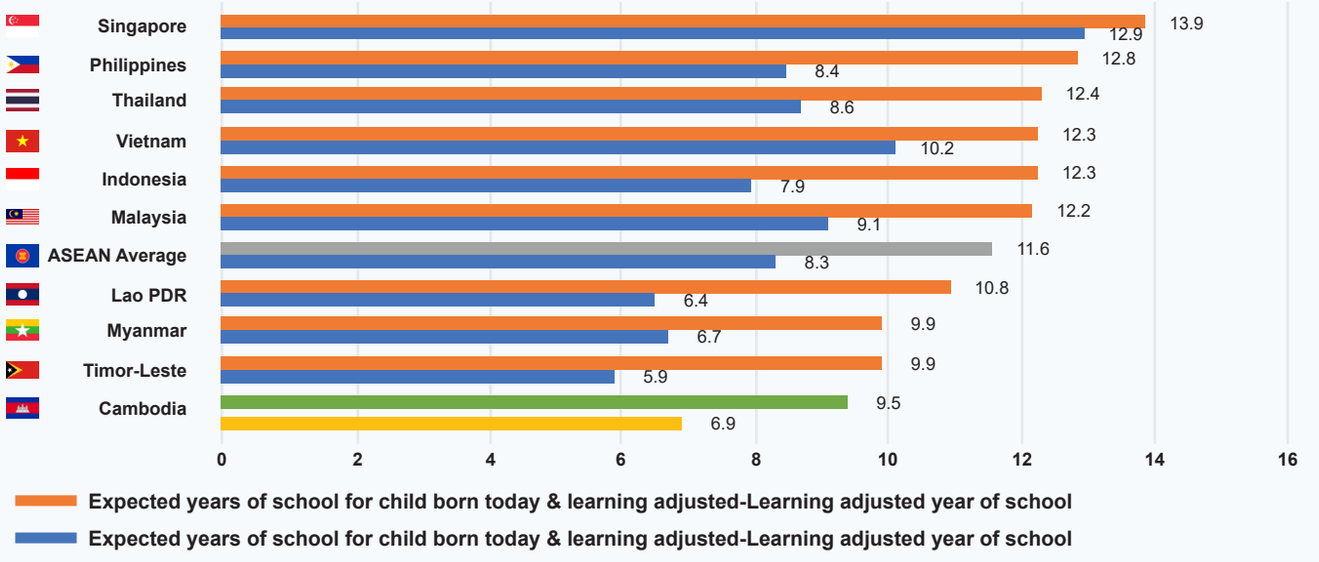


ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic.
Source: World Bank. (2018). Human Capital Index – ASEAN. Washington, DC: World Bank.

[9] World Bank. 2018. *Human Capital Index – ASEAN.* Washington, DC: World Bank.
[10] World Bank. 2018. *Human Capital Index – ASEAN.* Washington, DC: World Bank.

Figure 4 indicates that Cambodian children can be expected to complete 9.5 years of schooling, although upon leaving school this equates to a Grade 6 (6.9) level of achievement. The Program for International Student Assessment for Development (PISA-D) report for Cambodia stated that "Schooling is a luxury, but schools are not always places of learning…schooling without learning is a wasted opportunity" (MOEYS 2018, 132).[11] It appears that in most ASEAN countries, the learning that takes place is considerably less than the number of years children and adolescents attend school.

Figure 4: Expected Years of School for Child Born Today and Learning-Adjusted Years of School



ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic.
Source: World Bank. (2018). Human Capital Index – ASEAN. Washington, DC: World Bank.

Within the HCI, learning poverty is defined as being unable to read and understand a simple text by age 10, and is a global indicator that brings together schooling and learning indicators.[12] Learning poverty is the weighted average of the share of the population below the minimum proficiency level, adjusted by the out-of-school population (Table 2).

Table 2: Learning Poverty in Cambodia and Regional Neighbors

Country	OOS[13]	BMP[14] (in school)	Learning Poverty (%)	Assessment year	Assessment
Vietnam	1.0	1.0	2.0	2019	NLA
Malaysia	1.0	12.0	13.0	2019	NLA
Thailand	2.0	22.0	23.0	2019	TIMSS
Indonesia	2.0	34.0	35.0	2019	PIRLS
Cambodia	3.0	50.0	51.0	2019	NLA

BMP = below minimum proficiency, NLA = National Literacy Assessment, OOS = out of school,
PIRLS = Progress in International Reading Literacy Study, TIMSS = Trends in International Mathematics and Science Study.
Source: World Bank. 2018. Human Capital Index – ASEAN. Washington, DC: World Bank.

[11] Footnote 6, p. 132.
[12] World Bank. 2018. *Human Capital Index – ASEAN*. Washington, DC: World Bank.
[13] OOS refers to out-of-school children, as a share of children of primary school age, and in which all OOS are regarded as being below the minimum proficiency level.
[14] BMP is the share of children at the end of primary school who read at below the minimum proficiency level, as defined by the Global Alliance to Monitor Learning in the context of the SDG4.1.1 monitoring.

A word of caution is important in relation to the use of the human capital index as a way of measuring a country's progress compared to others:

> ***"…just as taking one's temperature does not itself cure a fever—measurement itself does not improve education. Quality education is achieved when public systems are strengthened through policies based on research, evidence, and dialogue with the teaching profession. The HCI is ultimately only a measurement tool, and its impact depends on the action it inspires."***[15]

National Grade 11 Standardized Assessments (2018)

The National Grade 11 Standardized Assessments for 2018 tend to align with the results of the PISA-D assessment (also conducted in 2018). A total of 6,641 Grade 11 students in 200 public schools and 30 private schools took the national assessment of which 55% were female, 64% were in rural schools, and 72% were in the Science stream. By age, the results of the assessment in Khmer, Mathematics, and Physics were as follows (Table 3):

Table 3: Grade 11 Assessment Results, 2018 (%)

Subject	Underaged	At-Age	Overage	Overall Average
Khmer	61.5%	57.9%	55.1%	58.2%
Mathematics	46.6%	39.4%	34.9%	40.3%
Physics	41.2%	35.6%	32.8%	36.5%

Source: Ministry of Education, Youth and Sport. 2018d. *Results of Grade 11 Student Achievement from the National Assessment in 2018.* Phnom Penh: Education Quality Assurance Department.

These are students who will have paid for and received rien kua (extra private classes). Science stream students in Grade 11 would be expected to have a much higher achievement on Cambodian-prepared assessments of the national curriculum. Instead, the overall performance was very low (36.4%).

The Grade 11 national assessments also identified a mismatch in terms of curriculum and classroom instruction. Students who were recognized as achieving high results in school did not necessarily perform well on the national standardized assessment:

> ***"[H]igh performers based on the classroom assessment by teachers were not necessarily able to perform well on the standardized tests in the national assessment, reflecting the misalignment of curriculum, teaching, and assessment at the school level. In particular, these findings seem to suggest that classroom teaching and assessment were not matched with the learning outcomes stated in the curriculum."***[16]

Program for International Student Assessment for Development 2018 (PISA-D 2018)

> ***"One of the main reasons Cambodia participated in PISA-D was because of its policy makers' wish to understand how the performance of students in the country compares, in relation to international benchmarks and to countries facing similar challenges elsewhere, and to identify the factors that are associated with underperformance in order to effectively eliminate it."***[17]

The focus of PISA-D is age-based (15-year-old only) and was taken by 5,162 15-year-old students in Grades 7–12, the majority of whom were in Grades 9 and 10 (3,124 or 61%). Female students comprised 53% and rural students 73%. In 2017, only 28% of 15-year-old adolescents had attained at least Grade 7, while 72% were either in primary grades or out-of-school. Almost half of 15-year-old students are 1–2 years

[15] D. Edwards. 2018. "What's wrong with the World Bank's Human Capital Index?" https://www.worldsofeducation.org/en/woe_homepage/woe_detail/16022/what%E2%80%99s-wrong-with-the-world-bank%E2%80%99s-human-capital-index-by-david-edwards.
[16] MOEYS. 2018d. *Results of Grade 11 Student Achievement from the National Assessment in 2018.* Phnom Penh: Education Quality Assurance Department. pp. 34–35.
[17] Footnote 17, p. 7.

behind grade level, particularly among boys, mainly due to overaged primary enrollment and/or repetition. About 1/3 of students reported having repeated at some time during primary or secondary levels.[18]

The questions on PISA-D assess for higher-order thinking skills from Bloom's Taxonomy (application and reasoning) rather than content knowledge drawn from subjects in the curriculum. Cambodian results showed that Reading and Science were significantly below the PISA-D average; Mathematics was similar to the PISA-D average:

"Students performed significantly lower than the internationally agreed standards of basic literacy (Level 2)…about 90% of students were at Level 1a or below in all three domains, the proportion based on PISA experience and the child development trajectory highlighting the learning crisis not just within the range of Grade 7 or above, but also within earlier schooling and learning".[19]

The consolidated results indicate that about 90% of 15-year-old students in Cambodia are operating at a low proficiency level and using skills at the lowest levels of Bloom's Taxonomy (remembering without understanding). This is primarily because Cambodia's national assessments emphasize questions that test for recall of content knowledge, which is now out of step with many international curricula that place more emphasis on 21st century learning skills or higher-order thinking skills of critical thinking, creativity, collaboration, and communication. Higher order levels of thinking and questioning must be integrated into teaching and learning in all secondary classrooms across all subjects.

MOEYS intends to fully respond to the findings and messages by following up on the effective interventions set out in the PISA-D report, highlighted as follows:

- Establish strong foundations for success and improving educational outcomes
- Improve the allocation of education resources
- Improve the school environment
- Improve the quality of instruction
- Strengthen family and community support for education[20]

The HCI and secondary student assessments tell a story of unfulfilled expectations around student well-being and learning outcomes. While 2018 was Cambodia's first time to join the PISA-D, the results reflect the insights gained from the Grade 11 national standardized assessments. Can these results be traced back to the health, well-being, and development of children at early ages as indicated by the HCI in combination with teaching practice (subject knowledge, teaching methods, and learning styles) and school leadership competence in schools?

1-7. Education Investment Outcomes

According to the 2020 Budget Law, spending on education in Cambodia in nominal terms nearly tripled from $343 million in 2014 to $848 million in 2019.[21] The increase is mainly attributed to a rise in public service wages, which accounted for approximately 80% of total expenditures. Within the same period, the starting salary for teachers roughly tripled: for primary teachers it quadrupled (from $888 to $3,600 per year); for lower secondary teachers it tripled (from $1,259 to $3,876 per year); and for upper secondary teachers it increased by 2.3 times (from $1,814 to $4,222 per year).

[18] Footnote 6, p. 2.
[19] Level 2 is a particularly important threshold, as this marks the baseline level of proficiency at which students begin to demonstrate the competencies that will enable them to participate effectively and productively as continuing students, workers, and citizens, within the low-income country context. (MOEYS, 2018: 130) See pages 24-26 of the report for complete level descriptors in Reading, Mathematics, and Science.
[20] Footnote 6, p. I.
[21] Spending on education includes recurrent and capital spending. The capital expenditures for the education sector were incurred starting from 2015.

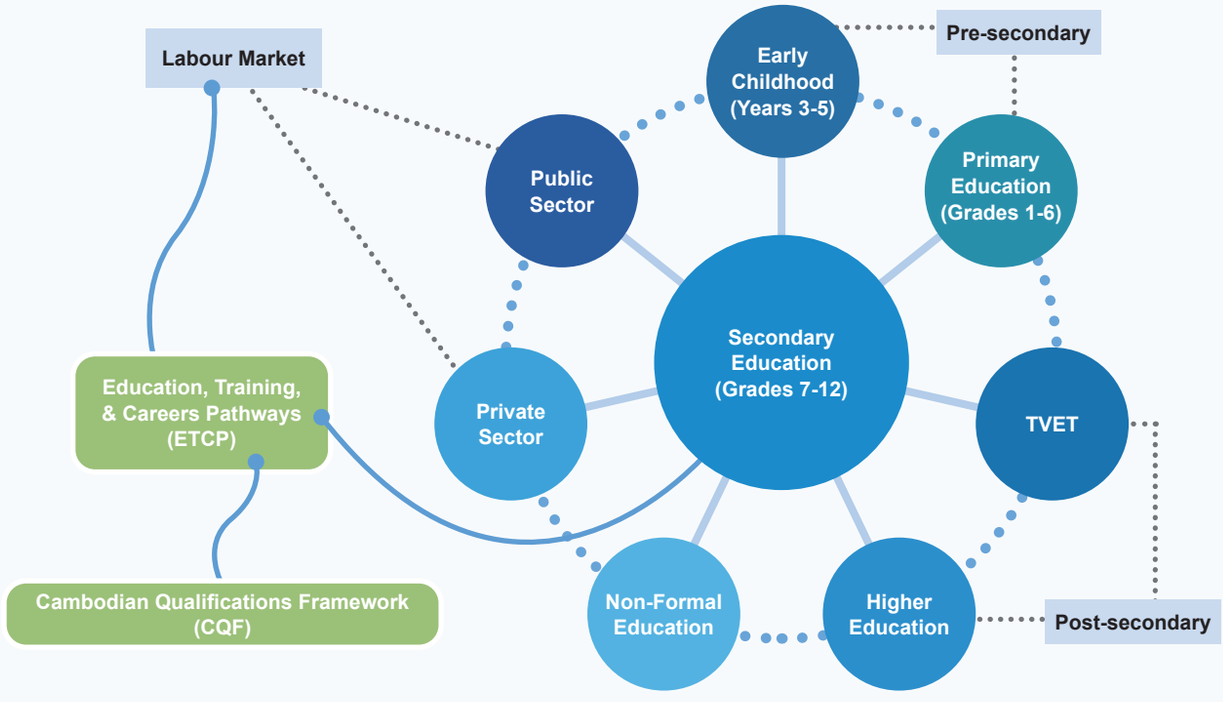
However, despite these significant increases in teacher salaries, secondary student learning outcomes showed no substantial improvement from 2013 to 2018, as indicated by the standardized assessments. Salary increases are necessary to improve the standard of living of teachers, but is not a sufficient condition to improve student learning outcomes. In addition to monetary incentives, accountability mechanisms along with other nonmonetary incentives are required.

A key challenge for MOEYS is how to move the education system forward in a way that greatly accelerates improvements in educational quality while at the same time ensuring that considerations of social equity and justice concerns are also addressed. This is particularly challenging given that resources are perennially constrained. It is tempting to frame this challenge as a choice between investing in social equity at the expense of educational quality (or vice versa), especially since past investments have not yet yielded apparent improvements in educational quality though there have been major improvements in educational access.[22] This should not be an "either/or" situation, but rather demands a balanced approach. A multi-track development strategy is needed that includes higher investment in a smaller number of institutions and schools such as the National Institute of Education (NIE) and the Teacher Education Colleges (TEC) as "centers of excellence" and higher performing secondary schools, as well as a low investment pathway that permits MOEYS to address social equity and some quality concerns in the rest of the country. The higher investments produce lessons learned and best practices that can be integrated into other secondary schools and teacher education institutions (TEIs) around the country as human and financial resources become available. This approach requires that schools be assessed for absorptive capacity—their readiness and commitment to take on higher investments and expectations—thus generating greater resource and budget efficiencies.

1-8. Major Secondary Subsector Relationships

Figure 5 shows the interrelationships between the learning experiences for young people who have transitioned through primary grade to secondary grade levels and will eventually move on to post-secondary experiences that includes higher education, TVET, NFE, and/or employment within the public and private sectors.[23]

Figure 5: Secondary Education and Its Relationships



[22] KAPE. 2016. *Achieving Greater Efficiencies in Educational development through High and Low Cost Development Strategy. Discussion paper.* Kampong Cham: Kampuchean Action to Promote Education.
[23] The Education, Training, and Careers Pathways is proposed by CAMSEB 2030 (see section 4.2)

Following are brief narratives on early childhood, primary, nonformal, and higher education and TVET sub-sectors (see section 3-15 for labor market discussion):

Early childhood education

Cambodia has implemented a number of programs and strategies to expand children's access to preprimary education. In SY2019/20, 363,681 (182,114 F) children were enrolled in early childhood education (ECE), which translates to a GER of 38.4% (39.4% F). The gender parity index (GPI) remains at approximately 1.0. There have been significant increases in the number of public preschools in recent years from 1,634 in SY 2007/08 to 4,409 in SY2019/20. The number of ECE teachers has also increased significantly, from 2,960 in SY2007/08 to 5,678 in SY2019/20. Child health and nutrition; water, sanitation, and hygiene (WASH facilities); and numbers of preschools meeting minimum standards have generally improved since 2015. [24]

Despite this achievement, there are major challenges in the subsector. Children living in rural and remote areas, especially the poor and disadvantaged, have limited access. A low level of preprimary enrollment affects school readiness for the majority of young children. Teacher shortages exist in public and community-based preschools. Teacher recruitment has not kept pace with student enrolment, which has increased at a rate of 10.3% per annum, while the corresponding growth of qualified teachers has been around 5.5%. This has put pressure on the pupil–teacher ratio, which increased from 26.9 in SY2007/08 to 43.1 in SY2019/20. Quality ECE is a major building block for young children as they progress through primary school and into secondary education and beyond. Thus, ECE requires a strong focus as prescribed in the ESP 2019–2023 and Cambodia SDG4 Education Roadmap 2030.

Primary education

Analysis shows variations in student performance in terms of gender, socioeconomic background, and geographic location. There are multiple explanations for students' underperformance in learning assessments. A study undertaken in 2013 reported that a large part of teaching hours in the schools are lost as a result of teacher absenteeism, excessive official holidays, and reduced instructional hours during teaching days, which is often fueled by weak school leadership and management.[25] Recent reports indicate that Grade 6 students are completing primary education with low levels of literacy and numeracy such that they are not well prepared for lower secondary studies and thus are taken out by parents or choose to leave school early. [26] This is a consequence of the social promotion (automatic promotion) that is practiced in primary schools throughout the country. To address the issue of student underperformance in primary education, MOEYS has instituted early grade reading and mathematics programs with development partners for Grades 1 and 2 curriculum, instruction, and assessment. The intended outcome is stronger literacy and numeracy skills for primary completion and transition into secondary or other postprimary opportunities.

In SY2019/20, 65% of primary schools are running double shifts due to large student numbers relative to available teaching personnel. This may be the result of budget constraints and the oversupply and/or undersupply issues around deployment of teachers where teachers are reluctant to locate in rural and remote areas. The national transition rate in SY2019/20 from primary to lower secondary was 85% with 96.2% (urban) and 82.8% (rural). Boys transitioned at 81.5% (national), 94.2% (urban), and 78.9 (rural). Girls transitioned at 88.5% (national), 98.2% (urban), and 86.7% (rural). This data indicates that girls transition more often than boys into LSE.

[24] MOEYS. 2020. *Annual Education Congress Report, March 2020.* Phnom Penh: Directorate-General Of Policy and Planning. p. 37.
[25] Universalia. 2019. *Summative GPE Country Program Evaluation.* Phnom Penh: UNESCO/UNICEF.
[26] ADB. 2018. Cambodia: *Upper Secondary Education Early School Leaving Field Study in Nine Provinces (USESDP 2).* Phnom Penh: Asian Development Bank.

Nonformal education

Nonformal education provides adults and out-of-school youth, who are largely self-motivated and able establish their own learning agendas, with the opportunity for lifelong learning after primary school. Nonformal education in Cambodia is provided by numerous line ministries with different or overlapping purposes. The Ministry of Labour and Vocational Training (MLVT) operates classes to promote vocational and life skills of students who leave school early (dropout) and illiterate adults. The MOEYS, through the Department of Non-Formal Education, works on provision of literacy, life, and vocational skills. Training programs also prepare young adults to reintegrate into mainstream formal schools.

In view of the perennial early school leaving that occurs in Cambodia, the potential client base for NFE in Cambodia is immense. Nonformal education programming must be strategically focused to make the most effective use of limited human and financial resources. MOEYS currently has five NFE programs: (i) functional literacy, (ii) re-entry, (iii) equivalency, (iv) complimentary school, and (v) income generation. The ESP 2019–2023 lists activities such as policy, guidelines, plans, management information system (MIS), and management, which are mostly regulatory and bureaucratic functions. The actual programs (instructor recruitment and supply, curriculum, instructional and assessment methods, and resources) should be prioritized. Without relevant and quality NFE programs geared to people's needs, the support functions will be underutilized.

Higher education

Public and private universities are accredited by the Accreditation Committee of Cambodia (ACC), which is now housed within the MOEYS. The abundance of higher education institutions (HEI) in Cambodia challenges the accreditation process. The higher education subsector is heavily populated with higher education institutions, the majority of which are private universities or those established by other line ministries. In 2018, there were 125 HEIs in 20 provinces of which 48 were public and 77 private, under the supervision of 16 ministries or government institutions. Of these, MOEYS oversees 13 public and 63 private universities, while MLVT supervises 12 and 14, respectively.

Enrollments in higher education have been declining in recent years, including undergraduate and graduate programs, although female candidates have shown an increase since 2015. In general, scholarships for higher education have increased, particularly for females. Higher education may see a similar trend in the coming years to secondary education where the GPI has shifted in favor of females. The number of associate degree enrollments has decreased in recent years due in part to improved Grade 12 examination results year-on-year. Associate degrees tend to be 2-year bridging programs for secondary students who require academic upgrading or do not want or require a 4-year undergraduate degree.

Typically, the largest number of higher education candidates enroll in business-type courses such as finance, accounting, banking, and business management, even when the labor market shows needs in other sectors of the economy. This overrepresentation in business studies results in many university graduates unable to acquire suitable employment resulting in job entry to other sectors or retraining. Enrollment in graduate program-types tends to align closely with undergraduate enrollments. As noted in the ESP 2019–2023 outcome indicators and targets, more than 25% of university students were enrolled in STEM courses in 2018, which it is anticipated will rise to over 30% by 2023 relative to a stronger focus on STEM in secondary education.

Most HEIs are teaching universities and carry out very little research and extension functions. Faculty members are not adequately trained for advanced research and innovation nor are there incentives and support to the faculty members for these functions. For higher education to be of high quality and relevant to the economy and the society as a whole, research and extension functions should be well integrated.

Technical and vocational education and training

Technical and vocational education and training programing is provided for several audiences including rural and remote agriculturalists and small business owners with short courses such as chicken raising, vegetable growing, pig raising, and other animal husbandry as the most popular. Short courses are typically traditional in nature, delivered through TVET centers, community-based, and/or enterprise-based (private business operations). According to the Cambodian Qualifications Framework (CQF), longer TVET courses range from Certificates 1, 2, and 3 to Associate (2-year) and Bachelor (4-year) vocational degrees. Masters and doctoral degrees can be attained through tertiary technical institutions. A bridging program has been developed to provide youth 15 years and older, who left school early during Grades 7, 8, and 9 and have been out of school for at least 2 years, with the opportunity for accelerated learning so they can enroll in the higher-skilled Technical and Vocational Certificate 1 programs and beyond.

Cambodia proposes to restructure the subsector for a more relevant, responsive, and high-quality TVET and ensure that skilled workers are able to achieve international and ASEAN TVET standards. It is expected that access to affordable and quality technical and vocational education will substantially increase and those who graduate from TVET programs will acquire relevant skills in line with rapidly changing labor market needs. The MLVT is currently going ahead with the Skills for Competitiveness Project to increase skilled workers in manufacturing, construction, electricity, and electronics. Partnership agreements will be forged with industry and technical training institutes (TTIs) to promote work-based learning (WBL) programs and expand the Skills Development Fund (SDF) as an innovative TVET financing mechanism.[27]

1-9. The role of culture in education

Culture plays a profound role in education in any country. Culture is "the collective programming of the mind, which distinguishes the members of one group or category of people from another."[28] The values, beliefs, behaviors, customs, and attitudes that differentiate members of a group from other groups influence the function of education systems in several ways.[29] For Cambodia, culture defines the role of education in society and its various elements including its rationale, curriculum, teaching, management, and learning outcomes.

Anecdotal evidence suggests that various elements of culture impact on the teaching methods and management style within Cambodian schools. Typically, teachers tend to teach the way they were taught using didactic pedagogy ("stand and deliver" style) that regards students as vessels to be filled with prescribed knowledge through rote learning. "Teaching to the test" is prevalent in schools, especially secondary schools, where, for example, teachers question the importance of teaching information and communication technology (ICT) in Grade 12 when there is no government examination for that subject as yet.

School directors function as administrative leaders ("managers of things") supervising school facilities as a priority with minimal or no instructional leadership or effective engagement with school communities. The high-power distance that exists in a culture where seniority is paramount may work against the sharing of ideas, practice, and lessons learned by peers and junior personnel. Personnel at all levels may be reluctant to use their voice in view of the potential negative consequences of doing so. The hierarchical and political nature within the culture of Cambodian society impacts on schools such that school directors and teachers generally tend not to venture beyond traditional expectations of them and even with the advent of government policy around decentralization and deconcentration, school personnel find it challenging to embrace change.

[27] https://www.adb.org/projects/50394-002/main
[28] Hofstede, G. (2007). *Asian management in the 21st century. Asia Pacific Journal of Management,* 24, 411-420.
[29] Fan, Y. (2000). A classification of Chinese culture. *Cross Cultural Management: An International Journal,* 7(2), 3-10.

School improvement through school-based management, local decision-making, financial transparency, new teaching strategies, and community engagement among others is struggling to find its way in many schools due to these traditions and expectations of culture. School directors and teachers appointed by provincial governors on the advice of provincial and district directors of education tend to direct their allegiance to the subnational rather than the national levels. This creates a dilemma for MOEYS when attempting to effectively recruit good quality candidates and implement policy and innovations at the local level.

Experience shows that cultural practices generate barriers to change, while also providing opportunities for systemic improvement. Thus, it will be important during the coming decade to acknowledge and understand the impact and influence of Cambodian culture on the education system in general and the operation of schools in particular.

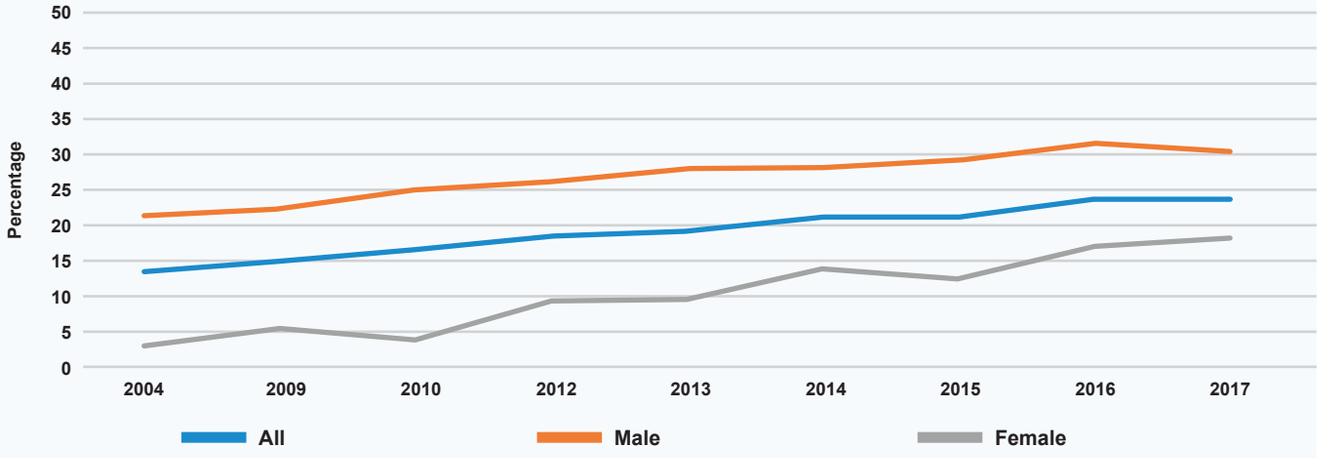
1-10. Excellent Examples Exist in the Cultural Context

In recent years, interventions and innovations in Cambodian education have managed to evolve successfully within this cultural context. The Early Grade Reading and Mathematics Assessment interventions are an effort to strengthen literacy and numeracy within early primary schools in order to generate primary school graduates at Grade 6 who have a better chance of succeeding in lower secondary school. *Mother-tongue programs* in more rural and remote areas have helped children and adolescents, especially from minority communities, to progress through primary grades into secondary education. The New Generation Schools (NGS) approach, which is implemented through a public–private partnership and grounded in good governance, transparency, professionalism, ethical behavior, effective teaching and leadership strategies, and strong community engagement has found favor with a growing number of families and education personnel in Cambodia, along with the reform of the Grade 12 examination system. E2STEM (Phnom Penh) is a Techno-New Generation School bringing the best modern practices in the teaching of Science, Technology, Engineering, and Mathematics, English, and e-Learning into Cambodian education. Local schools are also involved in e-Learning innovations, student leadership programs, literacy and reading development, STEM for women, and exchanges and scholarship programs with ASEAN neighbors.

Meanwhile, the Asian Development Bank (ADB) is also extending assistance through various projects. The Upper Secondary Education Sector Development Projects (USESDP) currently being implemented are focused on strengthening secondary school networks, school leadership and management, STEM teaching methods and resources, career pathways for students, libraries and research-based learning, and local school–business relationships (see footnote 27). The Secondary Education Improvement Project in 100 lower secondary schools throughout the country is working to develop stronger leadership and management skill sets among school directors, which in turn develops trust in the system and encourages improved school operations and student learning outcomes. The Secondary Education Improvement Project funded through the World Bank also seeks to develop new generation-type schools The proposed General Education Improvement Project (GEIP), supported by the World Bank will work to improve transition from primary to secondary school and retention of secondary students through teacher and school principal professional development and qualifications upgrade, school-based management, preservice improvements, special education support, distance learning systems, new school builds, and management capacity building.

The combination of increased primary and lower secondary access through MOEYS' investments with development partners and civil society support have helped many more students to complete Grade 9. As Figure 6 indicates, there have been relatively large gains in the past 15 years around educational attainment. Males have completed at least Grade 9 with a 10-point increase from 21% (2004) to 31% (2017), while female completion has more than doubled from 8.5% to 18% in the same period.

Figure 6: Persons Aged 25 Years and Over Who Have Completed at Least Lower Secondary Schooling, 2004–2017 (%)



Source: National Institute of Statistics. 2017. Cambodia Socio-Economic Survey 2017. Phnom Penh: Ministry of Planning.

The establishment of two Teacher Education Colleges since 2018 in Phnom Penh and Battambang is an effort to coordinate primary and lower secondary teacher education, which should reap future benefits in terms of quality of learning at both levels. The New Generation Pedagogical Research Centre (NGPRC) has been in operation since 2019 at the National Institute of Education. It offers a 1-year graduate program for teachers who will return to NGS and normal schools as mentors and coaches to support classroom teachers and school administrators.

1-11. Barriers to Organizational Change

The blueprint is a strategic vision of the period to 2030 and, as such, requires considerable change in current practices to transform secondary education in Cambodia. As noted above, change typically generates forms of resistance, which must be taken into account. In a general sense, barriers to organizational change take many forms.

- People may feel threatened by something new or different because, "We have always done it this way."
- People may think they have little control, which creates anxiety and further resistance to change. Lack of control may come from a "top-down" approach by management, which excludes staff from consultation and decision.
- Not enough time made available for transformation can also act as a barrier to effective change.
- Decision makers, with their own agenda and timelines, drive the design and implementation of innovations that may add to the current roles and responsibilities of their colleagues and subordinates creating distracting, stressful, and unproductive overload.

Change should be a core organizational task, rather than an additional burden, as it requires time, attention, and possible adjustments in processes.

To encourage "true transformation", the remedy to the typical political urgency and expediency "is a quiet, evolving, and communal process located in complex contexts."[30] The equation for change requires (i) vision, (ii) action plan, (iii) resources, (iv) skills, and (v) incentive. The interaction among these factors will increase the opportunities for change and improvement in the system, while the lack of one or more factors can and will result in lack of direction, frustration, inefficiencies, low achievement, and in some cases, no change.

[30] P. Wood. 2017. Overcoming the Problem of Embedding Change in Educational Organizations: A Perspective from Normalization Process Theory. *Management in Education.* 31 (1). pp. 33–38.

2. Background to the Blueprint

Cambodia has experienced rapid growth from 2000 to current years. During 2011–2019, its gross domestic product (GDP) grew by an average rate of 7.05% per year. Structural transformation contributed to the country's impressive growth, with services accounting for 40% of GDP, and industry for 31% in 2017. Rapid growth and diversification have been accompanied by an increase in demand for a skilled workforce. However, the education system has not kept up with these structural changes and skills gaps are significant. While there has been substantial progress in access and quality at the primary education level, challenges remain at the secondary level.

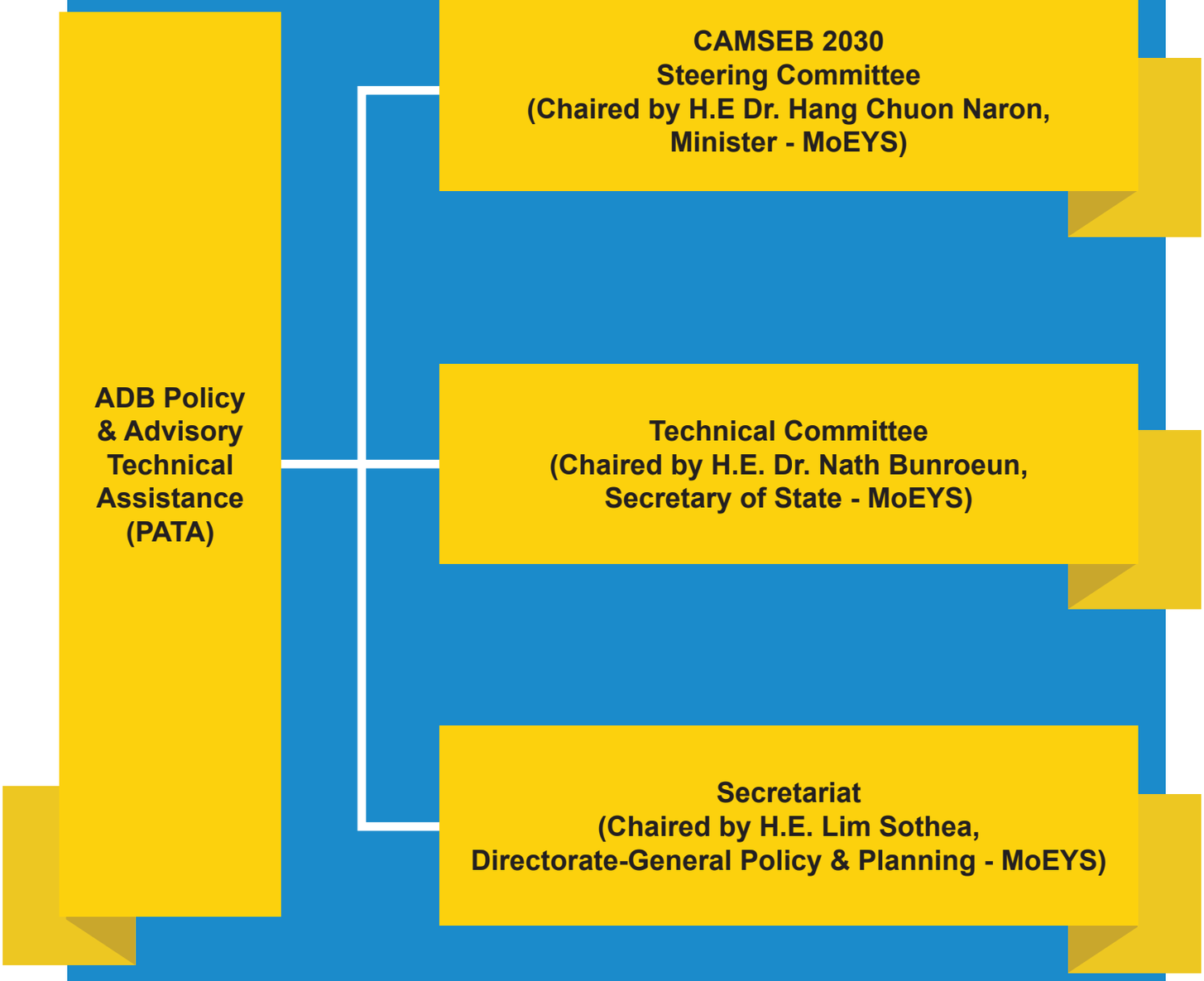
The need to produce higher level skills required by the global economy and the technological advances brought about by Industry 4.0 led Cambodia to intensify efforts to improve its education system to address these challenges. Aligned with the human resource development pillar of the government's Rectangular Strategy Phase IV, initiatives to improve the country's secondary education system are critical priorities that need to be pursued to achieve the government's vision of a "knowledge-based society". While modest gains have been realized to improve access to and quality of secondary education over the last few years, the speed at which technological change is evolving requires increased and accelerated efforts to achieve a secondary education system that will be able to keep pace with the changes and close the skills gaps. In view of the approximate –3.1% contraction in the economy during 2020 due to the impact of the coronavirus disease (COVID-19) pandemic, it is imperative to underline the importance of responsive education policies and programs toward greater resiliency in the post-COVID-19 "new normal".

In response to the challenges, and in support of the government's goal of improving its human capital, the MOEYS in collaboration with ADB developed the Cambodia Secondary Education Blueprint 2030 (henceforth CAMSEB 2030 or the Blueprint) during 2020 and early 2021 (Figure 7). During March 2020 to February 2021, the ADB Policy and Advisory Technical Assistance met with the Minister of MOEYS, secretaries of state (policy and planning, secondary); directors-general; deputy directors-general; department directors and deputy directors; school directors; secondary teachers and students (focus group discussions); and civil society personnel to discuss the challenges and successes within the secondary subsector. In March–May 2020, the Policy and Advisory Technical Assistance with support from the Secretariat and other partners generated a portfolio of briefing papers and situation analyses on education subsectors, enrollment projections, poverty and social assessment, gender, labor market, and economic conditions. During August–November 2020, consultation meetings were conducted by the MOEYS Technical Committee with line ministries and development partners to provide feedback for revisions to the Blueprint. A subnational review session involving teacher education institutions (TEIs), Provincial Offices of Education, District Offices of Education, and secondary school leaders was held in late January 2021, followed by a consultation with senior MOEYS personnel chaired by the Minister in February 2021. The final draft was submitted to the Steering Committee for approval in March–April 2021.[31]

The Blueprint identifies key priorities and strategies not only to address the challenges in secondary education, but to propel the country toward achieving upper-middle-income status by 2030. The Blueprint builds on the strategies, policies, and directions set forth in the Education Strategic Plan 2019–2023, the Industrial Development Policy 2015–2025, Cambodia's Sustainable Development Goals 2030, and the overall Rectangular Strategy Phase IV.[32]

[31] The ADB Policy and Advisory Technical Assistance was composed of international and national consultants from Inno-Change International Consultants (Manila) and TANCONS (Phnom Penh) in collaboration with ADB senior education and social specialists (Manila and Phnom Penh).
[32] ADB. 2019. *PATA 9178: Accelerating Policy Reforms in Secondary Education. Terms of Reference, Consulting Firm to Prepare the Long-term Roadmap and Plan for Secondary Education.* Manila.

Figure 7: CAMSEB 2030 Organizational Structure



ADB : Asian Development Bank,

CAMSEB : Cambodia Secondary Education Blueprint 2030.

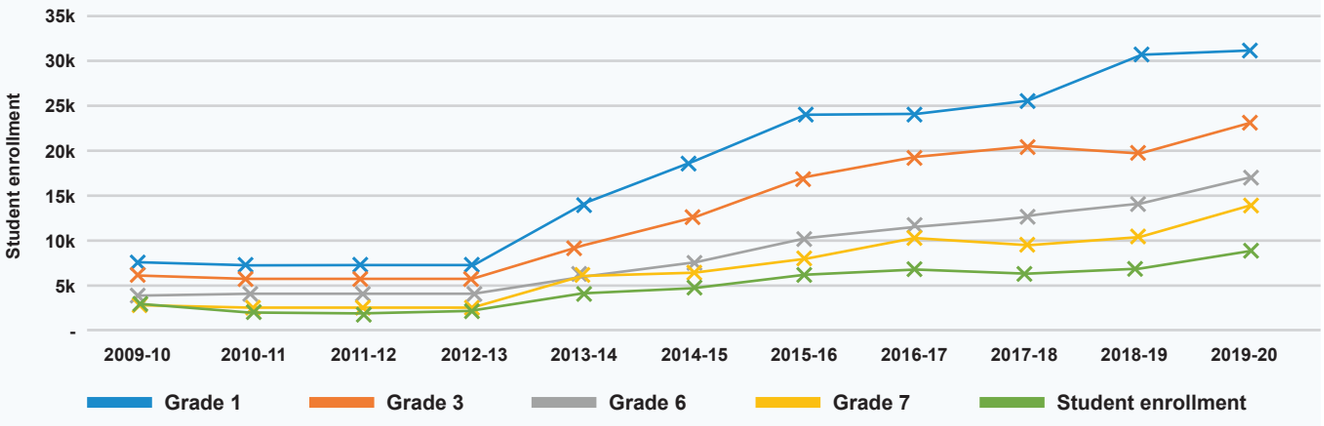
Source: ADB. 2020. *CAMSEB 2030 Policy and Advisory Technical Assistance: Inception Report.* Phnom Penh.

3. Challenges in Secondary Education

3-1. Public Perception of Education

While private education is a small subsector relative to public education, there has been a surge in enrollments in private and nongovernment organization (NGO) schools in Cambodia in recent years (Figure 8), which indicates that confidence in the quality of public secondary schools in Cambodia has declined. Added to this trend is the growing demand from families wishing to enroll their children in New Generation-type schools (independent public schools) for the reason that these schools are generally showing significantly higher student achievement and learning outcomes.

Figure 8: Private Education Growth in Cambodia, 2009–2019



Source: Ministry of Education, Youth and Sport. 2019a. Education Management Information System (EMIS), 2018–2019. Phnom Penh.

A study commissioned by MOEYS in September 2019 in 10 representative secondary resource schools (SRS) found that there was a clear divergence of opinion about the quality of secondary education among school directors, teachers, and parents. The results are shown in Table 4 below.

Table 4: Prioritizing Key Educational Issues

Key themes	School Principal	Teacher	Parent
Infrastructure upgrading	1	2	2
Students learning well	1	3	1
Teachers demonstrate high levels of professionalism	2	3	1
Teachers have adequate salaries	3	1	4
Parents should be satisfied with instruction at school	4	4	3

Source: MOEYS. 2019c. Rapid Assessment of Secondary Resource School Network. Second Upper Secondary Education Sector Development Project. Kampong Cham: Kampuchean Action to Promote Education.

While this is a relatively small sample of secondary schools, the findings are an important contribution to MOEYS' decision making. School directors and parents indicated student learning as the highest priority, while teachers placed salaries and infrastructure upgrading before student learning. Teachers placed school facilities as more important than teacher professionalism and parental satisfaction with instruction. The fact that the teachers regarded salaries as the most important issue while placing student learning and parental satisfaction as of lesser importance was a striking finding.

3-2. Accountability Matters at Various Levels

The system, as it currently exists, does not hold personnel accountable at the school level for the quality of education provided to students. Professional teacher licensing is not yet a requirement of the system; continuous professional development for teachers and school directors is intermittent and ad hoc; and professional standards implicit in annual performance appraisals are not adhered to in many schools.[33] This influences the validity of the assessment of student learning since students who are paying for additional private instruction will be advantaged over those who are not.

MOEYS has indicated that as many as 30% of Grade 6 students nationwide do not have the basic literacy and numeracy skills required for transition to lower secondary education.[34] It is essential that Grade 6 students nationwide have acquired the basic literacy and numeracy skills required for transition to lower secondary education. Primary schools must take greater responsibility for ensuring students' proficiency in literacy and numeracy at the end of Grade 6. The whole education sector must take more responsibility and accountability to attain the required student proficiency levels across all grades, and must initiate remedial programs for students who failed to meet the intended learning outcomes before admitting them to the next grade level. One of the primary objectives of school-based management is for school communities to be more directly involved in ensuring that their schools achieve the desired student learning outcomes, through school improvement planning, resource mobilization, monitoring, and technical support. They too must be prepared to accept responsibility for any shortcomings in student learning outcomes.

3-3. Students Transitioning Between Levels

"Students seem to have difficulty in moving up the grades, especially during Grade 6 and Grade 9 transitions."[35]

The Grade 11 national standardized assessment in 2018 showed that Grade 6 students were completing primary education with low levels of literacy and numeracy. This is evidence that they were not well prepared to enter lower secondary level and so they chose to leave school early or were taken out by parents. In general, primary schools tend to use social (automatic) promotion in order to generate increased promotion and reduced repetition rates. This results in students progressing through primary grades without achieving intended learning outcomes and entering secondary school without the basic knowledge and skills in numeracy and literacy necessary for success.

Data for 2015–2017 national assessments for Grades 3, 6, and 8 in the core subjects of Khmer and Mathematics show that achievement levels were at or below 50% and that there were no signs of an improving trend (Table 5).[36] Consequently, lower secondary students may leave school early, especially in Grade 9, when they find learning too difficult. The same can be said for transition from lower to upper secondary schools, where weak foundational standards in basic education prevent students succeeding at higher grade levels.[37]

[33] As recommended in a VSO report, "provide teachers with formal contracts covering salary scales, method and timing of payment, placement processes, benefits and allowances..." (Source: Volunteer Service Overseas. 2008. *Teaching Matters: A Policy Report on the Motivation and Morale of Teachers in Cambodia.* London. p. 60.)
[34] MOEYS. 2018b. *Education Strategic Plan 2019–2023.* Phnom Penh: Directorate-General of Policy and Planning.
[35] Footnote 17, p. 31.
[36] Footnote 17, p. 4.
[37] Footnote 27.

Table 5: Previous Results for Grades 3, 6, and 8 (%)

Assessed subjects	Grade 3	Grade 6		Grade 8	
	2015	2013	2016	2014	2017
Khmer	35	46	52	56	54
Mathematics	41	43	48	44	47
Physics	X	X	X	53	46

Source: Ministry of Education, Youth and Sport. 2018d. Results of Grade 11 Student Achievement from the National Assessment in 2018. Phnom Penh.

Action research studies conducted in lower secondary schools in three provinces in 2018 highlighted how low literacy and numeracy knowledge and skills of students in Grade 7 contributed to unacceptably high early school leaving rates. This reaffirms the issue noted above where primary students are promoted to the next level regardless of learning outcomes and achievement.[38] ASEAN data indicates that Cambodian children on average attend 9.5 years of school; however, their learning outcomes are, on average, equivalent to a Grade 6 level.[39]

3-4. Setbacks Caused by Early School Leaving

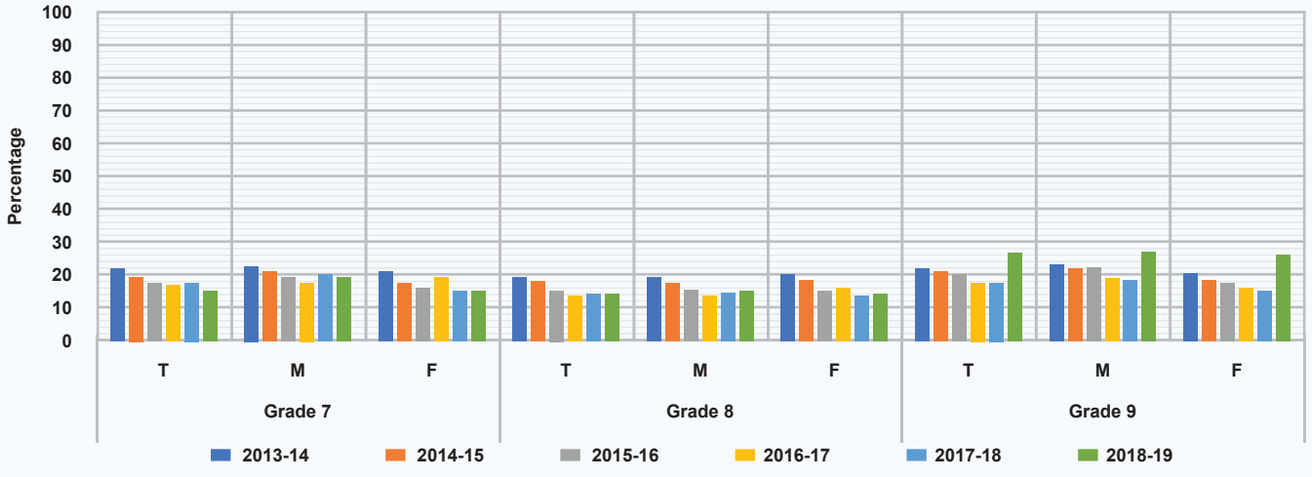
"Despite significant progress in Cambodia over recent years, school drop-out rates remain a major preoccupation of policy makers. Globally, research has shown that young adults who have left school without attaining a formal qualification are at high risk of poor employment, suffer worse health conditions, and are over-represented among those committing crimes (Belfield and Levin 2007; Lochner 2011; Machin, Marie, and Vujić, 2011)."[40]

Early school leaving (dropout) is a perennial issue for the Cambodian education system to address, as it is for other developing countries that are trying to raise the profile and stress the importance of a well-educated citizenry. As Figure 9 indicates, national early school leaving rates in Grade 7 (21.7% to 14.1%) and Grade 8 (19.7% to 13.8%) have declined over the period, while actually climbing in Grade 9 from 21.6% in 2013 to 26.2% in 2019.[41] This filtering effect generates lower early school leaving (ESL) rates for Grade 10 (17.1% to 14.5%) and Grade 11 (11.7% to 8.5%) as stronger students transition to upper secondary school. However, as Figure 10 shows, the Grade 12 examination "lockdown" initiated in 2014 dramatically impacted the ESL rates in Grade 12 (55.2% in SY2013/14).[42] Since then ESL rates have declined (30.2% in SY2018/19) as students, teachers, and parents have adapted to the rigid examination guidelines instituted by MOEYS. However, they remain high as 3 in 10 students leave before the end of the Grade 12 school year or do not pass the national examinations (see Figure 1). This is due to factors such as schools being far from homes, and a lack of qualified teachers, core textbooks, teaching methods, and scholarships. The ESL rate is relatively high in rural areas, as students need to work to earn money and support their families.

[38] MOEYS. 2018c. *Research Report: Third Education Sector Development Program (ESDP III).* Phnom Penh: Education Research Council.
[39] World Bank. 2015. *ASEAN Human Capital Index.* Washington, DC: World Bank Group.
[40] Footnote 6, p. 17.
[41] MOEYS. 2019a. *Education Management Information System (EMIS),* 2018–2019. Phnom Penh.
[42] In SY2013/14 a "lockdown" of all Grade 12 national examination venues was introduced by MOEYS to eradicate "cheating" by students and collusion by teachers, family, and friends to maximize final examination results of students. The stringent control measures that were introduced meant that less than 20% of candidates passed the examinations, which sent a shockwave through the country. The government allowed a second sitting a few months later, although the pass rate was still low (34.4%) with an early school leaving rate of 55.2%. In the period since the new secure examination measures were introduced, the average national promotion rates have steadily recovered (68% in 2019) presumably because students are now performing according to merit and engaging in more concentrated study.

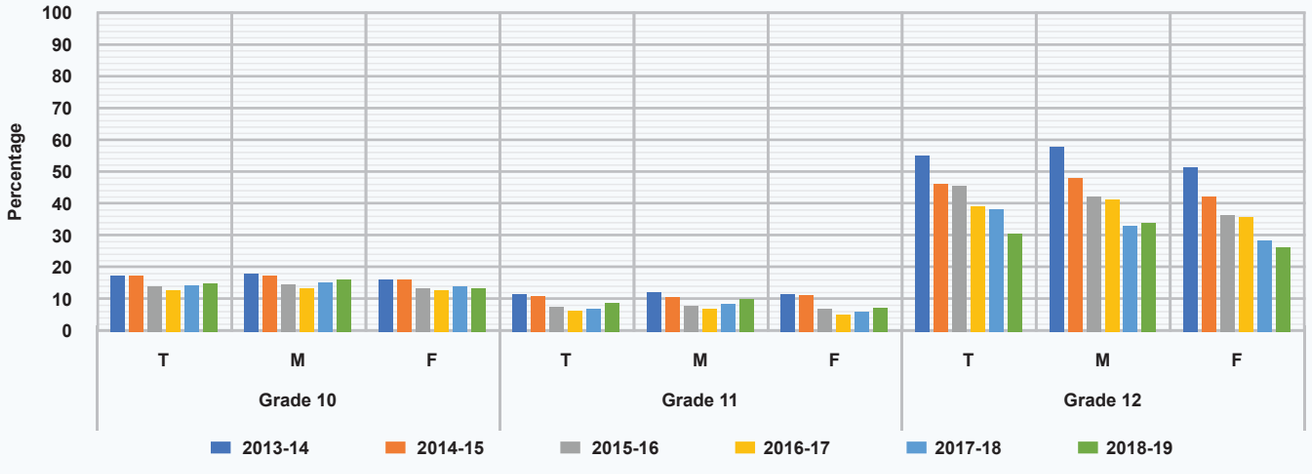
As has been noted elsewhere, secondary education promotion rates for females tend to be higher than for males, with boys leaving school early more often than girls from Grades 7 to 12. This trend could be addressed by the introduction of an early warning system (monitoring student learning, identification of students-at-risk, and providing further supports such as remedial classes and scholarships) and career counselling programs.

Figure 9: Lower Secondary Early School Leaving, 2013–2019 (%)



F = female, M = male, T = total.
Source: Ministry of Education, Youth and Sport. 2019a. *Education Management Information System (EMIS),* 2018–2019. Phnom Penh.

Figure 10: Upper Secondary Early School Leaving, 2013–2019 (%)



F = female, M = male, T = total.
Source: Ministry of Education, Youth and Sport. 2019a. *Education Management Information System (EMIS),* 2018–2019. Phnom Penh.

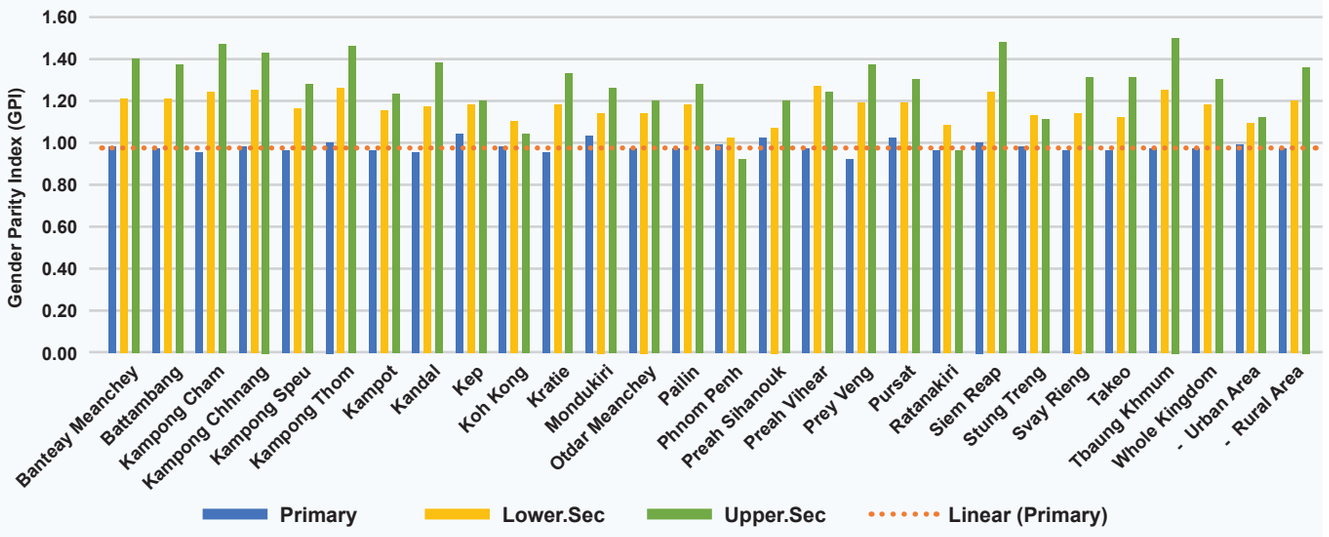
3-5. Inequitable Participation of Boys and Girls in All Levels

The gender gap is both significant and increasing with girls consistently outperforming boys in secondary grades and national assessments.[43] This is a trend that may lead to social and economic problems involving a growing number of marginalized males in society. Gender parity index (GPI) data indicates a trend in favor of females in secondary education. As children progress through primary school, the GPI initially favors males and approaches 1.0 by Grade 6; however, once into secondary school, the GPI shifts to favor females. Figures 9 and 10 showed the trend clearly as boys leave school early more often than girls, while Figure 11 indicates the diversity of GPI among provinces. GPI tends to be more equitable in urban secondary schools with much higher female enrollment in rural secondary schools. Interestingly, Phnom Penh shows slightly lower female participation in upper secondary education than any other province.

[43] Footnote 17.

Globally, however, girls' successes in education in the last decade do not come at the expense of boys and neither do boys' successes come at the expense of girls' successes. Educational achievement is not a zero-sum game, in which a gain for one group results in a loss for another. In fact, girls' and boys'achievements are strongly associated. In well-managed education systems where girls are participating and achieving, boys often also do well, and vice versa.[44]

Figure 11: Gender Parity at the Primary and Secondary Levels (by province), School Year 2019/20



Source: Ministry of Education, Youth and Sport. 2019a. Education Management Information System (EMIS), 2018–2019. Phnom Penh.

Achieving gender parity is just one step toward gender equality in and through education. A consideration of gender equality in education needs to be understood as the right to education (access and participation); as well as rights within education (gender-aware educational environments, processes, and outcomes); and rights through education (meaningful education outcomes that link education equality with wider processes of gender justice).[45] The aim should be a balanced approach to the equitable participation of females and males in secondary education.

3-6. Shortcomings in Teacher Preservice Education and Training

MOEYS and development partner studies and reports have uncovered a diverse set of issues around teacher preservice education and training (PRESET).[46] These include, among others:

- High-achieving secondary school graduates tend not to apply as teachers but prefer to seek other professions.
- University graduates apply for upper secondary rather than primary or lower secondary PRESET.
- Standards of the PRESET curriculum are low at RTTCs and NIE—they lack effective learning outcomes.
- The practicum is poorly coordinated and does not provide worthwhile learning experiences for student teachers.
- Professional knowledge and skills of teacher educators are low—a tendency toward teacher-centered pedagogy.

[44] UNESCO. (2019). *Global Education Mentoring Gender Report: Building bridges for gender equality.* Washington DC: UNESCO and United Nations Girls Education Initiative.
[45] R. Subrahmanian. 2003. Gender Equality in Education. "Paper commissioned for the EFA Global Monitoring Report 2003/4, The Leap to Equality". Accessed from https://unesdoc.unesco.org/ark:/48223/pf0000146983, 12 May 2020.
[46] M. Walsh. 2020. *Teacher Education: An overview to inform the CAMSEB 2030.* Phnom Penh: Asian Development Bank.

Teacher education institutions tend to hire the top graduates from their own institutions to remain in the same institutions and assume a role as lecturers without gaining any long-term, practical classroom teaching experience. These new instructors together with the older instructors lack awareness of the present-day context of secondary education. This has negative consequences not only for the quality of teaching and learning in the TEIs, but also for the integrity and relevance of the teacher training program in the eyes of the profession.

A report commissioned in 2016 by MOEYS highlighted several issues around provincial and regional TEIs providing PRESET for lower secondary teachers.[47] The preservice vision and objectives developed by the Teacher Training Department (TTD) several years ago are not aligned with present-day requirements in education. The management of TEIs tends to lack relevant qualifications or experience prior to appointments and works within a context of top-down decision-making and budget or resource constraints. Lecturers, as mentioned above, lack recent quality classroom teaching experience and updated professional development, while often teaching outside their subject area. PRESET tends to focus on lesson planning, classroom management, and student assessment from a teacher-centered perspective. Libraries, science labs, and research facilities are minimal in the RTTCs providing student teachers with limited experience in practical classroom work and research. RTTC dormitories were rated as very poor for student teachers with overcrowded sleeping rooms and bathrooms, minimal furnishings, and limited electricity availability. Financial concerns at the RTTCs derive from centralized control by TTD and a lack of adequate funding. Internal quality assurance processes are often lacking at TEIs as well, which challenges any requirement for improvement.

The construction and implementation of two new TECs in Phnom Penh and Battambang, supported by the Japan International Cooperation Agency and the United Nations Children's Fund (UNICEF), are in response to the issues highlighted by this and other reports.[48] Teacher Education Colleges now offer 4-year degrees (12+4) in education to supplement the existing 12+2 PRESET for primary and lower secondary teachers. The MOEYS Global Partnership for Education 3 (GPE3) STEPCam project supported by the United Nations Education, Science, and Cultural Organization (UNESCO) and UNICEF is currently working to improve facilities at the other four RTTCs.[49] The GPE3 and Higher Education Improvement Project II are also supporting academic upgrading for secondary teachers to raise professional qualifications.

Upper secondary PRESET takes place at the NIE for those students already possessing an undergraduate or higher degree. A study conducted by NIE Singapore for MOEYS in 2017 pointed out several challenges, which are being addressed through MOEYS' Upper Secondary Education Sector Development Programs (USESDP) 1 and 2 in collaboration with civil society and NIE Singapore. As of SY2017/18, the facilities and equipment were in a state of general disrepair; the faculty appeared to have low commitment to their teaching and research responsibilities; and curriculum, instruction, and assessment did not meet standards or requirements, which all speak to the challenges of effective educational leadership and management. Several stakeholders including government and development partners have talked about the importance[50] of creating a learning environment that everyone can be proud of—a "center of excellence" that will make major contributions to improvements in secondary education in Cambodia.

[47] S. Chhinh et al. 2016. *Teacher Training Center Capacity Assessment: The Case of Phnom Penh and Battambang Regional Teacher Training Centers.* Phnom Penh: Education Research Council.
[48] MOEYS. 2019d. *Teacher Education Subsector Analysis Report.* Phnom Penh: Japan International Cooperation Agency.
[49] *Strengthening Teacher Education Program in Cambodia* is the current MOEYS program to improve early grade literacy and numeracy outcomes through strategic teacher training supported by the Global Partnership for Education and Capacity Development for Education Fund and managed locally by UNICEF and UNESCO.
[50] NIE-Singapore. 2017. *A Report of the Needs Analysis Study of the National Institute of Education (NIE) Cambodia.* Phnom Penh.

3-7. Teacher Deployment and Supply

In 2018, a MOEYS study reaffirmed that teacher deployment is a perennial challenge placing a strain on financial resources.[51] The study found that there was unreliable data on oversupply and undersupply of teachers, and that recruitment and deployment practices caused uneven distribution of personnel among schools. Teachers surveyed were not willing to transfer to undersupply schools because they (i) had been in a local school for decades with families and friends nearby; (ii) did not want to work in rural and remote schools with poor facilities, security, and health care; (iii) thought they had less opportunity for extra tuition classes; and (iv) imagined heavier workloads with overcrowded classrooms in schools with an undersupply of teachers. The study uncovered an interesting divergence in points of view. Teachers surveyed were unwilling to transfer to undersupply schools and in some cases threatened resignation, if forced to do so. However, school directors and District Office of Education and Provincial Office of Education personnel thought that the deployment issue could be "fixed" with strong government commitment.

Each year, millions of dollars in salaries and benefits are provided to oversupply teachers, who in most cases are teaching part-time, working in the school office, on sick leave, or not attending the workplace. These are funds that could be more effectively used within the sector to improve the system as a whole. This situation persists while many rural and remote schools are struggling to provide a quality education with fewer qualified teachers, which encourages a contract-teacher practice that does not address the larger issues, but rather exacerbates the problem.[52]

The 2018 PISA-D report indicates that in Cambodia, investment in education was the lowest in its country-cohort as reflected in higher student–teacher ratios, difficulty in attracting qualified teachers, generally poor state of school facilities, and low cumulative expenditure per student between ages 6 to 15. Human resource allocation appeared to favor schools in higher socioeconomic and urban contexts including teacher numbers and teacher quality. Rural schools tended to be significantly understaffed, while oversupply of teachers is more evident in urban areas, especially in Phnom Penh.

3-8. Teacher and school director in-service training

Over many years, continuous professional development or CPD (formerly referred to as in-service education for teachers or INSET) in Cambodia has not been well coordinated with many ministry-sponsored small-scale programs. They were independent with fragmented external inputs, and lacked a systematic record of educators' professional development experience. Much of the INSET had been project-based with resources coming from loan and grant projects with development partners.[53] The outcomes of in-service activities are often not known with minimal monitoring or evaluation of the application of new knowledge and skills. INSET has tended to be short-term, one-off "training" that rarely links with career pathways (promotion and transfer), remuneration, awards, or other professional benefits.[54] Classroom teachers generally recognize the importance of quality CPD including school-based coaching to help them improve teaching and learning outcomes in their schools. One teacher said:

"I do not know about other teachers, but for me I want to be observed as often as possible. Without continuous mentoring and coaching support for me, I would not be able to improve my teaching and would lose my confidence over time."[55]

[51] F. No and S. Nguon. 2018. *Teacher Management and Redeployment: Practical Ways Forward.* Phnom Penh: MOEYS Education Research Council.
[52] Contract teachers tend to be qualified or underqualified teachers who are hired on a temporary basis with lower rates of pay to address immediate undersupply issues in local schools.
[53] Research by Cameo Education (*Observic* software) indicates that only 10% of behavioral change among teachers can be attributed to workshops, whereas 70% of teacher learning and change of practice comes from hands-on experience during job-related challenges and feedback from mentors and supervisors.
[54] MOEYS. 2017. *Implementation Framework on Continuous Professional Development for Teachers and School Directors (draft).* Phnom Penh: Royal Government of Cambodia.
[55] MOEYS. 2018c. *Research Report: Third Education Sector Development Program (ESDP III).* Phnom Penh: Education Research Council.

3-9. STEM Achievement in Secondary Education

The number of Social Science students in upper secondary schools (USS) increased dramatically from 2,492 in 2014 to 45,002 in 2018. On the other hand, those studying the sciences has remained at around 30,000 students.[56] From SY2016/17 to SY2018/19, the Social Science students achieved an average Grade 12 pass rate of more than 80%, while the Science stream has remained at just over 50%. The 2018 Grade 11 national assessment (n=6,641) highlights the relatively low learning outcomes in both Science and Social Sciences stream. The average results for Khmer Language were 57.7% (Science) and 54.4% (Social Sciences). Mathematics results were 41.1% (Sciences) and 29% (Social Sciences). Physics results were 37% (Science) and 28.2% (Social Sciences).

Education project planning and designs have uncovered a disconnect between the availability of STEM facilities and classroom instruction. While science laboratories have been installed in SRS since 2010, teachers are often unable to make satisfactory use of them due to a lack of adequate preservice theory and practice in Science and nonreplenishment of laboratory materials. While teachers may point to the need for up-to-date science classrooms and equipment, they are often unable to make effective use of these with secondary students.[57] Other factors that impact on the success of STEM programs include (i) student's low learning outcomes in basic education, (ii) insufficient pedagogical content knowledge and innovative teaching strategies, and (iii) lack of understanding and orientation on career guidance and academic aspirations among students.

3-10. School-Based Management

The major challenge faced by MOEYS as it strives to implement school-based management (SBM) at the secondary level is to build the capacity of school directors as well as teachers to undertake their roles effectively and efficiently. A rapid assessment conducted for MOEYS in September 2019 found that despite training in SBM, almost 50% of school directors could not define SBM principles, and only 40% of teachers were able to do so.[58] The older generation of directors are not accustomed to being accountable for their school's performance and even less for student learning outcomes, neither to parents who demand results. This latter factor provides an additional challenge for school directors, many of whom are already reluctant to ensure the participation of parents and the school community in a School Management Committee (SMC), which is an essential component of the whole SBM approach. The engagement of parents and the community provides an important level of accountability and school directors must be prepared for the checks and balances provided by SMCs. These SBM issues impact on the levels of trust experienced by local communities.

"With clear evidence of absenteeism and tardiness among teachers and students, low attention to professional development for teachers, and no dedicated solution to grade repetition, schools are not always places of learning. A strong accountability system is necessary within the problematic context."[59]

With perennial resource constraints, schools need to become self-driving, self-sufficient, and autonomous in solving their own problems. This means that the school community is expected to provide additional resources to support schools where funding is constrained. This will require effective leadership at all levels. A MOEYS study in 2018 pointed out that school directors require quality preparation programs and ongoing CPD during their career to ensure stronger SBM and instructional leadership in schools.[60] The National Institute of Education has offered school director preparation programs in the past; however, the challenge to sustain them is impacted by appointment of school directors by provincial governments that may not recognize these preparation programs.

[56] Footnote 44.
[57] Footnote 27.
[58] KAPE. 2019. *Rapid Assessment of Secondary Resource School Network.* Second Upper Secondary Education Sector Development Project. Kampong Cham: Kampuchean Action to Promote Education.
[59] Footnote 6, p. 139.
[60] Footnote 58.

3-11. Secondary Resource Schools

Secondary Resource Schools (SRS) house Secondary Resource Centers (SRCs), and serve as leading schools within a local school-based network of five secondary schools. The SRCs around the country, which are equipped with meeting rooms, science and computer laboratories, library, audio-visual rooms, and electricity and water, were designed to enable teachers to combine theory with practice in science, enable students to acquire digital literacy, and promote professional learning communities among SRS and network schools. The SRCs in the SRS are not only intended for use by the host school, but are expected to benefit the surrounding network schools, by giving access to the resource centers.

Since 2010, 36 SRCs have been established within existing secondary school sites (mainly provincial towns and other large centers). After 10 challenging years, the SRS and SRC concept has evolved to the point where it can provide a network of secondary schools that is financed by MOEYS and the Provincial Offices of Education, and provides a focus for secondary schools to better share resources within a network, which includes lower and upper secondary schools.

An assessment of 10 SRS networked schools in 2019 found that there were some major challenges in utilizing SRS (as cited by school directors and teachers):

- many teachers do not know how to use the Secondary Resource Centers;
- teachers know how to use the SRCs, but they place more emphasis on their private classes that they conduct for Grade 12 students;
- school administrators are not clearly informed on how to maintain the facilities (recurrent funding questions);
- there is insufficient time in the school-based timetable to use the facilities efficiently;
- there are insufficient materials for the facilities to be effective; and
- the SRS student populations are large (between 2,000–4,000 students) and the SRC cannot accommodate them as well as the network schools.[61]

A follow-up evaluation by the Education Quality Assurance Department in 2020 of 16 SRS network schools indicated that the use of the SRCs remains less efficient than expected and the quality of education delivery does not match student learning needs. Grade 8 and Grade 11 assessments conducted during the 2020 evaluation found that learning achievement had changed little from the SY2017/18 assessments, although Grade 11 students did show a 10% improvement overall in Khmer Literature. A February 2021 report indicated, however, that Science stream students in SRS are now outperforming non-SRS and, overall, SRS Grade 12 students are achieving at a higher level on government examinations than non-SRS.[62] To maintain these improvements, the SRS network will require more attention to human resource management; science laboratory equipment and materials; funding; and alignment with MOEYS policy, standards, and instruction.[63]

[61] MOEYS. 2019c. *Rapid Assessment of Secondary Resource School Network.* Second Upper Secondary Education Sector Development Project. Kampong Cham: Kampuchean Action to Promote Education.
[62] ADB. 2021. *Debriefing to H.E. Dr. Hang Chuon Naron, Minister, MOEYS, on Key Findings from the Project Implementation Support Mission.* Manila (Loan 3427-CAM: Upper Secondary Education Sector Development Program [USESDP]).
[63] MOEYS. 2020a. *Inspection Report on the Effectiveness and Quality of the Secondary Resource Schools.* Phnom Penh: Education Quality Assurance Department.

3-12. Understanding Among Adolescents Around Gender and Sexuality

Explaining sexuality remains a cultural taboo in Cambodia and teachers do not always feel at ease when discussing issues of sexuality with young people, especially when teachers and students are of the opposite sex.[64] In this context, sexuality education can be difficult to teach. Despite training, some teachers are not able to conduct lessons effectively nor facilitate open discussion. Language can be a barrier, especially technical terms used in the textbooks, which are not easily explained in Khmer and/or translated into students' mother tongue. This sometimes forces teachers to skip over difficult sexuality topics despite its importance. Youth are often not well informed about human sexuality nor guided on responsible adolescent sexual behavior; thus, teenage pregnancy is among the many reasons why young people leave school early.[65] Having noted these challenges, sexuality and reproductive health education is a "life skill" that should be included in each secondary student's education.

3-13. Water, Sanitation, and Hygiene Facilities and Public Health Issues

Minimum service standards (MSS) currently do not exist for secondary schools, which impacts negatively on the requirement for adequate water, sanitation, and hygiene (WASH) facilities in every school. In SY2018/19, 91.3% of lower secondary schools (LSS) and 98.1% of USS had latrines, which represents good progress toward 100% sanitation standards. However, there is a shortage of water during the drier months and toilets are dysfunctional without water. Only 39.5% of LSS and 49% of USS had safe water facilities, which means that a majority of institutions are without safe water. There were no handwashing facilities in 41% of LSS and 55% of USS, which represents a serious breach of adequate WASH standards for thousands of students.[66] A lack of water and adequate latrines has a severe impact on student attendance especially for adolescent girls with the likelihood of them missing around 9–10 weeks of every school year due to their monthly cycle and this, in turn, impacts negatively on student learning outcomes. The potential threat of serious health hazards demonstrated by the advent of COVID-19 along with the potential for oral and other physical transmission of disease by both students and staff should be addressed and solutions provided.

Curriculum standards for a new health education subject for Grades 1–12 have been developed, and specific standards for Grade 8 and Grade 11 have been disseminated for comment by users, but their wider use in schools is delayed because of budget considerations. Basic health education core textbooks and a teacher guidebook for the subject Health Education have been written, documented, and finalized for Grades 1, 4, 7 and 10 in cooperation with development partners, but only the Grade 1 and Grade 4 syllabus has been piloted in 5 primary schools. This pilot has not yet been rolled out due to budget constraints.

[64] D. Khieu. 2019. *Promoting Gender Equality through Comprehensive Sexuality Education.* Presentation in the 1st Biennial Conference of the Comparative Education Society of Cambodia: *"Education for Shared Community and Prosperity".* 6–7 December 2019. Siem Reap, Cambodia.
[65] ADB. 2018. *Cambodia: Upper Secondary Education Early School Leaving Field Study in Nine Provinces.* Manila.
[66] Footnote 44.

3-14. Technical Secondary Education

Technical education tends to be undersubscribed in Cambodian USS due to public perceptions around second-class education and many young people's desire to attend university and get a "clean" job.[67] Public awareness of technical education is low, and parent and student perceptions tend to be rather negative. Young people are not generally made aware of the important contributions of technical education and professions, nor of the pathways to post-secondary education and the world of work. Technical education is also perceived as unsuitable for females because many of the courses emphasize skills in electrical, electronics, mechanical and civil engineering, veterinary medicine, agronomy, and construction, which involve heavy labor and outdoor work sometimes in relatively dangerous conditions. These and other misconceptions discourage many young women from considering technical education and related professions.

Given the transfer of TVET delivery to the MLVT in 2005, MOEYS established the Vocational Orientation Department to retain some input into providing technical education in secondary schools. However, the Vocational Orientation Department has struggled to obtain adequate funding due to the relatively high costs of infrastructure, equipment, training, maintenance, replacement, among others. In addition, there has been a lack of coordination among departments responsible for secondary education in an effort to develop and integrate curriculum, pedagogy, and resources that respond to the evolving labor market needs. To address these challenges, a key focus of the Education Strategic Plan 2019–2023 is to promote economic growth by strengthening human resources through prioritizing technical education at upper secondary school level.

3-15. Connection Between Secondary Education and the Labor Market

One obstacle toward the attainment of government economic and social objectives, according to the Cambodian Industrial Policy 2015–2025, is *"scarcity of basic technical knowledge and skills that is crucial to transform an unskilled labor force into a skilled labor force capable of absorbing new and high-value technical and technological skills."*[68]

Cambodia ranks last among nine ASEAN countries included in The Global Competitiveness Report 2019 in terms of skills of current workforce.[69] It ranked last in nearly all the subcomponents that go into the measurement of the skills of the current workforce index, which represent the extent of staff training, quality of vocational training, skillset of graduates, digital skills among the active population, and ease of finding skilled employees. It also ranked last in ASEAN countries in terms of skills of future workforce index, which has two components: critical thinking in teaching and pupil-to-teacher ratio in primary education. Without substantive reforms in the education sector, Cambodia may be constrained to address the problem of scarce skilled labor in a timely manner and strengthen its competitiveness vis-à-vis its neighboring countries.

[67] USEDP 2. 2018. *USE Situation Analysis.* In P. Lonn. 2015. Shaping and Scaling Up TVET in Cambodia (Source: S. Khieng et al., ed. *Cambodia Education 2015.* Phnom Penh: Cambodia Development Research Institute. p. 106.)
[68] Royal Government of Cambodia. 2014. *Cambodia Industrial Development Policy 2015–2025: Market Orientation and Enabling Environment for Industrial Development.* Phnom Penh.
[69] G. Ducanes and D. Mao. 2020. *Cambodia Labour Market Assessment for CAMSEB 2030.* Phnom Penh: Asian Development Bank.

The Cambodia Socio-Economic Survey 2019–2020 indicated that 44.2% (49.2% F) of employed workers (15–64 years) in Cambodia were "undereducated" in that they did not have any formal education or did not complete primary school.[70] The problem is especially notable for those working as professionals, technicians, and associate professionals, where more than half were classified as undereducated for their position.[71] The economic fallout from the COVID-19 pandemic has highlighted the need to upgrade the quality of Cambodia's labor force. Many thousands of workers employed in garment factories and in the tourism sector have already lost their jobs and many more will still be lost going forward. Thousands of Cambodian migrant workers in low-skill jobs in Thailand have returned to the country. Even after the current crisis, many firms are likely to seek greater automation to protect themselves from similar future crises, thus further threatening low-skill jobs. All of these factors underscore the urgency of education reforms to transform the country's workers into a skilled labor force capable of absorbing new and high-value technical and technological skills, which will be necessary in the post-COVID-19 economic environment.

For a clear and robust Industry 4.0 and skills policy to translate into positive implementation outcomes, there must a be strong level of coordination within and between the government, education sector, industry, and training institutions. This appears to be weak in Cambodia's context, with poorly aligned Industry 4.0 understanding across ministries, limited coordination within the education sector on the academic and technical streams, and weak communication between industry and training institutions on the skills demanded by industry.[72]

3-16. Learners' Access to Digital Education

The COVID-19 pandemic resulted in the closure of all schools in Cambodia with public and private systems shifting to the use of media (radio and television) and online delivery in an effort to reduce the education deficit during this period. The education sector, as in many countries, was not well prepared for this type of situation where schools have closed and distance or remote learning is required. Curriculum, instruction, and assessment have traditionally been teacher- and classroom-based, which challenge this recent rapid shift to digital education. Most classroom teachers and ministry personnel at all levels have minimal "technology in education" knowledge and skills, thus making it a difficult transition on short notice.

The lack of computer hardware and software, other devices, and electrical power in many rural and remote schools especially inhibits digital education. Another primary constraint in using online and offline materials or doing anything involving the use of the internet is the high internet cost accruing to the users. In addition, 3G or 4G internet penetration in rural areas is limited and slow connectivity leads to ineffective use of e-learning modalities. These costs and limited connectivity make it difficult for teachers and parents to use the internet for several of the online education activities initiated by MOEYS and other education providers.

[70] National Institute of Statistics. 2020. Report of the Cambodia Socio-Economic Survey 2019–2020. Phnom Penh: Ministry of Planning.
[71] M. Bruni et al. 2013. Skills Shortages and Skills Gaps in the Cambodian Labor Market: Evidence from Employer Survey. *ILO Asia-Pacific Working Paper Series.* Geneva: International Labor Organization.
[72] ADB. 2021. *Reaping the Benefits of Industry 4.0 through Skills Development in Cambodia.* Manila.

4. Key Factors for Strengthening Secondary Education

"Change is inevitable, growth is optional."[73]

This section looks at several recommendations derived from the comprehensive analysis of the secondary education subsector conducted in 2020 including general lower and upper secondary education and technical education; teacher education; poverty, social, and gender issues; education budgets and finance; early childhood education (ECE), primary, nonformal education (NFE), higher education and TVET subsectors; STEM and digital education; labor market assessment; national economic context; and human capital index. In many cases, this involves building upon the successful reforms implemented by MOEYS and its development and civil society partners.[74]

This Blueprint presents the implementation of the key priorities and outcomes (see sections 6, 9, and 10) arising from the following factors affecting secondary education.

4-1. Generating Systemic Change

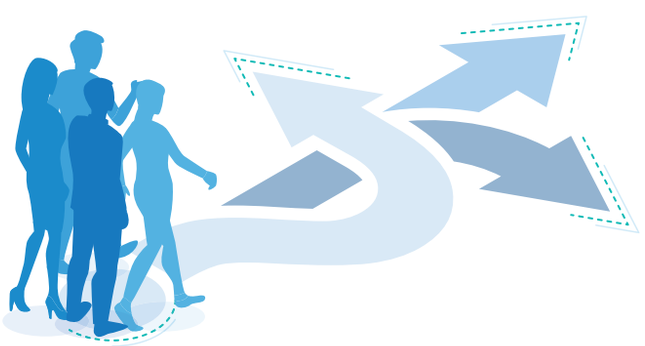
To change behaviors, it might be necessary to change the system within which the behaviors occur. Political maneuvering; personality issues; traditional hiring practices; underqualifications; and lack of purpose, commitment and, or confidence serve as barriers to reform and progress in the education sector.

To this end, the Teacher Policy Action Plan Review and Analysis 2019 recommended a focus on four main areas:

1. continue the emphasis on teacher education (further development of the TEC approach, strengthen PRESET, upgrade academic qualifications and pedagogical skills);
2. implement the CPD Framework and Action Plan 2019–2023;
3. strategize, implement, and manage effective teacher recruitment and deployment; and
4. develop, disseminate, and manage a comprehensive Teacher Policy (recruitment to retirement).[75]

These initiatives in collaboration with the many recommendations made in section 4 are intended to achieve widespread advances in the system contributing to improved student learning outcomes and student career choices. These will further contribute to social and economic development in Cambodia.

4-2. Developing Education, Training and Career Pathways for Students



Career Pathways

Education, training, and career pathways (ETCP) currently do not exist for students and families to help them make informed decisions about subject choices, options, and opportunities. Provision of such pathways would present the "architecture" of public education in Cambodia in a clear and understandable manner based on the Cambodian Qualifications Framework (CQF) and referencing the ASEAN Qualifications Reference Framework. It would highlight secondary education's importance in opening a set of pathways and alternative channels for student advancement (including post-secondary education, careers, entrepreneurship, and labor market opportunities).

[73] J. Maxwell. https://www.goodreads.com/quotes/81497-change-is-inevitable-growth-is-optional
[74] The situation analyses and background papers can be made available as reference materials for the CAMSEB 2030.
[75] MOEYS. 2019e. *Teacher Policy Action Plan Review and Analysis 2019.* Phnom Penh: Teacher Training Department.

Clearly communicating and disseminating information on the existence of the various pathways to students, parents, and education personnel will encourage more informed decision-making about future choices and how to be better prepared to achieve one's education and career goals, in particular during and after lower secondary school. Improved public awareness of the diversity of secondary schools and technical and higher education institutes in Cambodia will also help to address the demand-supply issues through greater transparency and understanding. The ETCP should also be aligned on a regular basis with labor market requirements.

1. *The education, training, and career pathways will be developed by the relevant government ministries with private sector, development, and civil society partners under the co-leadership of MOEYS and MLVT.*

This will require political commitment and government policy and, or guidelines to ensure the effective design, dissemination, and implementation of the pathways. Greater interaction among government, industry, communities, markets and civil society will be required to further develop these pathways for secondary education, post-secondary education and training, and employment opportunities. An interministerial task force co-chaired by MOEYS and MLVT will be established in 2021 (Phase 1) to develop the pathways with comprehensive standards and guidelines.

2. *Related to the education, training, and career pathways is the need for collaboration among public education providers to establish mutually recognized accreditation and certification to facilitate flexible and transferable learning pathways for students.*

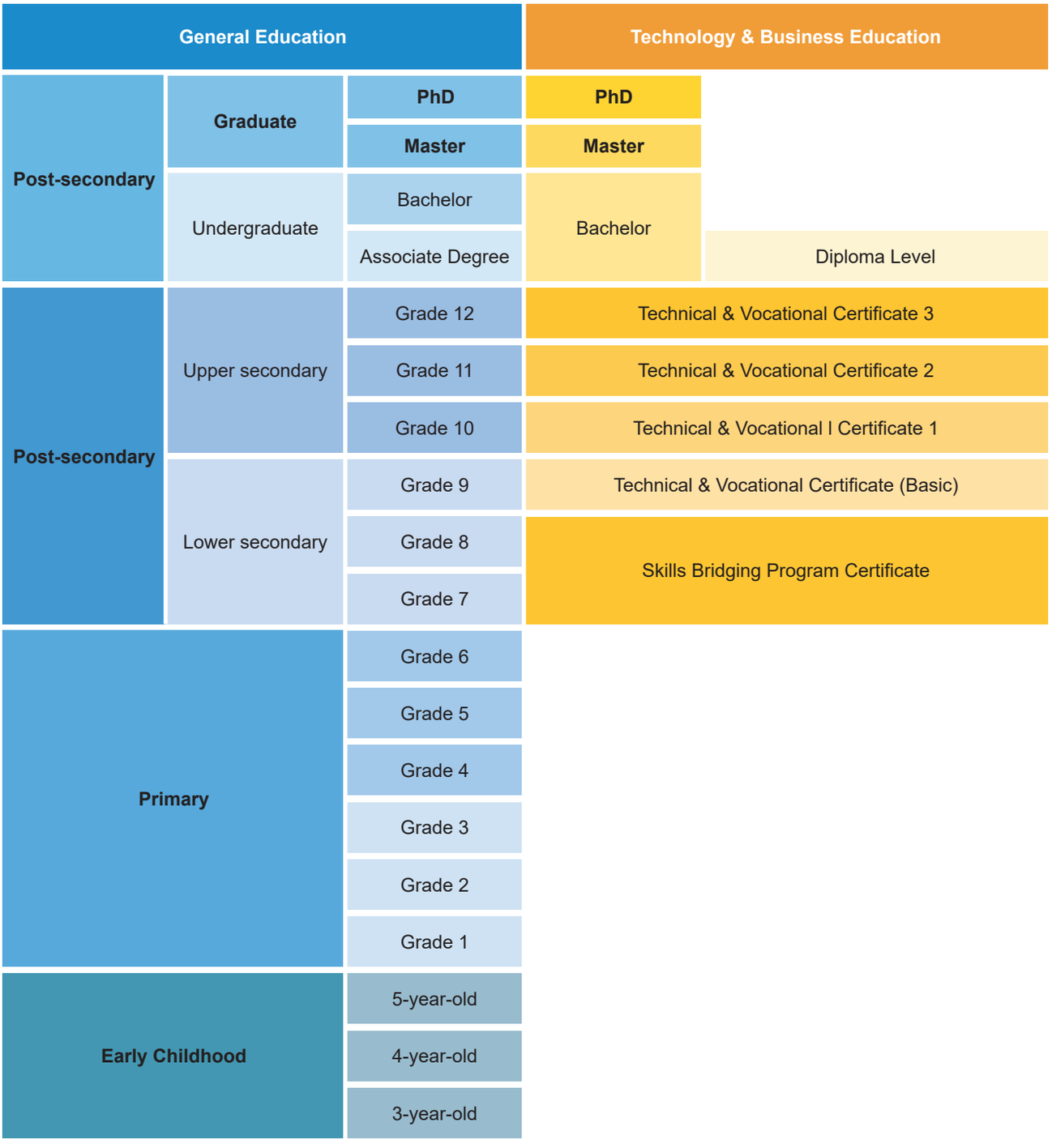
For example, currently a secondary graduate, who completes 2 years of post-secondary study (higher diploma program) at an education institution under either MOEYS or MLVT, may find it impossible to pursue his/her bachelor's degree, starting from year 3, at an education institution under a ministry that does not govern his or her current education institution. A Grade 10 or 11 student in general secondary or technical high school may find it difficult to transfer from general education to TVET institutes. There is a need to activate the pathways toward ensuring flexible and transferable learning pathways and lifelong learning for students and youth.

The CQF provides a foundational framework for education and training by:

- providing nationally consistent recognition of outcomes achieved in each qualification of education and training;
- helping with developing flexible pathways that assist people to move more easily between the education and training sectors and between those sectors and the labor market by providing the basis for recognition of prior learning, including credit transfer, experience, and current competency;
- offering flexibility to suit the diversity of purposes of education and training;
- encouraging individuals to progress through education and training by improving access to qualifications, clearly defining avenues for achievement, and generally contributing to lifelong learning
- encouraging the provision of high-quality vocational education and training through qualifications that meet individual, workplace, and vocational needs, thus contributing to national economic performance;
- promoting national and international recognition of qualifications offered in the Kingdom of Cambodia; and
- facilitating the regional mobilization of a skilled workforce.

The CQF is outlined in Figure 12 below:

Figure 12: Cambodian Qualifications Framework



Source: National Training Board. 2012. Cambodian Qualifications Framework. Phnom Penh: Royal Government of Cambodia.

The ASEAN Qualifications Reference Framework is a common reference framework that enables comparisons of education qualifications across participating ASEAN Member States. The objectives of the ASEAN Qualifications Reference Framework include the following:

- Support recognition of qualifications;
- Encourage the development of qualifications frameworks that can facilitate lifelong learning;
- Encourage the development of national approaches to validating learning gained outside formal education;
- Promote and encourage education and learner mobility;

- Support worker mobility;
- Improve understanding of qualifications systems;
- Promote higher quality qualifications systems

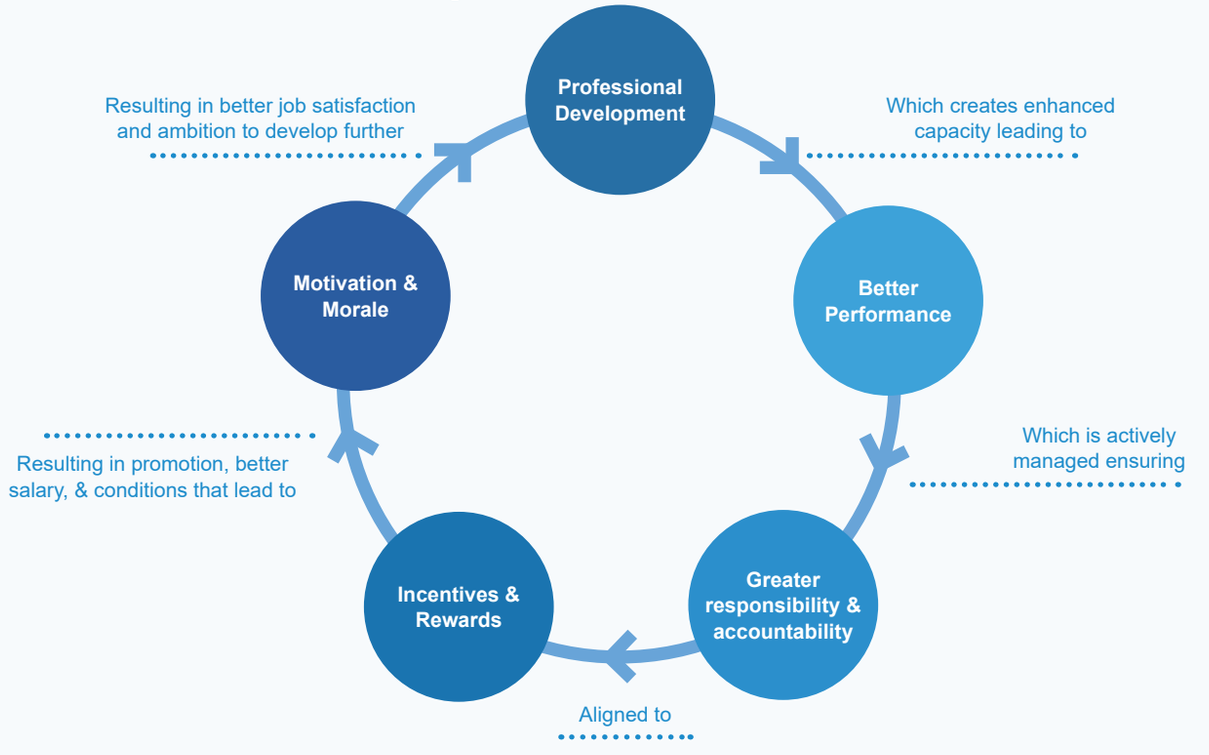
4-3. Improving teacher performance

International research clearly shows that at the school level, the classroom teacher has the most impact and influence on student learning outcomes.[76] Therefore, a teacher's professional performance is of vital importance to school improvement efforts, especially around student achievement and student flow-through rates (promotion, repetition, and early school leaving). Grounded in quality preservice teacher training, the teacher's career will flourish with effective instructional leadership led by school principals and school-based CPD, coupled with clear accountability mechanisms and roles and annual performance appraisals (developmental rather than critical). Clear career pathways for Cambodian school personnel will encourage and motivate them to provide the best possible service to their communities.[77]

The same is true for TEI teacher educators (lecturers), who require upgrading in curriculum knowledge, implementing new teaching methods and innovative strategies, and adoption of new learning styles, to provide quality PRESET and ensure competent and confident teachers in the future. Teacher education institutions that participate in CPD programs for practicing teachers and school directors will be accredited relative to criteria including a qualified faculty of teacher educators.

This professional approach will inspire improvements in effective teaching and learning leading to incentives and awards to further motivate the professional teacher (Figure 13). This in turn will foster greater public trust in the education system and those people who are entrusted with the community's children each day.

Figure 13: Teacher Performance



Source: Adapted from Cambridge Education (www.LinkedIn.com).

[76] K. Leithwood, S. Patten, and D. Jantzi. 2010. Testing a Conception of How School Leadership Influences Student Learning. *Educational Administration Quarterly.* 46 (5). pp. 671–706.
[77] MOEYS. 2020c. *Teacher Career Pathways Policy.* Phnom Penh: Department of Policy (DGPP).

4-4. Strengthening Teacher Deployment

Efforts are being made to address the oversupply and undersupply of teachers in schools. Graduates of TEIs are now required to choose from the undersupply school lists with final approval by school directors. This may be a long-term process involving more retirements and resignations possibly with redundancy packages and generational change.[78] Incentives are provided such as teacher housing and remote allowances to encourage redeployment by teachers; however, undersupply schools still exist requiring further attention. The MOEYS study in 2018 made the following recommendations to help alleviate the problem:

- Update reliable data on oversupply and undersupply teachers in schools.
- Distribute this data widely so that teachers and school directors can make more informed decisions about new teacher placements and transfers.
- Require school directors and subnational personnel to encourage teachers to make voluntary transfers.
- Introduce early retirement and redundancy packages to encourage long-term teachers and school directors to retire early.
- Provide teacher training for primary teachers in oversupply schools to enable them to transfer to high-quality preschools.
- Transform oversupply schools into New Generation Schools to address the issue of “dying schools”.
- Provide targeted qualifications upgrading programs for lower secondary teachers in oversupply schools to transfer to undersupply upper secondary schools.
- Introduce forced redeployment after 3–5 years of implementing the above interventions where problems persist.
- Introduce hourly wage or prorated salaries for teachers who are not working full-time assignments.[79]

Related to personnel deployment are promotion, transfer, and professional recognition, which will require the integrated use of (i) academic qualifications, (ii) work experience, (iii) continuous professional development, and (iv) performance appraisals for career advancement and professional recognition.

4-5. Prioritizing School Leadership and Management

The MOEYS is focused on strengthening accountability and outcomes in all public schools by 2030 through school-based management. The SBM approach can be defined as “decentralization of authority from the government to school level. Responsibility for and decision-making authority over school operations is transferred to local agents.”[80] SBM emphasizes the importance of parent and community participation in school operations and development through school management committees (SMC) and other ways of engaging community support (see section 3.10). The SMC serves to make school directors and the whole school community accountable for improving student learning outcomes.

A coordinated and standardized SBM approach is desired by MOEYS throughout public schools that includes three key features:

1 Accountability:
school leadership and teaching personnel are accountable to the local community for satisfactory student learning outcomes and administrative and financial operations.

2 Autonomy:
the local SMC is mandated to identify and prioritize issues at the school level through the annual school improvement plan, which also indicates responsible persons and required resources.

[78] Footnote 79.
[79] F. No and S. Nguon. 2018. *Teacher Management and Redeployment: Practical Ways Forward.* Phnom Penh: MOEYS Education Research Council.
[80] B. Bruns, D. Filmer, and H. Patrinos. 2011. *Making Schools Work: New Evidence on Accountability Reform.* Washington, DC: World Bank. p. 13.

3 **Assessment:**
the SMC is tasked with monitoring school performance as measured by student achievement (i.e., gaps in knowledge, skills, and competencies as indicated by formative and summative assessments); staff and student attendance; and other flow-through indicators such as promotion, repetition, and early school leaving (dropout).

The MOEYS will ensure that every school, regardless of location and performance level, will have a high-quality leadership team to provide instructional leadership and drive overall school performance.

The MOEYS will prepare a list of school director candidates who have completed the school leadership and management preparation program, from which the provincial government can choose a qualified person.

The school director is acknowledged as having the second most important role in the school setting (after classroom teachers) that impacts student learning, albeit in a more indirect way.[81] Quality professional preparation programs and CPD will ensure improved school operations and student achievement, again leading to greater public trust and community engagement in the education system. Competent administrative procedures and instructional leadership will improve school operations, classroom instruction, and community engagement. School directors will encourage local leadership, decision making, and school improvement activities.

District and provincial education personnel must also become competent supervisors and supporters of local schools providing resources, coaching, and performance appraisals to ensure accountability and ongoing improvements in the system.

The SBM Guidelines and Teacher and School Director Professional Standards will guide the Provincial Offices of Education and District Offices of Education personnel in supervising and supporting local schools. The Department of General Secondary Education (DGSE) will work with the Provincial Office of Education and District Office of Education and Secondary Units to ensure compliance and assess school improvement through the SBM approach.

4-6. Ensure Student Transition and Success

"If a child cannot learn the way we teach, maybe we should teach the way they learn."[82]

Strengthening teacher and school director accountability and performance in primary grades will better ensure that Grade 6 students will transition to lower secondary schools with the appropriate literacy and numeracy skills necessary for them to have greater success in secondary education.

Primary school leaving assessments in literacy and numeracy will identify those students who are ready for secondary school as well as those who do not meet the expected outcomes and need remedial or accelerated learning programs (i.e., "during school vacation"). This approach should result in more adolescents completing lower and possibly upper secondary grades instead of leaving school early because of lack of readiness for higher level study.

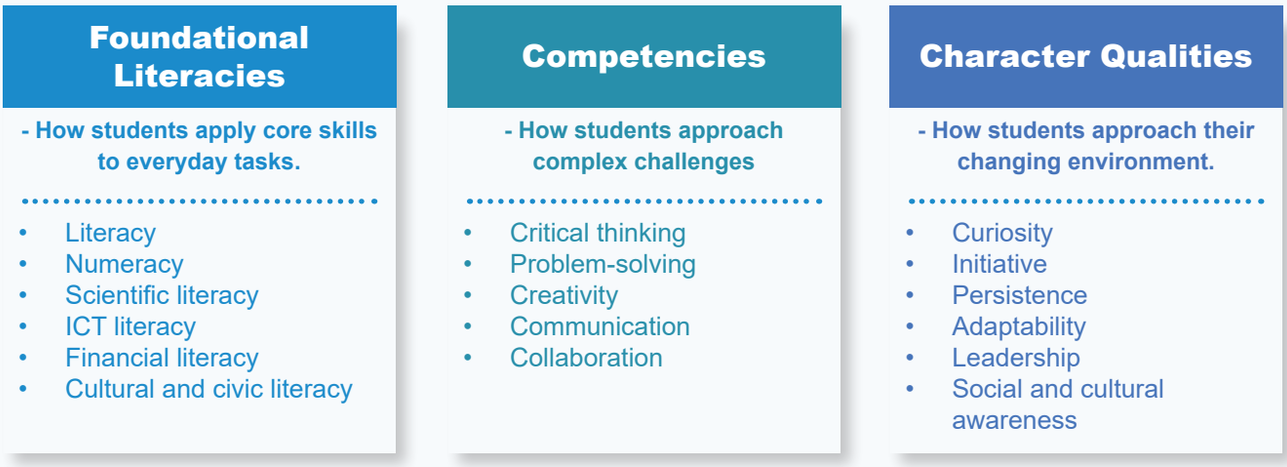
[81] K. Leithwood and D. Jantzi. 2008. Linking Leadership to Student Learning: The Contributions of Leader Efficacy. *Educational Administration Quarterly.* 44 (4). pp. 496–528.
[82] I. Estrada. https://www.linkedin.com/pulse/child-centered-school-improvement-case-study-herman-stewart/?trackingId=fbj3rSMYzPqL8BlaUSzYXA%3D%3D.

4-7. Integrating 21st Century Skills

In response to private and public sector concerns about the level of employability of secondary school graduates, Cambodia seeks to integrate 21st century skills into education at all levels.

21st century skills comprise skills, abilities, and learning dispositions that have been identified as being required for success both in 21st century society and workplaces by educators, business leaders, academics, and government agencies (Figure 14).

Figure 14: 21st Century Skills



Source: World Economic Forum at https://widgets.weforum.org/nve-2015/chapter1.html.

21st century skills are part of a growing international movement focusing on the skills required for students to master in preparation for success in a rapidly changing digital society. Many of these skills are also associated with deeper learning, which is based on mastering skills such as analytical reasoning, complex problem solving, and teamwork. These skills differ from traditional academic skills in that they are not primarily content- or knowledge-based. Thus they challenge the typical test-driven pedagogy in Cambodian secondary schools—a goal that is appropriate in terms of improving student learning outcomes in Cambodian schools, while strengthening the country's human capital.

However, several challenges currently exist to achieve the integration of 21st century skills in education. Of primary concern is the absence of these skill sets in the existing curriculum or assessments and thus their previous acquisition by students, teachers, and school directors. The questions then become, *How do teachers, who do not already possess and understand many of these skills, impart or teach them to future students? How does the system integrate these skills when some of them were not previously encouraged in Cambodian society, such as scientific and information and communication technology (ICT) literacy, critical thinking and problem solving, and demonstrating personal initiative? Can 21st century skills be taught as stand-alone concept or must they be embedded in the context of specific subjects? (see section 6-3 below).* A critical mass of competent teachers and school directors must be developed in order to successfully embed 21st century skills in student learning—both in content (what the skills are) and process (how to use them). To this end, teachers must become "designers" (creative) rather than "consumers" (knowledge).

4-8. Expanding Innovative Approaches

MOEYS has initiated several innovations within secondary education in recent years as noted in section 1-10. These interventions and approaches should be sustained, replicated, and further developed throughout the subsector to significantly improve student learning.

The New Generation Pedagogical Research Centre (NGPRC) began its program in 2018 at the NIE site. It provides a 1-year master's program for Cambodian teachers and school directors to acquire internationally recognized mentoring and coaching skills that will be applied in government schools throughout the country.

A cohort of 25 participants will graduate each year with new knowledge and skills in (i) Professional Ethics and Mentoring, (ii) Educational Research in English, (iii) ICT in Education, and (iv) General Methodological Systems and Principles. This is a fundamentally new approach for Cambodian schools and will provide immediate support toward the mentoring and coaching of school directors and classroom teachers.

Problem- (PBL) and inquiry-based learning (IBL) are being integrated into several secondary school classrooms complemented by technology and digital education, where available. The PBL and IBL teaching methods are direct ways of bringing 21st century skills to the classroom for students and teachers. Teamwork and higher order thinking skills are practiced through collaboration and communication.[83] These experiential learning approaches coupled with technology in the classroom have provided large numbers of secondary students with an advantage during the COVID-19 pandemic.

21st century libraries are being installed and provided for student and teacher use in government schools, initially in New Generation Schools (NGS) and now in provincial secondary schools through collaboration with development partners and civil society. As schools provide learning for everyone, these libraries encourage a culture of reading and research among teachers, students, and the wider community.

Cost-effective *science classrooms* are being installed in NGS-type schools and SRS and their network schools in order to strengthen STEM development in secondary schools. STEM education has been emphasized by government and its partners as a critical element of human capital development in Cambodia (see section 4-9).

Career *counselling* is being initiated in secondary schools throughout the country within education projects and in collaboration with development partners and civil society. This is an effort to provide students with more information about their education and career opportunities. An education and training pathways will be developed for students and parents to better understand their education and training opportunities.

As a way to improve the teaching and learning situation, MOEYS has integrated *technology in education* in the academic program for teacher training institutes.[84] This initiative will support the increase of both classroom-based and remote use of technology in education. In 2020 during the COVID-19 pandemic, MOEYS established a commission to study and develop digital education strategies including the *"Learning Through Electronic Systems"* curriculum for online learning.[85] Initially for Grades 9–12, lesson videos were produced to provide instruction to secondary school students and eventually to primary and rural and remote children.

During Phase 1 of the blueprint, USESDP 1 will be constructing 14 new SRCs around the country, while USESDP 2 will strengthen the SRS network through DGSE supervision and coaching; SBM inputs; civil society engagement (science classrooms, career counselling, 21st century libraries, CPD, etc.); and local SRS, nonformal education, TVET, and local business partnerships (guest speakers, job-site visits, work experience, internships, dual-learning).[86]

[83] R. Killen. 2016. Effective Teaching Strategies: Lessom From Research and Practice. Melbourne : Cengage Learning Australia.
[84] D. Voun. 2020. Kingdom's Teachers Receive ICT Training. *Phnom Penh Post.* 19 June. p. 3.
[85] *Phnom Penh Post.* 2020. *Ministry of Education Outlines Key Strategies in Response to COVID-19.* 1 September. https://www.phnompenhpost.com/education/ministry-education-outlines-key-strategies-response-COVID-19.
[86] *Dual-learning* refers to the opportunity for secondary students to complete their academic studies while attending short courses or basic certificate programs in local TVET colleges.

4-9. Promoting Science, Technology, Engineering and Mathematics education

As international technology and digital capital evolves rapidly and moves toward integrating artificial intelligence (AI) into our everyday lives, STEM subjects are now a focus of attention for educators, policy makers, and partners in Cambodia. Several existing and proposed education projects in primary and secondary education levels focus on STEM in teacher education, classroom teaching, and resource acquisition.

Annual STEM in Education event held in Phnom Penh
(Photo by STEM Education for Cambodia).

Future careers will require integrated STEM study in schools equipped for that role; for example, a molecular biologist will need to know biology, chemistry, genomics, and statistics to be proficient in their work. This also requires specialist secondary teachers in Mathematics and Science from Grades 6 to 12 who have a good background of study in Science and Mathematics and are good role models to inspire students in their study to continue to post-secondary education. Secondary students must be exposed to school-based STEM activities that enhance 21st century skills (see section 4-7).

Cambodia's gender parity index situation provides a cautionary tale showing that when the focus is put on one element (increased female participation) at the expense of another (male participation), unintended consequences result (males may leave school early in increasing numbers). Thus, while efforts to improve STEM curriculum, instruction, assessment, and learning outcomes are critically important, this should not mean that the Social Sciences are overlooked, otherwise a new problem will be created in future years—a shortage of "social scientists" including, for example, artists, writers, historians, geographers, psychologists, sociologists, linguists, economists, and financiers.[87] A balance is needed to ensure all sectors receive support—"both/and"—rather than "either/or". A similar argument applies to achieving a balance between general and technical education.

These innovations will require focused teacher education programs that target the following:

- enhancing the skills and knowledge of teachers in primary and secondary schools to teach a refocused curriculum,
- how to raise student interest through new teaching and learning approaches and an enhanced curriculum incorporating higher-order thinking skills that are also gender responsive to the diverse needs of learners,
- integrating ICT into subject areas, while cross-teaching content (i.e., history in science, mathematics in geography, science in Khmer literature),
- increased use of practical teaching tools and content relevant to everyday life, and
- building public, parent, and student awareness of STEM through national publicity awareness campaigns.[88]

[87] Several countries have integrated Art Education into STEM creating a STEAM approach, which can be effective at primary, secondary, and tertiary levels. By integrating the Arts into STEM, STEAM-focused curricula incorporate the study of the humanities, language arts, dance, drama, music, visual arts, design, new media, etc. Creative skills and knowledge of the arts, such as design, writing and history, help STEM employees solve problems in more innovative ways.
[88] The 15th Annual Cambodia STEM Festival (2019), Cambodia's first GREEN STEM festival, highlighted some of the brightest talents from public and private schools all around Cambodia. Presented by STEM Education Organization for Cambodia and STEAM Cambodia with the support from the Ministry of Education Youth and Sport, and the Ministry of Environment, the 16th Annual Festival was held online during January 2021.

4-10. Intensifying Regional Partnerships in Subject Areas

It is feasible for a great deal of synergy for STEM education to be generated through shared initiatives across the ASEAN network using English as the common language.

The Southeast Asian Ministers of Education Organization Regional Centre for Education in Science and Mathematics (SEAMEO-RECSAM) is well placed to lead ASEAN initiatives in preparing curriculum modules suitable for multimedia access. SEAMEO-RECSAM has an important role to play for all SEAMEO countries in the development of both methodology and materials for STEM education. It needs regional ministries of education to work together to build strong collaborative structures and share materials rather than have each country ”reinventing the wheel” for resources in Science and Mathematics. Improved STEM education will prepare students with the skills required to meet the challenges of a world that is being transformed by the applications of STEM. It will also work in laying the foundations at the school level toward ensuring that Cambodia has qualified STEM graduates to meet the challenges of Industry 4.0.

There are other regional organizations such as the SEAMEO Regional English Learning Centre (SEAMEO-RELC) in Singapore and SEAMEO Regional Centre for Innovation and Technology (SEAMEO-INNOTECH) based in Manila that should be accessed for additional resources for learning. It is preferable for MOEYS to be an active partner in regional initiatives to build strong collaborative structures and share materials between them rather than through piece-meal, ad hoc interactions by individual schools or teachers. Participation by MOEYS central office will then require sharing through the respective Provincial Offices of Education and District Offices of Education to disseminate and assess the application of the materials in schools.

As mentioned under the education and training pathway (see section 4-2), the ASEAN Qualifications Reference Framework will also be an important regional reference for the secondary education blueprint as it relates to developing and disseminating a pathway for students and parents.

4-11. Enhancing Technical Secondary Education

MOEYS has reemphasized the importance of developing technical secondary education in Cambodia to complement general secondary education and better prepare interested students for the private and public sectors.

In 2015, a master plan was developed that introduced General and Technical High Schools (GTHS) to the system. The vision of the GTHS was that “students acquire excellent knowledge, technical skills and moral values to meet labor market demands and to continue lifelong learning”.[89] The GTHS mission was to orient, promote, and provide technical education services at the upper secondary level in cooperation with stakeholders and development partners. The master plan established the following goals:

- establish technical education system at upper secondary level;
- establish standards for technical education curricula;
- establish and expand standardized GTHS in every province; and
- increase enrollment rates in technical education stream so that more young people in Cambodia can be equipped with the right skills, find decent jobs, and contribute to the nation’s economic development.

It was envisioned that the master plan would result in a GTHS in each province, a program of technical education at the upper secondary level with a high standard curriculum, and increased student enrollments in technical education. As an alternative to such high capital investment relative to budget constraints, dormitories should be constructed and well-managed to allow students from remote or far-flung areas to

[89] MOEYS. 2015. *Master Plan for Technical Education at Upper Secondary Level (2015–2019)*. Phnom Penh: Vocational Orientation Department. p. 8.

Senior GTHS students studying electronics *(Photo by MOEYS Vocational Orientation Department).*

participate in technical secondary education. It was also envisioned that the programming in general and technical education at upper secondary would establish pathways with lower secondary and post-secondary education and workplaces depending on students' personal education and employment plans. This would be realized through a proposed education and training pathways.

Technical education will require close dialogue and coordination with the private sector in terms of private sector needs, training programs, curriculum, resources, school engagement, work experience and apprenticeships, and performance appraisal. MOEYS will partner with civil society and development partners in order to replicate good practice. Pour Sourire d'Enfant, Korea International Cooperation Agency, Japan International Cooperation Agency, and Don Bosco, among others, have established successful technical education schools and centers from which graduates have entered the workforce both in Cambodia and abroad. Public subsidies for ventures with nonstate actors with strict conditions for performance has a precedent in the NGS-type model.

4-12. Expanding Local School and Business Networks

MOEYS will develop local school-business networks around the Secondary Resource Schools (SRS) in provincial centers during 2020-2024 and beyond.

The networks will connect secondary schools in each network (1 SRS and 5 secondary network schools) with Community Learning Centers, Provincial Training Centers (TVET), job centers, and local businesses. These partnerships will develop ongoing dialogue and planning among the network members to support student work experience and internship programs, career counselling, guest speakers, university outreach, business site visits, public service visits (i.e., universities, hospitals, emergency services, etc.), resource allocation, technical training (school-based and job-site), alternate education programs, and CPD for education personnel. These collaborations will make more effective and efficient use of human, financial, and facilities resources (i.e., secondary schools as community centers for NFE and TVET programs, library use, extra-curricular and co-curricular activities, community activities, etc.).

Interested senior secondary students will attend local Provincial Training Center (PTC) courses as part of their secondary education (i.e., attend local PTC each week to complete a Certificate 1 vocational course), leading to a General Education Certificate and a TVET Certificate upon Grade 12 graduation. Secondary schools will also become more engaged with local PTC job centers including school visits and job information within school libraries. Shared instructors should be considered among GTHS and PTCs to help address the lack of competent faculty in technical education.[90]

Partnerships with NGS-type and high-quality international and schools are also encouraged to inform the teaching, leadership, and management practices within public secondary schools.

Classroom instruction and management will benefit from teacher visits and exchanges with a focus on coaching and mentoring, where appropriate. Professional learning communities may be possible among public and international schools with strong school leadership.

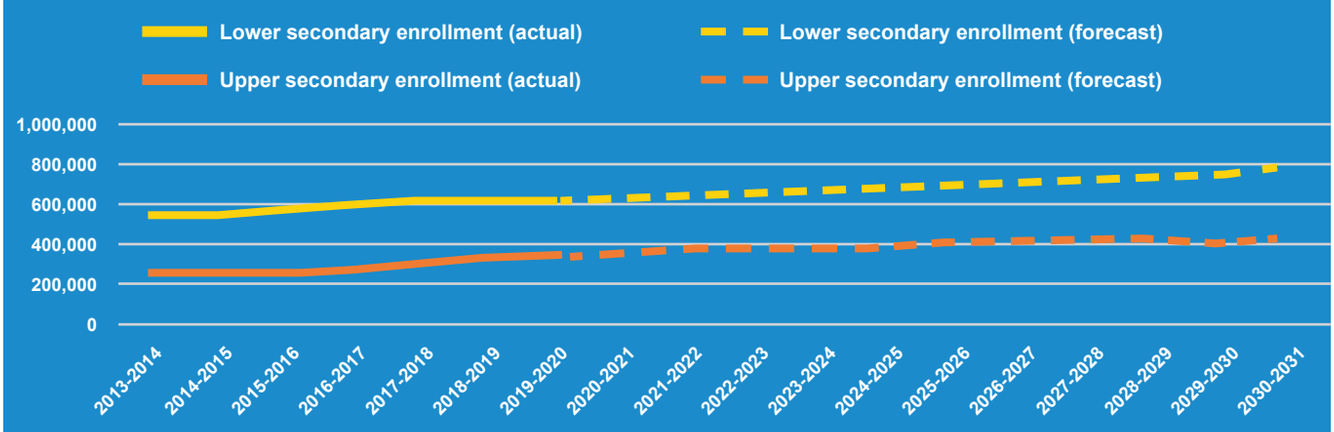
[90] See Appendix 3: Provincial and Vocational Training and Job Centers

4-13. Addressing Secondary Education Growth

Long-term secondary school access needs will require modern data analysis and digital mapping (digital visualization software) to prioritize those areas of the country requiring new buildings, renovations, and restorations and teacher deployment. This should be an element of MOEYS strategic planning each year.

Lower (LS) and upper secondary (US) school populations have been growing over the past decade and are projected to continue to increase with higher primary and lower secondary transition rates and school expansion (Figure 15).

Figure 15: Projected Lower and Upper Secondary Enrollment, 2013–2031



Source: Ministry of Education, Youth and Sport. 2019a. *Education Management Information System (EMIS), 2018–2019.* Phnom Penh.

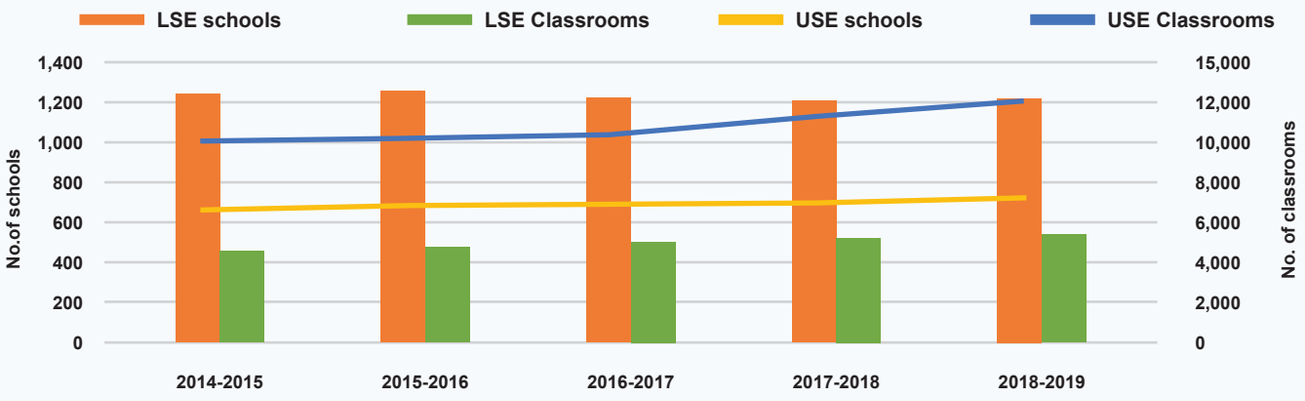
Projections anticipate a 31% increase in LS graduates over the next decade, while US is expected to grow by 30% (Figure 16). In tracking these changes, accurate data analysis and digital mapping (digital visualization) will be required for planners to make informed decisions in the coming decade about the targets for effective and efficient infrastructure programs, and human resource development and allocation. Overcrowded classrooms, higher teacher-student and student–classroom ratios, oversupply and undersupply of teachers, and internal population migration among other factors can be identified using digital visualization software. This information will support strategic capital investment by MOEYS in existing and new schools. To enact this reform, a Statistical Analysis Unit will be established within DGPP to create quality databases for planning use by relevant departments.

Figure 16: Projected Lower and Upper Secondary Graduates, 2013–2031

Source: Ministry of Education, Youth and Sport. 2019a. *Education Management Information System (EMIS), 2018–2019.* Phnom Penh.

Of considerable importance to the growth of student enrollments is school expansion to accommodate access to secondary education. The total number of schools offering Grades 7-9 only was 1,214 in SY2018/19; 493 comprehensive secondary schools offering Grades 7-12; and 32 USS offering Grades 10-12 only (Figure 17) for a total of 1,739 secondary schools.

Figure 17. Secondary Schools (2014-2019)



Source: Ministry of Education, Youth and Sport. 2019a. *Education Management Information System (EMIS), 2018–2019.* Phnom Penh.

Capital investment in secondary education has barely changed during 2014-2020, with the number of LSE schools increasing overall by less than 1% or 2 new schools only. There has been a 5.5% increase in the number of LS classrooms during the same period, which represents a steady year-by-year increase although the number of new schools was low. The number of USS increased by 81 or 18% over the same time.

There has been a 20.6% increase in the number of US classrooms over the 5-year period, which represents a steady year-by year increase. The largest increase was in the SY2018/19 when 800 new classrooms were added along with 14 new US with support from development partner funding.

4-14. School Architecture for the 21st Century

Starting with pre-school designs, schools need to be updated to introduce young children to technology and new techniques in learning from a very early age so that by secondary school they are already competent.[91] Minimum Service Standards will be established for all schools to ensure adequate facilities and teacher deployment relative to student population, teaching and learning materials, furnishings and equipment, and WASH facilities.

In urban, rural and remote settings, new schools will have purpose-built spaces for teaching and learning, libraries, science labs, meeting rooms, teacher workstations, and administration offices. Designs will provide flexible spaces depending upon their intended use. Multi-purpose rooms are more effective to facilitate new, active approaches to teaching and learning that MOEYS and donors are trying to promote, as they seek to prepare

Kampong Cham New Generation School *(Photo by Kampuchean Action to Promote Education).*

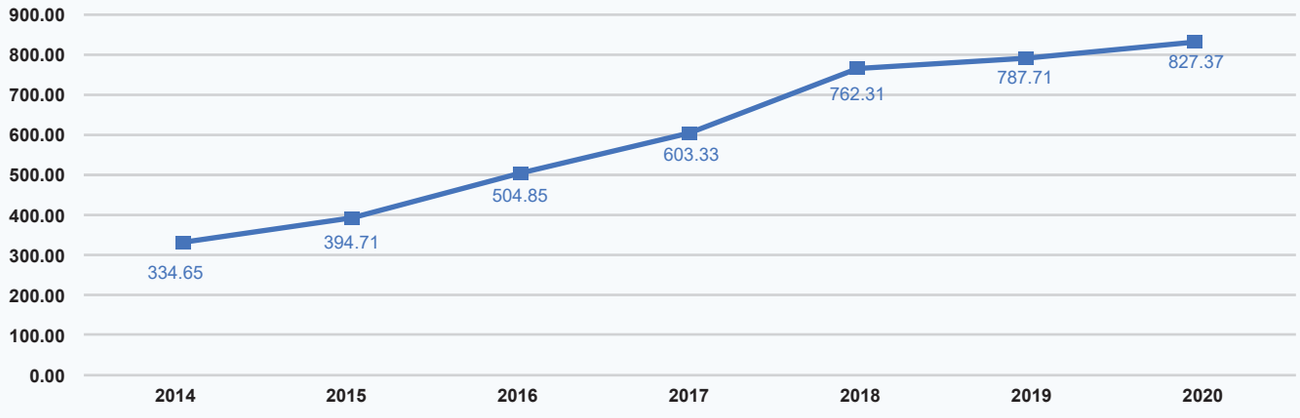
[91] MOEYS. 2020b. *School Architecture for a New Century: New Generation School Designs and Guidelines for Aesthetic Infrastructure Investment.* Phnom Penh.

Cambodian youth to adapt to a 21st century society and economyAll secondary schools will have essential facilities such as dependable water supply, gender-specific toilets, student clinics, and canteens that enhance students' welfare and attitude toward their school.

4-15. Education Financing

As Figure 18 shows, the government has increased education expenditures year on year to USD827.37 million in SY2019/20. As compared to SY2014/15, the budget has increased 2.5-fold. However, as indicated below, COVID-19 will have considerable impact on this trend.

Figure 18: Public Expenditures in Education ($ million)



Source: Ministry of Education, Youth and Sport. 2019a. *Education Management Information System (EMIS), 2018–2019.* Phnom Penh.

The assumptions used to project resources and determine the funding gap in the Education Strategic Plan 2019-2023 were considered reasonable at the time they were made. The effect of COVID-19 is likely to seriously impact Cambodia's economy, which will in turn impact on education spending especially in 2021-23.

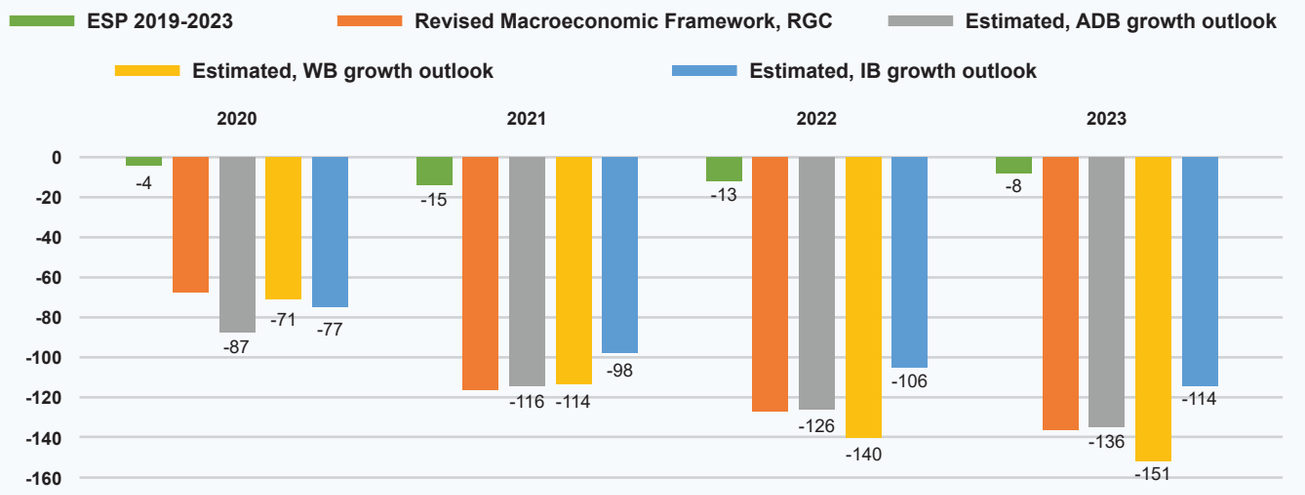
GDP growth is expected to slow down considerably in the remainder of 2020 and into 2021 due to the effect of COVID-19 on tourism and the rest of the services sector; a slowdown in construction and real estate activities; the decline in garment export manufacturing due to a projected global recession; and even some contraction in domestic demand due to lower remittances as migrant workers return to the country. Tourism fell by more than 90% in April 2020 and ticket sales to Angkor Wat was one-half of one percent of what it was before COVID-19.[92]

As of July 2020, 400 garment factories with about 150 thousand workers ceased operations in Cambodia based on reports by the Garments Manufacturing Association of Cambodia.[93] Tourist arrivals fell 76 percent in the first 10 months of 2020 compared to the previous year.[94] The economy overall was estimated to have contracted by about 2 percent for 2020 and to rebound to about a 4 percent growth in 2021.[95]

[92] https://asiatimes.com/2020/05/cambodia-poised-to-be-big-COVID-19-loser/
[93] World Bank. 2020. *Cambodia Economic Update, November 2020: Restrained Recovery.* World Bank, Phnom Penh. © World Bank. https://openknowledge.worldbank.org/handle/10986/34932.
[94] https://www.thestar.com.my/aseanplus/aseanplus-news/2020/12/05/tourist-arrivals-to-cambodia-down-76-in-10-months-due to-pandemic-covid-19-cases-rising
[95] World Bank and MoEF. 2020. *Macroeconomic and Financial Policy Framework for the preparation of the 2021 Law on Financial Management.* Phnom Penh: Ministry of Economy and Finance.

The negative GDP growth in 2020 means a lower tax base than expected and lower government financial resources last year and in succeeding years. This means that if Cambodia continues with its current education expenditure plan, it will have to find additional sources of financing given the ambitious goals of the ESP 2019-2023. Figure 19 shows the diversity of projections around the education financing gap over the mid-term 2020-2023 made by the government in its revised macroeconomic framework, the ADB, World Bank, and the International Monetary Fund (IMF). These are based on the projected economic growth outlook for Cambodia.[96]

Figure 19. Estimated Financing Gap (in USD million)



Source: World Bank. (2019). Cambodia General Education Improvement Project (P174335): Concept Note. Phnom Penh.

4-16. The Post-COVID-19 World

To understand the scope and direction of policies and actions needed to cope with the post-pandemic stage and to strengthen the resilience of education and training systems, three phases can be applied – response, recovery, and rejuvenation.[97]

1 Response:
How can education and training systems sustain teaching and learning during closure of educational institutions due to the COVID-19 outbreak?

2 Recovery:
How can education and training institutions prepare for the recovery phase when they are open to students again, making up for lost time for students, enable their transition to next levels of education or job market in as seamless a fashion as possible?

3 Rejuvenation:
How can education and training institutions undertake initiatives in response to the crisis to rejuvenate teaching and learning with new tools and techniques, particularly expanding online education in pedagogically effective ways and deploying new technologies to improve the quality of learning?

[96] G. Ducanes. 2020. *Review of the Financing Plan, Cost Estimates, and Assumptions Used for Resource Projections in the Education Strategic Plan 2019-2023* (CAMSEB 2030). Phnom Penh: ADB.
[97] ADB. (2020). *Class of 2020-2021: Implications of COVID-19 on Education.* Manila: Education Sector Group, SDCC.

The post-COVID-19 world is going to demand efficiency – the education system will need to maximize student outcomes within the available budget.[98] The government estimated that the economy would contract by 1.9% in 2020 and rebound in 2021 at 3.5%. While general administration and several ministry budgets will be reduced due to reduced government revenues (a deficit of 6.72% of GDP is projected for 2021), human resource development will continue to be prioritized through the improvement of education quality and technical and vocational education and training at all levels. This means that spending in education will need to be prioritized, and the blueprint attempts to do this for secondary education. Increased spending on education in the past has improved access with less emphasis on the quality of learning outcomes. For blueprint initiatives, a balance must be found to ensure spending is directed toward capacity building of human resources, 21st century school facilities, and provision of appropriate equipment and materials to ensure success.

This will be particularly important for post-COVID-19 initiatives where donor funding may be negatively impacted, and policy-makers will need to determine how best to manage this money so that students are the direct beneficiaries. This will require a close collaboration between teachers, learners, and parents regarding the distribution of resource materials. The government is currently drafting the *Cambodia Digital Economy Policy Framework* that will establish a regulatory environment for technology, governance, infrastructure, and digital literacy and capabilities. The framework will provide all sectors, including education, with a reference point for developing and integrating a digital ecosystem.[99]

It is apparent that if students are not able to have face-to-face meetings with teachers for an extended period, then alternative means by which they can access learning materials will be needed. This will include having photocopied materials made available in schools for self-collection or engaging the community or school network to distribute and collect. This will be especially relevant where there are insufficient numbers of textbooks available for all students to use. Teachers should be very diligent about prescribing learning materials for individual students, rather than simply providing the same tasks for everyone, and this may require many hours of focused work. Some deadlines for submission of work by students and provision of feedback by teachers will be needed. Parental cooperation will also be essential.

Alternatively, or in addition, some form of digital access to learning materials through the internet will be needed (Box 1). A portion of the budget will be used for digital hardware (cheap smartphones or laptops) and unlimited Wi-Fi access. This in turn requires students to have digital proficiency. Digital proficiency is the ability to use either a smartphone or a computer (desk- or laptop) to access apps, spread sheets, word processing programs, recording devices, and digital technology, and integrate them into relevant lessons. To be successful, at least 90%-95% of students will have to be well-trained in digital proficiency. The implications for teachers' roles in this venture are clear.

[98] MEF. 2020. *Macroeconomic and Financial Policy Framework for the preparation of the 2021 Law on Financial Management.* Phnom Penh: Ministry of Economy and Finance.
[99] Supreme National Economic Council. (2019). *Digital Transformation and Policy toward Cambodia's Digital Economy.* Phnom Penh: Ministry of Economy and Finance (MEF)

Box 1: Opportunities and Challenges in Digital Education

Digital Education (EdTech)

Opportunities

- A simple grassroots platform where teachers can share their own EdTech solutions can be a quick start
- Broadcasting lessons through radio or television may help reach isolated students without internet access
- Another useful response is to create an online one-stop-shop of resources that students can access directly or with the support of their parents
- Education through technology can be 'gamified' to maintain learning over longer school closures

Challenges

- The movement to out-of-school learning will exacerbate already weak education management and data collection systems
- Students' progression against formal curricula will slow down
- Teachers' ability to adapt to delivering education remotely will vary greatly
- Many children will not have access to technology or a suitable learning environment at home

One year on

- To cope with the educational crisis within the next year policymakers will need essential data
- In a year's time, having the right technology to 'diagnose and treat' learning gaps that have emerged during the crisis will make a substantive difference

Source: David, R., Pellini, A., Jordan, K. & Phillips, T. (2020). *Education during the COVID-19 crisis: Opportunities and constraints of using EdTech in low-income countries.* Policy Brief. Washington, DC: World Bank Group

To be digitally proficient also requires language proficiency to be able to read and interpret the digital message. For locally developed materials, this requires as a minimum for every student to be proficient in Khmer language as the national language. For other internet materials, students will require bilingual proficiency using English as a second language and the international language of communication. It is also the most effective language for international STEM collaboration.

5. External factors impacting student learning

The secondary education blueprint focuses on those MOEYS policies that directly impact on the quality of student learning outcomes that are planned for and budgeted over the next ten years. Central to the effectiveness and efficiency of the education system and various education reforms is the identification of key internal and external factors of effective learning.

Internal factors are defined as those brought by the student to formal schooling (for example, attitude, aptitude, perception, motivation, and genetic makeup). External factors are, as the name suggests, outside of the school and generally cannot be influenced by events within the school (such as social, economic, cultural, political, and geographic effects). However, it is the external factors that can have serious impacts on the quality of secondary education, and these factors can disrupt both short- and long-term planning, especially if they occur unexpectedly and without warning.

5-1. COVID-19 Pandemic

The COVID-19 pandemic is a clear example of an external factor that emerged without warning, disrupted communities, and seriously impacted education by requiring the closure of Cambodia's schools and higher education institutions. The economic and social costs are likely to be severe across the country along with the potential costs in lost learning due to the cessation of formal schooling. Spending on education during the pandemic recovery period may shrink by as much as 10% in some developing countries as governments reprioritize funds toward health.[100] There is evidence that some countries are already cutting their education budgets to make space for the required spending on health and social protection.[101] In the case of Cambodia, the government has initiated budget cuts of up to 50% to protect funding for the education and health sectors among other critical areas. Aid for education from development partners and NGOs is also likely to reduce and will mean some essential services will be negatively impacted where the government is unable to cover shortfalls. A decline in household incomes will make it difficult for many families to cover education costs. These costs make up a higher proportion of household budgets in low-income countries than in high-income ones.[102] This places Cambodian families in a very vulnerable position relative to even slight changes in economic conditions. This may result in families returning to public schools due to the higher tuition costs of private education relative to increased rates of unemployment or underemployment, thereby increasing the burden on the public school system. Even with this potential migration back to public schools, early data collection in 2021 by MOEYS indicates that public school enrollments have decreased relative to the last school year at all levels due largely to the loss of income by families who previously supported public schools. They are now unable to meet the costs of schooling such as uniforms, school supplies, transport, meals, etc.

Learning disparities will widen across Cambodia as a result of school closures with students who do not have access to online learning facilities falling into learning poverty or as is more likely, leaving school early. Part of the solution for MOEYS will be determining whether investments post-COVID-19 are refocused on the provision of basic services (textbooks and writing materials) and whether the post-pandemic reviews demand spending on WASH infrastructure such as the provision of essential gender-segregated toilets with functioning water supplies for all schools. This is an example of essential infrastructure spending that has direct impact on student learning because it ensures that all students (and especially adolescent females) attend school continuously. As stated earlier, perhaps MOEYS will decide that future budgets will be prioritized to enable distance learning by improving access to technology. MOEYS decision making will have built-in safeguards to ensure that every riel is spent effectively and efficiently on improving teaching and learning.

[100] World Bank. 2020. http://documents.worldbank.org/curated/en/479041589318526060/pdf/The-Impact-of-the-COVID-19-Pandemic-on-Education-Financing.pdf.
[101] World Bank. 2020. http://documents.worldbank.org/curated/en/479041589318526060/pdf/The-Impact-of-the-COVID-19-Pandemic-on-Education-Financing.pdf.
[102] Global Partnership for Education. 2020. https://www.globalpartnership.org/blog/financing-our-future-3-ways-protect-education-spending-impacts-COVID-19.

5-2. Socioeconomic Factors and Climate Change

Cambodia is predominantly a rural society with urban populations concentrated in several large urban areas (i.e., Phnom Penh, Siem Reap, Battambang, Sihanoukville, etc.). Agriculture constitutes approximately 23% of GDP to the economy of the country, and much of Cambodia's agricultural activity depends on the Mekong, Tonle Sap, and other river systems, which are dependent on climatic conditions. River levels rise and fall with the advent of the monsoon season, but dams being constructed upstream in neighboring countries threaten to disrupt the predictability of the flow of water from the north.

The flow of water in the Tonle Sap River greatly increases in the monsoon season because the Mekong reverses the flow of the water, pushing it back upstream and into Lake Tonle Sap that causes the lake to flood and so replenish the farmlands surrounding the lake. As the dry season arrives the lake empties and the Tonle Sap flows back toward Phnom Penh significantly emptying out the lake. With the onset of climate change, temperatures are rising; the time of arrival of the monsoon is becoming less predictable; extreme weather has disrupted national food security as floods and droughts are increasing in frequency and severity; and farmers are unable to rely on their traditional knowledge to determine their seasonal cycles of fishing, planting and harvesting.

"Fishermen and fishery conservationists are concerned about low Mekong River water levels which have prevented the annual reversal of the Tonle Sap River's water flow, an important event which eventually fills the Tone Sap Lake with water and fish. Some parts of the lake are drier than they've ever been during the rainy season."[103]

The massive river cycles in Cambodia are being disrupted. The cumulative impact on the economic situation for rural households is severe when climatic change destroys or reduces the yield of crops and household income, tipping some into unmanageable debt and poverty. This in turn impacts on school attendance at all levels.

5-3. Sociocultural Factors

Cambodia exhibits strong centralized decision-making, which generates inflexibility within the system making it difficult to respond to sub-national and local needs, in particular at the school level. As is often the case in societies, these elements of culture impact on the education of children and education systems in several ways.

Important factors that prevent major changes in education systems are the sense of reduced accountability, lack of meritocracy, and a fatalistic outlook. Individuals will often accept their current status in life within the prevailing system that exists without feeling any urgency to try to change the system or take responsibility for any new or untried initiative. This means that responsibility for change can rarely be vested in an individual, but instead must be distributed across or within a larger group so that the group will carry the change forward. Thus, it makes it difficult for MOEYS to effectively implement a staff performance appraisal system at every level based on the individual performance of teachers and school administrators.

[103] N. Chheng. 2020. Tonle Sap Yet to Reverse. *Phnom Penh Post.* 22 July 2020.

6. Secondary Education Priorities

Students, teachers, school administrators, families, and community personnel are all part of the overall mission to raise levels of learning within a school. The quality of teaching and management, the facilities, and learning resources are important elements that support the level of learning. MOEYS will improve the quality of each of these elements by giving immediate attention to the following eight priorities that are identified in the blueprint and are detailed in the following sections:

6-1. Improve Access to and Quality of General Secondary Education

(a) Develop and disseminate the **education, training, and career pathways**[104] so that:
- (i) education and training opportunities are clearly outlined for students, parents, and education personnel;
- (ii) mutually recognized accreditation and certification is established so that students can gain credit at different stages for completed study; and
- (iii) ETCF are nonstereotypical, gender-fair, and socially inclusive.

(b) Expect that Grade 6 students enter secondary school with sufficient competence in literacy and numeracy to ensure a greater chance of success in secondary school grades and provide remedial classes for those who are not sufficiently competent.

(c) Use the disaggregated data obtained from basic education standardized assessments at Grades 3, 6, and 8 to diagnose barriers to progress and provide feedback to improve classroom instruction.

(d) Provide incentives (through targeted scholarships) to extend the participation of all male and female students to complete secondary education.

(e) Include additional scholarships to encourage greater participation of children with disabilities, ethnic minority children, poor children, and other disadvantaged groups.

(f) Assist students who leave secondary school early to return to study and acquire qualifications that will improve their chances of obtaining a better job by enhanced support for the Basic Education Equivalency Program (BEEP).

(g) Provide vocational skills options for alternative education and TVET at vocational training centers.

(h) Use digital visualization (data analysis and digital mapping) to prioritize sites for strategic school facilities construction, renovation, and restoration needs and effective teacher deployment. Establish a small statistical analysis unit within DGPP to create integrated databases that are compatible with digital visualization software and accessible by MOEYS users for planning purposes. This will require a comprehensive, accurate, and credible EMIS system to support data analysis and planning functions.

(i) Using minimum service standards (MSS), design school infrastructure and classroom configurations that support new pedagogy.[105]

(j) Create teacher work-spaces for professional preparation and collaboration.

(k) Ensure that every secondary school has segregated functioning and accessible toilets for males and females with year-round water supply; a health care room; canteens offering healthy, nutritious food; a curriculum addressing adolescent health topics such as sexual and reproductive health, gender-based violence, HIV/AIDS, and drug education.

(l) Require regular health checks for all students and school personnel by local health centers (education and health sectors may consider joint community school-health center compounds to strengthen local services).

(m) Restructure physical education and sport activities in secondary schools to increase students' health-related fitness, develop their competence to take part in a range of physical activities, and instill self-discipline.

[104] See section 4-2.
[105] MOEYS. 2020d. *21st century School Architecture.* Phnom Penh.

6-2. Continue the Systemic Emphasis on Improving School Leadership and Management in Secondary Schools

(a) Mandate the selection and appointment of school leaders based on merit and in line with the standards set for school directors.
(b) Establish school leadership and management preparation programs for new and aspiring school directors and require regular CPD training during their careers.
(c) Integrate instructional leadership in preparation and CPD programs for school principals to support improved teaching and learning.
(d) Provide a more enabling environment for those school directors using SBM with:
  (i) their rights and responsibilities documented in job descriptions, and
  (ii) authority provided to manage school personnel in a nondiscriminatory way including policies for hiring relevant staff, dismissing poor performing staff, and conducting performance appraisals of teachers, as needed.
(e) Where schools have the absorptive capacity, integrate the NGS-type model as a strategy for improving student learning outcomes through good governance, professional ethics, improved teaching methods, performance-based incentives for teachers; professional development in problem-based learning, STEM, technology in education; and enhanced student services such as career guidance and counselling, differentiated learning, distance learning, and life skills education.
(f) Continue the development of parent and community participation in SBM through school management committees (SMC) and other ways of engaging communities (i.e., school open days, fundraising, parents and business leaders as guest speakers). School principals must be accountable to SMCs that will have an administrative role in running the affairs of the school.
(g) Ensure a gender-responsive and socially inclusive education system by reorganizing and updating the system of gender focal persons for mentoring and monitoring. Male and female teachers in every school unit, at different levels will participate in advanced gender training and serve as a trainers' pool to provide basic gender orientation to every schoolteacher and support staff.

6-3. Align Curriculum, Instruction, and Assessment with 21st Century Quality Education

(a) Ensure that the secondary curriculum:
  (i) is concept-based where applicable,
  (ii) prepares young people for the challenges of the future,
  (iii) values and produces knowledge and understanding for every student,
  (iv) develops high levels of creativity, collaboration, and Khmer cultural awareness,
  (v) promotes equity and embraces diversity,
  (vi) prioritizes social and emotional health and wellbeing,
  (vii) provides the opportunity for every individual to become the best they can be.
(b) Integrate 21st century skills such as collaboration, critical thinking, creative thinking, and teamwork into all subject areas, and particularly in the STEM areas at secondary level as both content and process (see Figure 14).
(c) Consider the integration of Art Education in STEM to enhance innovative thinking and solution-making.
(d) Establish subject-based committees to rewrite the syllabus statements as outcome statements that describe students' learning in measurable terms.
(e) Include more topics of current interest linked to students' own context (especially in rural schools – agriculture, animal husbandry, technology, etc.)
(f) Introduce more activity-based learning through project- and inquiry-based approaches, practical lessons, life skills, and technical programs.
(g) Consider developing supplementary reading, visual, and digital materials to supplement textbooks.
(h) Ensure that core messages in the curriculum and teaching resources are non-discriminatory, while promoting human rights, gender equality, and social inclusion.
(i) Integrate the use of technology in the curriculum and teaching methods.
(j) Reform the Grade 12 assessment exam to:
  (i) ensure that it tests higher order thinking skills as well as content recall,
  (ii) to be generated from standardized test item banks, and

(iii) include a school-based assessment component (which could include student portfolios) for each Grade 12 student to be combined with the external examination grading to provide an overall individual rating for each student.

6-4. Integrate Digital Education in Secondary Education

(a) Integrate digital technology in "smart classrooms" that permit greater use of technology in teaching and learning in all Secondary Resource School networks and NGS-type schools (including television and radio).[106] Extend the integration of technology in teaching and learning throughout all secondary schools as resources and personnel are available.

(b) Establish strong partnerships with internet providers to develop and sustain digital education systems in secondary schools.

(c) Introduce a broad-based ICT infrastructure to support online student learning:
- (i) promote blended learning (classroom and online) as a new model for teacher-student interaction,
- (ii) develop learning packages aligned with the secondary curriculum through the Department of ICT and the new Centre for Digital and Distance Education to be widely distributed, and
- (iii) gain access to learning modules produced globally following the COVID-19 pandemic, for example, from Global Partnership for Education and SEAMEO Centers, especially those relevant to the ASEAN region.

(d) Integrate awareness on 'cyber bullying' and identify and strengthen safeguards against online abuse and security in digital education.[107]

6-5. Institutionalize a Comprehensive Teacher Policy in Secondary Education[108]

(a) Develop a comprehensive Teacher Policy that is approved and disseminated for all beginning teachers and all teachers working in schools. The policy includes:
- (i) recruitment standards for pre-service and delayed entry for other professionals;
- (ii) job descriptions at all levels that support teaching as a profession;
- (iii) employment contracts (teacher licenses, working conditions, salaries, and benefits);
- (iv) standards for teacher appointment and deployment;
- (v) Teacher Professional Standards Framework (Code of Ethics);
- (vi) School Director Professional Standards Framework (Code of Ethics);
- (vii) implementation of the CPD-TCPP model including academic qualifications, work experience, CPD, and performance appraisals for career advancement, transfers, and recognition;
- (viii) establishment of professional societies and technical organizations for all subject areas;
- (ix) required professional portfolios for teachers and school directors;
- (x) enhanced and coordinated CPD provision for teachers and school directors;
- (xi) instructional supervision of all teachers; mentoring and coaching to improve performance;
- (xii) performance appraisals to identify strong and weak performance with due process for improvement;
- (xiii) clear set of career pathways for promotion and incentives for transfers;
- (xiv) requirements for suspension and dismissal; and
- (xv) processes for resignations and retirement.

(b) Update recruitment policies to attract strong candidates to teaching (academic and aptitude).

(c) Describe roles and responsibilities for teachers in job descriptions and contracts (including options to be redeployed in cases of overstaffing).

(d) Ensure a balanced recruitment strategy of male and female teachers.

(e) Increase incentives for teachers to accept deployment to understaffed areas.

(f) Implement redundancy packages for teachers and school administrators to reduce oversupply of teacher in secondary schools (initial front-end cost for long-term cost benefit).

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[106] C. Redmond. 2020. *Armed with a radio, Cambodian girl climbs tree to access education.* Phnom Penh: Southeast Asia Globe. https://southeastasiaglobe.com/accessing-education-in-remote-cambodia/?utm_source=newsletterandutm_medium=emailandutm_campaign=Vol.%2067andutm_term=2020-10-02

[107] https://gen-pol.org/2018/11/digital-gender-based-violence-can-education-stop-abuse-genpol-at-the-european-parliament/

[108] Adapted from the *UNESCO Teacher Policy Development Guide (2015),* https://unesdoc.unesco.org/ark:/48223/pf0000235272

6-6. Continue the systemic emphasis on improving secondary teacher education

(a) Expand the teacher education college (TEC) model to more areas and integrate the TEC model into all RTTCs and the National Institute of Education.
(b) Realign the PRESET curriculum and instruction to model activity and outcomes-based teaching and learning methods as well as continuous assessment strategies.
(c) Ensure equitable participation of male and female candidates for secondary teacher education.
(d) Upgrade academic qualifications of teacher educators (lecturers) and their pedagogical knowledge and skills; strengthen teacher educators' career paths (benefits, working conditions, selection based on merit, CPD, and appraisal).
(e) Ensure that teachers and school administrators receive gender awareness and social inclusion training.
(f) Expand PRESET practicums to provide authentic experiences for student teachers.
(g) Provide improved induction for all new teachers and school directors including gender responsive pedagogy and skills in using blended learning approaches.
(h) Implement self-study, school- and cluster-based CPD; professional learning communities, and TEI-supported CPD.
(i) Introduce a broad-based ICT structure to provide CPD for teachers from both urban and rural areas of Cambodia that includes secure platforms to monitor and assess participation of teachers and school leaders.
(j) Establish coaching and mentoring to strengthen effective teaching and learning and school leadership and management as a key element of CPD replicating the New Generation Pedagogical Research Centre model, as appropriate.
(k) Ensure all male and female counsellors receive training on gender-responsive counselling in addressing girls and boys differently and fairly.

6-7. Diversify and strengthen Technical Secondary Education outcomes to meet local economic and labor market needs

(a) Strengthen the existing GTHS network including provision of dormitories for students required to live away from home, as an alternative strategy to expanding the network.
(b) Prepare competent technical teachers and qualified instructors who are able to match government policy and the curriculum with labor market needs to improve Cambodia's national competitiveness within ASEAN in specific trades or skills.
(c) Strengthen GTHS staffing through co-share and, or collaboration with PTC and, or VTC instructors.
(d) Provide adequate classrooms, laboratories, workshops, and administrative buildings for the success of technical programs.
(e) Assist with the transition of lower secondary students to upper secondary technical programs through curriculum alignment, guidance and career counselling and educational advice.

6-8. Improve secondary and post-secondary engagement

(a) Develop local Secondary Resource School networks with HEIs, NFE centers, TVET centers, and local businesses to strengthen collaboration for [109]
  (i) career counselling activities to show pathways from secondary schools to HEIs (including academic and technical education);
  (ii) guest speakers, job site visits, work experience, internships, and apprenticeships;
  (iii) dual-learning programs for upper secondary students to complete academic stream while also attending local TVET programs; and
  (iv) student volunteer opportunities at community learning centers (NFE) to support literacy programs.
(b) Establish partnership arrangements with private companies to link technical training provided in the GTHS with the labor market through work experience, internships, and apprenticeships.
(c) Require certification and transferability between post-secondary education providers (public and private) and integrate them into the education, training, and career pathways (see section 6-1).
(d) Establish teacher exchanges and professional learning communities among secondary schools and high-quality international schools.

[109] Footnote 27.

7. Secondary education transformation to 2030

The implementation of this blueprint for secondary education has been structured so that it can be implemented as a series of phases dependent on the availability of relevant government budgets, coordination and resources mobilization provided by supporting partners (DPs, NGOs, civil society, industry, etc), and the degree by which interventions have been successful. Progression from one phase to the next will depend on the results achieved through robust and regular monitoring of progress with specific target goals to be met during each phase. Phase 1 contains several project activities that are already in effect or proposed during 2019-2023 and beyond (see Box 2).

Box 2: CAMSEB 2030 Phased approach

Phase 1 (2021-2023)
ESP 2019-2023

- **Develop and disseminate the education, training, and careeer pathways for students and families**
- **Develop minimum service standards (MSS) for all secondary schools**
- **Develop a comprehensive Teacher Policy and disseminate throughout secondary education**
- **Establish a Statistical Analysis Unit (DGPP) to generate digital visualization products for planning**
- Construct 14 new secondary resource centers
- Reform Grade 12 examination process and content
- Conduct continuous professional development (CPD) for all core subject (examinable) teachers
- Operationalize two new TEC facilities for initial cohorts
- Implement the CPD Action Plan in target schools
- Install science classrooms, 21st century libraries, and multipurpose classrooms in secondary resource school (SRS) network
- Implement Secondary Guidance and Career Counselling in SRS Network
- Implement school-based management approach in target schools (school improvment planning)
- Develop outcome-based curriculum statements
- Establish Centre for Digital and Distance Education
- Initiate effective teacher deployment strategies throughout secondary schools
- Upgrade water, sanitation, and hygiene facilities (WASH) in all SRS (phased approach)
- Conduct a comprehensive review of all general and technical high schools (GTHS)

MTR

Phase 2 (2024-2028)
ESP 2024-2028

- Integrate MSS into all new school builds
- Rehabilitate NIE into a “center of excellence”
- Expand TEC model into four regional teacher training centers
- Establish at least nine new NGS
- Expand SBM approach throughout SRS Network
- Expand digital education system throughout SRS Network
- Expand the CPD Action Plan to the SRS Network
- Expand STEM and/or ICT CPD for secondary teachers
- Install Science classrooms, 21st century libraries, and multipurpose classrooms in upper secondary schools
- Upgrade WASH facilities in all secondary schools
- Expand scholarship and other supportive programs for at-risk-students and disadvantaged groups
- Establish secondary school-local business networks through SRS system
- Strengthen the existing GTHS schools (14)

MTR

Phase 3 (2029-2030)
ESP 2029-2033

EndR

- Integrate MSS into all secondary schools
- Prepare secondary education strategic plan (blueprint) for 2040 based on a final review
- Expand school-based management approach throughout all secondary schools
- Establish at least five new NGS
- Construct 10 new Secondary Resource Centers
- Expand digital education system throughout secondary education system
- Install science classrooms, 21st century libraries, and multipurpose classrooms in lower secondary schools
- Expand the CPD Action Plan to all secondary schools
- Upgrade WASH facilities in all secondary schools
- Maintain scholarship and other supportive programs for at-risk-students and disadvantaged groups
- Conduct a comprehensive review of all GTHS for possible GTHS expansion

Annual Congress Reports

Annual Congress Reports

Source: Author design

8. What impact will this transformation have?

For the transformation of the Cambodian secondary education system to be effective and sustainable, each participant must understand the critical role each one plays and the benefits to be enjoyed. It is envisaged that the program defined in this Blueprint will lead to a collective set of desirable benefits, rights, and responsibilities for each group (Box 3).

Box 3: Roles and Responsibilities of Education Stakeholders

Students	Teachers	School Leaders	Ministry of Education, Youth and Sport Personnel	Parents
Students will make significant gains in their development irrespective of their background. Students will study in conducive learning environments, and will feel nurtured and satisfied by their school experience. When they leave school, students will have high level knowledge and skills, strong moral values, and will be capable of competing with their peers in other countries.	**Teachers will develop the world-class capabilities needed to facilitate desired student outcomes and gain more enjoyment and fulfillment from their jobs. With the new teacher career package, they will enjoy more fulfilling professional development, improved career pathways, and transparent performance appraisals that are directly linked to relevant competencies.**	**School leaders will become excellent instructional leaders, and act as agents for change. They will enjoy closer support and enhanced services from national, provincial, and district education officers. They will gain access to world-class leadership training, as well as best practices from their peers in Cambodia.**	**Ministry officials will develop as change leaders, with the skills and attributes needed to support schools. They will become better managers, coaches, and supporters of school excellence. They will benefit from greater meritocracy, greater empowerment with accountability, and will move away from hierarchy and control**	**Parents will see tangible and sustained improvements in the educational experiences of their children. There will be increased transparency around a school's performance and priorities, and parents will be regularly kept in the loop as to how their child is doing at school both in terms of achievements and areas for development. Parents will become true partners with schools in facilitating their child's learning.**
• Students will learn in an environment where the fundamental belief is that all students can learn, and all students can succeed. Teachers will have high expectations of students regardless of their background or prior achievement and will provide them with the necessary support to meet those expectations. • Students will have a richer school experience, both academic and nonacademic, so that they can excel in life. There will be more project and group-based work to develop students' higher-order	• Teachers will have the support they need to succeed. They will have access to more school-based professional development opportunities. They will participate in constructive feedback discussions and dialogue that focus not on blame and punishment, but on learning and development so that areas for improvement can become areas of strength. • Teachers will enjoy better working conditions, performance-based rewards, and enhanced pathways. They will work in schools with adequate facilities	• School leaders will have the support and resources they need to guide their schools effectively. They will receive better preparatory, induction, and ongoing training to help them develop their leadership skills. They will see improved responsiveness from the Provincial Offices of Education on issues they face, from deployment of principal coaches to the provision of additional resources if the school is in greater need. • School leaders will enjoy better working conditions and performance-based rewards. Directors, deputy directors, as	• Ministry officials will receive targeted support, training, and resources needed to fulfill their new roles and responsibilities. They will have new roles focused on supporting schools and have access to more professional development opportunities. They will participate in constructive feedback discussions that focus not on blame and punishment, but on learning and development. • Ministry officials will develop a unified vision through working in a collaborative and transparent environment. Silos between divisions will be broken down,	• Parents will have a better understanding of how their children are developing, and how they can help them improve. They will have regular contact with their children's teachers, not just when there is a problem. They will have full visibility and access to their children's performance on national examinations and school-based assessments. They will get guidance, from parenting tips to adult education classes, on how to best support their children's learning and development. • Parents will have more opportunities to provide input

thinking skills and ability to work both independently and collaboratively in groups. There will be more community-based projects and cross-school activities to foster interaction with individuals from all walks of life. There will be more opportunities for students to learn at their own pace and to pursue their interests in academic, vocational, or technical streams.	and appropriate working conditions. They will have reduced administrative burden so that they can focus their efforts on the core activities of teaching and learning. They will enjoy performance-based rewards including faster career progression and can develop their interests along distinct pathways: teaching and/ or leadership and/or subject specialization. • Teachers will be immersed in a culture of collaboration and professional excellence. They will collaborate with one another to tackle issues and share best practices. They will have greater pedagogical flexibility in the classroom in their quest to ensure that every student learns.	well as subject and department heads will work in schools with adequate facilities and have a reduced administrative burden so that they can focus their efforts on instructional leadership. • They will enjoy performance-based rewards including faster career progression and "extra credit" for successful deployment in underperforming or disadvantaged schools. • School leaders will be empowered through greater school-based management. They will have operational flexibility commensurate with their school's performance on matters such as curriculum timetabling and budget allocation. They will enter a professional partnership with their POEs, with input into their school's annual development plans, and will enjoy greater transparency with regard to decisions affecting their school.	and roles and responsibilities will be streamlined to eliminate duplication of functions and activities. Information will be shared efficiently to allow for evidence- based decisions. There will be greater clarity about how decisions are made. • Ministry officials will be given greater operational flexibility and accountability. Officials will have more influence in identifying areas of improvement for their provinces, districts, and schools, and in tailoring solutions to specific contexts.	into their school's improvement strategies. Under school-based management, parents and community volunteers should be actively involved in school improvement planning, in monitoring school and student performance and contributing to resource mobilization efforts as they engage with promoting social accountability at the local level. They will be able to provide input on matters such as teacher and curriculum quality through the school council. They will feel welcomed and valued for their commitment to their children and to the school.
• In return, students will always be asked to try their best and to work collaboratively with their teachers to reduce disruptive classroom behavior. All students will have the collective responsibility to help make their school safe and conducive to learning.	• In return, teachers will be asked to stay open to learning and to new ways of working, to involve parents and students in the learning process, and to model the mindsets, values and behaviors expected of students.	• In return, school leaders will be asked to perform to the high expectations set and agreed to for their school. They will need to stay open to new ways of working, to involve the community in school improvement, and to serve as coaches and trainers to build capabilities in their staff as well as for other schools.	• In return, Ministry officials will be asked to stay open to feedback from schools and from the community. They will champion the changes the system is about to undergo. They will need to be highly responsive in providing schools with the support and resources they need, as well as to keep all internal and external stakeholders well- informed.	• In return, parents will be asked to support their children in meeting their learning potential (for example, ensuring that they complete their homework and attend school on time), and to model commitment, engagement, and openness for their children. Parents will need to communicate input and concerns to schools in a constructive manner and actively participate in activities at school.

Source: Adapted from Ministry of Education. 2013. *Malaysia Education Blueprint 2013–2025: Pre-school to Post-Secondary Education.* Kuala Lumpur.

9. CAMSEB 2030 Priorities and Breakthrough Outcomes

The blueprint aims to achieve the following aims in line with the objectives of the Cambodian SDG4 Education Roadmap 2030 and building on the Education Strategic Plan 2019–2023:

(i) All Cambodian students complete a minimum of 9 years of free, inclusive, equitable, and quality basic education that includes gaining functional literacy and numeracy skills, subject knowledge and cognitive and non-cognitive skills that enable them to reach their full potential.

(ii) All Cambodian students have access to high quality upper secondary education that provides options to undertake affordable, quality technical and vocational education or preparation for higher education. There will be bridges to allow movement across both streams.

(iii) High quality standards of teaching and learning strengthened by enhanced teacher education in both preservice and in-service programs are achieved.

(iv) Outstanding leadership and management standards at all levels that promote high quality teaching and learning is visible in all Cambodian secondary schools.

(v) Increased number of youth have increased access to quality and relevant technical and vocational programs responsive to local economic and industry needs.

In order to achieve these outcomes, eight important priorities identified in section 6 include the following:

(i) Improve student access to and quality of general secondary education (including GTHS)

(ii) Continue the systemic emphasis on improving school leadership and management in secondary schools

(iii) Align curriculum, instruction, and assessment in all subjects, especially STEM areas, with 21st century quality education

(iv) Integrate digital education in secondary education

(v) Institutionalize a comprehensive Teacher Policy in secondary education

(vi) Continue the systemic emphasis on improving secondary teacher education

(vii) Diversify and strengthen technical secondary education outcomes to meet local economic and labor market needs

(viii) Improve secondary and post-secondary linkages and engagement

Within each of these priorities, some breakthrough outcomes are identified that need to be implemented in order to achieve the desired secondary education objectives for Cambodia's young people (Table 6).

Table 6: Outcomes Arising from Eight Priority Areas

Key Priorities		Key Breakthrough Outcomes	Agency
1. Improve student access to and quality of General Secondary Education (including GTHS)	1.1	Possible pathways outlining the available education and training options are clearly outlined for students, parents, and teachers along with mutually recognized accreditation and certification standards available at each stage.	MOEYS, MLVT
	1.2	Students at risk of leaving are identified and monitored by guidance counsellors to mitigate reasons for leaving and to provide incentives (i.e., scholarships, remedial learning, work experience) to remain in school.	DGSE
	1.3	Additional scholarships are provided for secondary students with disabilities, ethnic minority children, poor children, and disadvantaged groups.	DGSE
	1.4	The Basic Education Equivalency Program for early school leavers is revamped with specified pathways prescribed toward gaining qualifications according to the assessment and certification system of the CQF.	DNFE
	1.5	Generate quality databases for digital visualization software to be used by MOEYS departments for ongoing planning, especially for school infrastructure and teacher deployment needs.	DGPP
	1.6	Based on MOEYS adopted minimum service standards, upgrade secondary education facilities using 21st century architectural designs to support innovative and constructive teaching and learning approaches in secondary schools	DGE, DGPP, DGAF
	1.7	All secondary schools have dedicated individual teacher workspaces and communal areas to facilitate professional collaboration among teachers	DoC
	1.8	All secondary schools have segregated functioning toilets for males and females with year-round water supply and sanitation facilities.	DoC
	1.9	Health and wellness topics are integrated in relevant subjects with an emphasis on extra curricular physical education and sport activities.	SHD
	1.10	All secondary students and staff have full health checks (including sight/hearing tests) every 2 years conducted by local health centers.	DGSE, MoH
2. Continue the systemic emphasis on improving School Leadership and Management in secondary schools	2.1	Every secondary school, regardless of location, has a high-performing school leadership team (director and deputies) appointed in accordance with MOEYS approved school director standards who provides instructional leadership and drives overall school performance.	DGSE, DoP
	2.2	School leadership and management development programs are mandatory for all new and aspiring school directors and deputies through CPD programs to maintain high standards.	TTD, NIE
	2.3	School-based management is implemented in all secondary schools as a minimum standard, including establishment of school management committees with clear responsibility for assisting school directors with administrative issues.	DGSE
	2.4	The Secondary Resource School network system is fully established under DGSE for improved system-wide management.	DGSE
	2.5	The NGS management policies and practice, facility infrastructure and curriculum are institutionalized in the secondary education system.	DGSE
	2.6	Additional secondary schools that aspire to become NGS must undertake the due process for accreditation.	DGSE, EQAD
3. Align Curriculum, Instruction and Assessment in all	3.1	All secondary syllabus standards in all subjects are written in terms of student learning outcomes.	DCD
	3.2	Curriculum content revised to include 21st century learning skills; STEM components, and at least three foreign languages (as options for study).	DCD

Key Priorities		Key Breakthrough Outcomes	Agency
subjects, especially STEM areas, with 21st century quality education	3.3	Inquiry- and problem-based teaching and learning strategies are applied in secondary classrooms using blended learning (technology in subject areas)	DGSE, TTD
	3.4	Grade 12 assessment examination is reformed to include a combined external examination grading achieved in the national examinations and a school-based assessment rating for each Grade 12 student.	DExA
4. Integrate digital education in secondary education	4.1	Teachers are competent using technology in teaching and learning	TTD, NIE, DIT
	4.2	A broad-based ICT system for online and blended student learning is in place and accessible by all teachers and secondary students.	DIT, CDE
	4.3	Digital education equipment, tools and materials are integrated in teaching and learning in all Secondary Resource School networks (including television and radio where appropriate)	DGSE, DoC, DIT
5. Institutionalize a comprehensive Teacher Policy in secondary education	5.1	A renewed and comprehensive MOEYS Teacher Policy disseminated and implemented in secondary schools	DoPo
	5.2	Recruitment policies for new teachers updated to attract strong candidates to teaching (focused on academic and aptitude capabilities).	DoPo, DoP
	5.3	Clear job descriptions, roles, and responsibilities are included in 5-year teacher contracts that include a requirement to undertake continuing professional development every year in identified areas of need.	DoP
	5.4	Career pathways for school personnel are established (with benefits, working conditions, selection based on merit, CPD, and appraisal) in place to attract high quality staff.	DoP
	5.5	More equitable distribution of teachers between understaffed and overstaffed schools and between education streams.	DoP, DGSE
	5.6	Updated Professional Standards (Code of Ethics) for teachers and school directors finalized, published, and implemented.	DoP
	5.7	Teacher Performance and Development Framework prepared, trialed, published, and implemented. Results to inform CPD undertaken.	DoP, TTD, NIE
	5.8	School Director Performance and Development Framework prepared, trialed, published, and implemented.	DoP, TTD, NIE
6. Continue the systemic emphasis on improving secondary teacher education	6.1	The Teacher Education College model is expanded to all regional teacher training centers.	TTD
	6.2	The preservice teacher training approach, curriculum, and facilities are updated to align with modern teaching and learning practices.	TTD, DCD
	6.3	Practicums that provide authentic experiences for student teachers are expanded and updated.	TTD, DGSE
	6.4	Career pathways for teacher educators (benefits, working conditions, selection based on merit, CPD, and appraisal) implemented in order to attract high quality staff.	DoP, DoF
	6.5	Regulations strengthened to mandate appropriate academic qualifications of teacher educators *(lecturers)* and levels of required teaching experiences.	TTD, NIE
	6.6	Teacher education institutions conduct follow up assessments with first-year teachers on the relevance of teacher training for secondary schools.	TTD, NIE
	6.7	CPD is fully implemented throughout secondary schools.	DoP, TTD
	6.8	Induction, coaching, and mentoring programs are established as a key component of CPD for new and current teachers.	DoP, NGPRC

Key Priorities		Key Breakthrough Outcomes	Agency
	6.9	A broad-based ICT system that includes a dedicated training unit providing online CPD for all teachers, school directors, and teacher educators (lecturers) from both urban and rural areas is implemented.	DIT, CDE
	6.10	Partnerships are established amongst secondary schools with NGS-type and high-quality international schools improving classroom instruction and school leadership.	DGSE, TTD, NIE
7. Diversify and strengthen Technical Secondary Education outcomes to meet local economic and labor market needs	7.1	Graduates of GTHS have at least minimum levels of knowledge and technical skills to be employable in specified areas	VOD, DGSE
	7.2	Module-based subjects and learning materials that are aligned with and responsive to local economic and labor market needs are introduced and implemented in the technical secondary education curriculum	VOD, DCD
	7.3	Technical secondary education teachers are qualified and competent to deliver quality instruction, demonstration, and assessment.	DoP, VOD
	7.4	The existing GTHS network is strengthened with improved facilities, skilled management, and provision of dormitory accommodation for students living away from home.	VOD, DoC
	7.5	Collaboration strengthened between technical secondary schools and MLVT technical training institutes to facilitate flexible pathways between technical secondary education and certificate and diploma levels under the CQF's assessment and certification system	VOD, MLVT
	7.6	GTHS are provided with basic core technical equipment, and in collaboration with polytechnic, tertiary technical institutes, and public private enterprises/industry are further strengthened to deliver quality technical programs.	VOD, MLVT
	7.7	MLVT, industry partners, and HEIs will implement collaborative programs with secondary schools to provide career orientation for students contemplating future technical options or academic study	VOD, DHE, MLVT
	7.8	MLVT and industry partners will implement collaborative programs with secondary schools to allow for dual-learning programs between school and industry that may include on-the-job training experiences	DGSE, VOD, MLVT
8. Improve secondary and post-secondary linkages and engagement	8.1	Secondary students are informed of available programs offered through nonformal education (*re-entry, bridging, literacy*)	DGSE, VOD, DNFE
	8.2	Secondary schools engage with local businesses to create educational and job opportunities for students (*career orientation, work experience, job-site visits, guest speakers, apprenticeships, etc.*)	DGSE, VOD
	8.3	HEIs and secondary schools collaborate annually to ensure their respective programs are shared, that there is relevance and continuity between programs, and that transfer paths from secondary to post-secondary education and training are understood.	DGSE, VOD, DHE

CDE : Center for Digital Education;
CPD : Continuous Professional Development;
CQF : Cambodian Qualifications Framework;
DCD : Department of Curriculum Development;
DGSE : Department of General Secondary Education;
DHE : Department of Higher Education;
DIT : Department of Information Technology;
DNFE : Department of NonFormal Education
DOC : Department of Construction;
DOP : Department of Personnel;
EQAD : Education Quality Assurance Department;
GTHS : General and Technical High Schools;
HEI : Higher Education Institution;
ICT : information and communication technology;
MLVT : Ministry of Labour and Vocational Training;
NGPRC : New Generation Pedagogical Research Center;
NGS : New Generation School;
NIE : National Institute of Education;
TEC : Teacher Education College;
TTD : Teacher Training Department;
RTTC : Regional Teacher Training Center;
VOD : Vocational Orientation Department.

Source: Author generated from desk reviews, situation analyses, interviews and focus group discussions, and government and development partner consultation sessions.

10. CAMSEB 2030 Action Plan

The previous section identified key priorities and breakthrough outcomes that need to be addressed urgently to continue to improve the quality of education in Cambodia. The action plan as disaggregated into Tables 7 to 14 includes these breakthrough outcomes together with outputs addressed under each priority and proposes a phased approach to achieving the outcomes by 2030.

Table 7: Priority 1—Improve Access to and Quality of General Secondary Education (with General and Technical High Schools)

	Outcomes	Indicators	Projected Outputs			
			Baseline (2020)	Phase 1 (2021-2023)	Phase 2 (2024-2028)	Phase 3 (2029-2030)
1.1	Possible pathways outlining the available education and training options are clearly outlined for students, parents, and teachers along with mutually recognized accreditation and certification standards available at each stage.	• An ETCP based on the CQF is published and available for reference in all secondary schools	• Not developed as yet	• Education, training, and career pathways through secondary education published and disseminated to all TEIs and secondary schools	• ETCP are integrated into secondary counselling programs	• Impact of ETCP on post-secondary and employment is assessed
1.2	Students at risk of leaving are identified and monitored by guidance counsellors to mitigate reasons for leaving and to provide incentives (i.e., scholarships, remedial learning, work experience) to remain in school.	• Clear criteria to determine students at risk of dropping out of school • Scholarship recipients at risk of dropping out identified and eligibility established on file	• Additional criteria for students at risk of dropping out of school are determined	• 20% increase in male and female students completing secondary school	• 20% increase in male and female students completing secondary school	• Equivalent numbers of males and females completing secondary school
1.3	Additional scholarships are provided for secondary students with disabilities, ethnic minority children, poor children, and disadvantaged groups not included in 1.2.	• Scholarship recipients identified using clear criteria to determine eligibility	• Number of scholarship awarded in 2020 at both LSE and USE	• Increase of 10% more students from baseline numbers	• Increase of 10% more students from previous year's enrollment	• Increase of 10% more students from previous year's enrollment
1.4	The BEEP for early school leavers is revamped with specified pathways prescribed toward gaining qualifications according to the assessment and certification system of the CQF	• Numbers of students who left school early who return to study to obtain basic qualifications • Number of students graduate from BEEP who are accredited for enrollment in LSE and technical and vocational education and training program	• Number of students without basic education qualification • Number of students in the BEEP program in 2020	• 20% more students enroll in BEEP compared to baseline numbers • DGSE and NFE develop and evaluate pilot alternative education programs for OOSY under BEEP	• 20% more students enroll in BEEP compared to previous year's enrollment • Alternative education programs for OOSY implemented under BEEP	• 20% more students enroll in BEEP compared to previous year's enrollment • Additional alternative education programs implemented

	Outcomes	Indicators	Projected Outputs			
			Baseline (2020)	Phase 1 (2021-2023)	Phase 2 (2024-2028)	Phase 3 (2029-2030)
1.5	Generate quality databases for digital visualization software to be used by MOEYS departments for ongoing planning, especially for school infrastructure and teacher deployment needs.	• Statistical Analysis Unit (DGPP) “creators” established and department ‘users’ identified • Strategic and cost-effective investments in infrastructure and teacher deployment	• Digital analysis and mapping not currently used for planning purposes	• Establish Statistical Analysis Unit with advanced software training under “creator license” • Provide “user license” training for relevant departments	• Digital visualization software used as planning tool for school infrastructure and staffing investments	• Digital visualization software fully operational as a cost-effective planning tool
1.6	Based on MOEYS adopted MSS, upgrade secondary education facilities using 21st century architectural designs to support innovative and constructive teaching and learning approaches in secondary schools.	• MSS document completed and operationalized	• No MSS • Designs for modern school buildings with flexible learning spaces and furniture to better align with new teaching and learning approaches	• Development of MSS • 20% of all secondary schools have reconfigured buildings and flexible furniture to support active and collaborative student learning as set out in MSS	• Implement MSS in all new school buildings • 50% of secondary schools have reconfigured buildings and flexible furniture to support active and collaborative student learning	• MSS applied to all secondary schools
1.7	All secondary schools have dedicated individual teacher workspaces and communal areas to facilitate professional collaboration among teachers.	• Teacher motivation, well-being, and professional satisfaction increased • Number of dedicated teacher workspaces	• Designs for teachers’ workspaces and communal areas for group planning and sharing are prepared as per MSS	• 40% of all secondary schools have reconfigured workspaces for teachers	• 60% of all secondary schools have reconfigured workspaces for teachers	• 100% of secondary schools have reconfigured workspaces for teachers
1.8	All secondary schools have segregated functioning toilets for males and females with year-round water supply and sanitation facilities.	• Number of functioning segregated toilets with hand-washing facilities available for inspection in all secondary schools as per MSS	• 40% of all LSS and USS have segregated functioning toilets and washrooms • Provision made for potable water available year-round	• 60% of all LSS and USS have segregated functioning toilets at a ratio of 1 closet to 30–40 students • Provision made for potable water available year-round.	• 80% of all LSS and USS have segregated functioning toilets at a ratio of 1 closet to 30–40 students • Provision made for potable water available year-round.	• 100% of LSS and USS have segregated functioning toilets at a ratio of 1 closet to 30–40 students • Provision made for potable water available year-round.

	Outcomes	Indicators	Projected Outputs			
			Baseline (2020)	Phase 1 (2021-2023)	Phase 2 (2024-2028)	Phase 3 (2029-2030)
1.9	Health and wellness topics are integrated in relevant subjects with an emphasis on extra curricular PE and sport activities.	• Age-related health and wellness topics are integrated into curricula • Designated physical activities for at least one hour per week required for each year group at secondary level	• Health and wellness topics integrated into Grades 10, 11, and 12 curricula • Designated physical activities prepared for 1 hour per week and piloted in selected schools	• Health and wellness topics integrated into Grades 7–12 curricula in 40% of all schools • Designated physical activities prepared for 1 hour per week in al 40% of schools •	• 60% of all schools have health and wellness topics integrated into Grades 7–12 curricula • Designated physical activities prepared for 1 hour per week for all grades	• All schools have health and wellness topics integrated into Grades 7–12 curricula • Designated physical activities prepared for 1 hour per week for all grades
1.10	All secondary students and staff have full health checks (including sight/hearing tests) every 2 years conducted by local health centers.	• Number of students and school staff receiving basic health assessment every 2 years as per health check reports	• Not yet occurring	• 50% of all secondary schools undergo health checks for students and staff	• 100% of all secondary schools undergo health checks for students and staff	• 100% of all secondary schools undergo health checks for students and staff

BEEP : Basic Education Equivalency Program;
CQF : Cambodian Qualifications Framework;
DGPP : Directorate-General of Policy and Planning;
DGSE : Department of General Secondary Education;
ETCP : Education, Training, and Career Pathway;
LSS : lower secondary school;
MOEYS : Ministry of Education, Youth and Sport;
MSS : minimum service standards;
NFE vNonFormal Education;
OOSY : out-of-school youth;
TEI : teacher education institution;
USS : upper secondary school.

Source: Author generated from desk reviews, situation analyses, interviews and focus group discussions, and government and development partner consultation sessions.

Table 8: Priority 2—Continue the Systemic Emphasis on Improving School Leadership and Management in Secondary Schools

	Outcomes	Indicators	Projected Outputs			
			Baseline (2020)	Phase 1 (2021-2023)	Phase 2 (2024-2028)	Phase 3 (2029-2030)
2.1	Every secondary school, regardless of location, has a high-performing school leadership team (director and deputies) appointed in accordance with MOEYS approved school director standards who provides instructional leadership and drives overall school performance.	• School director appointed according to national standards for school directors • SIPs that meet required MOEYS standards are submitted annually • School performance outcomes for each school compared year by year to demonstrate areas of improvement	• 50% of all secondary schools: • annually submit SIPs that meet required MOEYS standards • submit school performance outcomes for the previous year	• 75% of all secondary schools • annually submit SIPs that meet required MOEYS standards • submit school performance outcomes for the previous year	• 100% of all secondary schools • annually submit SIPs that meet required MOEYS standards • submit school performance outcomes for the previous year	• 100% of all secondary schools • annually submit SIPs that meet required MOEYS standards • submit school performance outcomes for the previous year
2.2	School leadership and management development programs are mandatory for all new and aspiring school directors, with annual CPD required to maintain high standards.	• Leader development programs for school directors prepared by NIE and partners • Numbers and names of those attending recorded each year	• MOEYS SBM programs currently rolled out in project schools • NIE conducting SBM training for SRS directors including change management	• A quality school leadership preparation program established at NIE for new and aspiring school directors and deputies	• The school leadership program for new and aspiring school directors is annually updated to account for changing trends and as a focus of CPD for school directors	• The school leadership program for new and aspiring school directors is annually updated to account for changing trends and as a focus of CPD for school directors
2.3	SBM is implemented in all secondary schools as a minimum standard, including establishment of school management committees.	• SIPs that meet required MOEYS standards on file • SRCs available and on file (year-end assessment)	• SIPs prepared in 50% of all secondary schools (see 2.1) • SRCs prepared in 50% of all secondary schools	• SIPs and SRCs prepared in 60% of all secondary schools • SMC annual reflection on SIP benchmarks	• SIPs and SRCs prepared in 80% of all secondary schools • SMC annual reflection on SIP benchmarks	• SIPs and SRCs prepared in 100% of all secondary schools • SMC annual reflection on SIP benchmarks
2.4	The SRS network system is established under DGSE for improved systemwide oversight	• An SRS network system managed by DGSE (each with a secondary resource center and five satellite schools attached). • Annual assessment reports on file.	• 36 SRS with 5 network schools each (n=216)	• 14 additional SRS networks established (n=300)		• 10 additional SRS networks established (n=360)

	Outcomes	Indicators	Projected Outputs			
			Baseline (2020)	Phase 1 (2021-2023)	Phase 2 (2024-2028)	Phase 3 (2029-2030)
2.5	The NGS management policies and practice, facility infrastructure, and curriculum to be expanded to other schools.	• Nominated schools for NGS accreditation have cosponsorship by a nonstate entity committed to at least $10,000 annually in support costs for a minimum of 3 years • Agreement in writing by all relevant school stakeholders to accept NGS operating guidelines	• 11 existing NGS operating	• The NGS operating guidelines widely disseminated to attract potential nonstate entities to sponsor new NGS	• 20 or more NGS operating	• 25 or more NGS operating
2.6	Additional secondary schools aspiring to become NGS must undertake the due process for accreditation.	• Accreditation process documented by MOEYS for all new NGS	• 10 accredited NGS operating	• 2 or more NGS accredited	• 3 or more NGS accredited	• 3 or more NGS accredited

CPD : Continuous Professional Development;
DGSE : Department of General Secondary Education;
MOEYS : Ministry of Education, Youth and Sport;
NGS : New Generation School;
NIE : National Institute of Education;
SBM : school-based management;
SIP : school improvement plan;
SMC : school z committee;
SRC : school report card;
SRS : Secondary Resource School.

Source: Author generated from desk reviews, situation analyses, interviews and focus group discussions, and government and development partner consultation sessions.

Table 9: Priority 3—Align Curriculum, Instruction, and Assessment with 21st Century Quality Education

	Outcomes	Indicators	Projected Outputs			
			Baseline (2020)	Phase 1 (2021-2023)	Phase 2 (2024-2028)	Phase 3 (2029-2030)
3.1	All secondary syllabus standards in all subjects are written in terms of student learning outcomes.	• List of subject-based committees rewriting all syllabus statements into student learning outcome statements • Percentage of syllabus statements rewritten	• Subject-based committees for all secondary school subjects appointed (DCD)	• All Grade 7 syllabuses rewritten • All Grades 8 and9 Math and Science syllabuses rewritten.	• All Grade 8 and 9 syllabuses rewritten • All Grade 10, 11 and 12 Math and Science syllabuses rewritten	• All Grade 10, 11 and 12 syllabuses rewritten
3.2	Curriculum content revised to include 21st century learning skills; STEM components, and at least three Foreign Languages (as options for study).	• Curriculum content revisions on file for all subjects • 21st century learning skills and STEM components included across relevant subjects • At least three foreign languages offered in each school (where possible)	• Outline of required 21st century learning skills for each grade and subject • Outline of desired STEM components for each grade and subject • Three foreign languages determined	• Grade 10, 11, and 12 syllabuses rewritten to include 21st century skills • Grade 10, 11, and 12 syllabuses rewritten to include STEM components • 50% schools have qualified foreign language teachers in at least one of English, French, or Chinese	• Grade 7, 8, and 9 syllabuses rewritten to include 21st century skills • Grade 7, 8, and 9 syllabuses rewritten to include STEM components • 50% schools have qualified foreign language teachers in at least two of English, French, or Chinese	• All syllabuses rewritten to include 21st century skills • All syllabuses rewritten to include STEM components • 50% schools have qualified foreign language teachers in each of English, French, or Chinese
3.3	Inquiry- and problem-based teaching and learning strategies are applied in secondary classrooms using blended learning (technology in subject areas)	• School directors monitor the introduction of modern teaching and learning strategies in secondary classrooms • CPD programs offered to assist teachers with the new approaches	• STEM teachers undertake CPD in Grade 12 core subjects	• 25% of LSS and USS classrooms applying inquiry-and problem-based teaching and learning?	• 60% of LSS and USS classrooms applying inquiry-and problem-based teaching and learning?	• 100% of LSS and USS classrooms applying inquiry-and problem-based teaching and learning
3.4	Grade 12 assessment examination is reformed to include a combined external examination grading achieved in the national examinations and a school-based assessment rating for each Grade 12 student.	• Rubrics available and on file for each subject to guide secondary schools in assessing standards for a school-based rating and to moderate standards between schools	• Rubrics prepared for each subject at Grade 12 are trialed in selected secondary schools	• 20% of overall grading at Grade 12 derived from school-based assessment • 80% external exam	• 40% of overall grading at Grade 12 derived from school-based assessment • 60% external exam	• 40% of overall grading at Grade 12 derived from school-based assessment • 60% external exam

CPD : Continuous Professional Development; **LSS** : lower secondary school; **USS** : upper secondary school.
DCD : Department of Curriculum Development; **STEM** : Science, Technology, Engineering and Mathematics;

Source: Author generated from desk reviews, situation analyses, interviews and focus group discussions, and government and development partner consultation sessions.

Table 10: Priority 4—Integrate Digital Education in Secondary Education

	Outcomes	Indicators	Projected Outputs			
			Baseline (2020)	Phase 1 (2021-2023)	Phase 2 (2024-2028)	Phase 3 (2029-2030)
4.1	Teachers are competent in using technology in teaching and learning	• Teachers use some application of technology in their daily teaching at LSS and USS levels and in all subjects	• 25% of LSS and USS teachers use some technology in their daily teaching at all levels and in all subjects	• 50% of LSS and USS teachers use some technology in their daily teaching at all levels and in all subjects	• 75% of LSS and USS teachers use some technology in their daily teaching at all levels and in all subjects	• 100% of LSS and USS teachers use some technology in their daily teaching at all levels and in all subjects
4.2	A broad-based ICT system for online student learning is in place and accessible by all teachers and secondary students	• Number of secondary schools with sufficient hardware and software capacity to offer blended learning activity	• Department of IT operational; ICT Policy in place • CDDE established	• Blended learning activity established in 20% of LSS and USS including NGS	• Blended learning activity established in 50% of LSS and USS including NGS	• Blended learning activity established in all LSS and USS including NGS
		• Learning modules for every subject developed by subject curriculum developers • Modules digitized by DIT and the CDDE and distributed to schools • Number of students who have access to modules online	• At least one learning module for each LSS and USS subject and grade level developed • Piloted by DIT and CDDE	• At least 5 learning modules for each LSS and USS subject and grade level • Piloted by DIT and CDDE	• 10 learning modules for each LSS and USS subject and grade level • Piloted by DIT and CDDE	• Learning modules for the full range of LSS and USS subjects and grade level distributed by DIT and CDDE
4.3	Digital education equipment, tools and materials are integrated in teaching and learning in all Secondary Resource School networks (including television and radio where appropriate)	• Number of classrooms that have robust WIFI connectivity or intranet devices • Number of classrooms with e-learning packages • Number of laptops, tablets on wheels, or smart devices available for all students to access online modules	• 20% of LSS and USS classrooms have e-learning packages and robust wireless or WiFi connectivity, or intranet devices • 20% of students have access to online modules	• Up to 50% of LSS and USS classrooms have e-learning packages and robust WiFi connectivity or intranet devices • Up to 50% of students have access to online modules	• At least 75% of LSS and USS classrooms have e-learning packages and robust WiFi connectivity or intranet devices • At least 75% of students have access to online modules	• 100% of LSS and USS classrooms have e-learning packages and robust Wifi connectivity or intranet devices • 100% of students have access to online modules

CDDE : Centre for Digital and Distance Education; **ICT** : information and communication technology; **NGS** : New Generation School; **WiFi** : wireless fidelity.
DIT : Department of Information Technology; **LSS** : lower secondary school; **USS** : upper secondary school;

Source: Author generated from desk reviews, situation analyses, interviews and focus group discussions, and government and development partner consultation sessions

Table 11: Priority 5—Institutionalize a Comprehensive Teacher Policy in Secondary Education

	Outcomes	Indicators	Projected Outputs			
			Baseline (2020)	Phase 1 (2021-2023)	Phase 2 (2024-2028)	Phase 3 (2029-2030)
5.1	A renewed and comprehensive MOEYS Teacher Policy disseminated and implemented in secondary schools	• MOEYS Teacher Policy on file in all secondary schools. • Teacher Policy integrated into all preservice programs	• Teacher Policy (original)	• Teacher Policy revised and implemented	• Comprehensive policy for teachers and school directors being followed in all secondary schools • Teacher Policy integrated into secondary PRESET	• Comprehensive policy for teachers and school directors being followed in all secondary schools • Teacher Policy integrated into secondary PRESET
5.2	Recruitment policies for new teachers updated to attract strong candidates to teaching (focused on academic and aptitude capabilities).	• Number of teaching applications from A and B passers in Grade 12 examination • Career aptitude tests results on file.	• Data from 2020 intake • Career aptitude data	• 10% increase in number of applicants from A and B passers each year	• 10% increase in number of applicants from A and B passers each year	• 10% increase in number of applicants from A and B passers each year
5.3	Clear job descriptions, roles, and responsibilities are included in 5-year teacher contracts that include a requirement to undertake continuing professional development every year in identified areas of need.	• Contracts for every teacher with Terms of Reference and responsibilities listed • Record of each individual teacher's participation in at least 1 CPD program per school year	• N/A	• 20% of teachers issued with contracts with Terms of Reference and responsibilities listed • 20% of teachers have participated in at least 1 CPD program per school year	• 50% of teachers issued with contracts with Terms of Reference and responsibilities listed • 50% of teachers have participated in at least 2 CPD program per school year	• 80% of teachers issued with contracts with terms of reference and responsibilities listed • 80% of teachers have participated in at least 2 CPD program per school year
5.4	Career pathways for school personnel with benefits, working conditions, selection based on merit, CPD, and appraisal in place to attract high-quality staff.	• Promotion pathways with salary scales published and available in all schools • Clear terms of reference and responsibilities for each promotional level stated and available in all schools	• Teacher Career Pathways Policy approved for action	• 50% of all promotional level positions are published in all secondary schools	• 80% of all promotional level positions are published in all secondary schools	• 100% of all promotional level positions are published in all secondary schools

	Outcomes	Indicators	Projected Outputs			
			Baseline (2020)	Phase 1 (2021-2023)	Phase 2 (2024-2028)	Phase 3 (2029-2030)
5.5	More equitable distribution of teachers between understaffed and overstaffed schools.	• Number of teachers in schools with an academic stream oversupply of teachers who transfer to understaffed schools • Incentives to encourage teachers to accept deployment to understaffed schools	• Data from 2020 teacher transfers • Data on major incentives used by transferring teachers	• 20% increase of teachers accepting incentives to transfer	• 50% increase of teachers accepting incentives to transfer	• 80% increase of teachers accepting incentives to transfer
5.6	Updated Professional Standards (Code of Ethics) for teachers and school directors finalized, published, and implemented.	• Professional Standards (Code of Ethics) for teachers and school directors published and at least 5 copies available in every school	• Teacher Professional Standards (original) • School Director Professional Standards (original)	• 50% of teachers complying with professional standards as assessed by school directors • 50% of school directors complying with professional standards as assessed by supervisors	• 80% of teachers complying with professional standards as assessed by school directors • 100% of school directors complying with professional standards as assessed by supervisors	• 100% of teachers complying with professional standards as assessed by school directors • 100% of school directors complying with professional standards as assessed by supervisors
5.7	Teacher Performance and Development Standards (TPDS) prepared, trialed, published, and implemented. Results to inform CPD undertaken.	• Copies of Teacher Performance and Development Standards available in every secondary school • Appraisals included in TCPP on file	• TPDS prepared and trialed during 2021 by a task force identified for this role	• TPDS published and implemented across every secondary school	• TPDS implemented across all secondary schools and used for appraisal and for CPD needs	• TPDS implemented across all secondary schools and used for appraisal and for CPD needs
5.8	School Director Performance and Development Standards (SDPDS) prepared, trialed, published, and implemented.	• Copies of School Director Performance and Development Standards available in every secondary school • Appraisals included in TCPP on file	• SDPDS prepared and trialed during 2021 • SDPDS prepared and trialed during 2021	• SDPDS published and implemented across all secondary schools	• SDPDS implemented across all secondary schools and used for appraisal	• SDPDS implemented across all secondary schools and used for appraisal

CPD : Continuous Professional Development; **SPDS** : School Director Performance and Development Standards; **TPDS** : Teacher Performance and Development Standards.
PRESET : preservice teacher training; **TCPP** : Teacher Career Pathways Policy;

Source: Author generated from desk reviews, situation analyses, interviews and focus group discussions, and government and development partner consultation sessions.

Table 12: Priority 6—Continue the Systemic Emphasis on Improving Secondary Teacher Education

	Outcomes	Indicators	Projected Outputs			
			Baseline (2020)	Phase 1 (2021-2023)	Phase 2 (2024-2028)	Phase 3 (2029-2030)
6.1	The TEC model is expanded to all RTTCs.	• Increased number of RTTCs adopt the TEC model • NIE adopts the model	• Phnom Penh and Battambang TECs established	• NIE adopts the model	• Two additional TECs are formed	• Two additional TECs are formed
6.2	The PRESET approach, curriculum, and facilities are updated to align with modern teaching and learning practices.	• Revised PRESET curriculum published (includes more activity-based and outcomes-based teaching and learning methods as well as assessment strategies)	• PRESET	• Revised PRESET curriculum piloted with Year 1 students in selected TEIs in 2021 • Introduced as a new curriculum for Year 1 in 2022 and Year 2 in 2023	• Revised PRESET curriculum introduced as a new curriculum for Year 3 in 2024 and Year 4 in 2025 • New curriculum used in Years 1–4 in 2026/27	• PRESET curriculum reviewed and revised as required. • Quality of teaching and learning assessed for improvements as required.
6.3	Practicums that provide authentic experiences for student teachers are expanded and updated.	• Number of hours spent in authentic teaching situations in schools specified	• Task force established to review the placement of the practicum in each year of teacher training	• Enhanced practicum experiences provided for trainee teachers	• Enhanced practicum experiences provided for trainee teachers	• Enhanced practicum experiences provided for trainee teachers
6.4	Career pathways for teacher educators (benefits, working conditions, selection based on merit, CPD, and appraisal) implemented to attract high quality staff.	• Revised regulations for recruitment and contracting of teacher educators	• Task force established to review teacher educators' career pathways and benefits	• Revised career pathways implemented in all TEIs	• Revised career pathways implemented in all TEIs	• Revised career pathways implemented in all TEIs
6.5	Regulations strengthened to mandate appropriate academic qualifications of teacher educators (lecturers) and levels of required teaching experiences.	• New appointees to teacher training institutions have a higher degree and at least 3 years of teaching experience at secondary level	• N/A	• All new appointees to TEIs have a higher degree and at least 3 years of secondary teaching experience	• CPD provided for TEI lecturers on an annual basis	• CPD provided for TEI lecturers on an annual basis
6.6	TEI conduct follow up consultations with first-year teachers on the relevance of teacher training for secondary schools.	• Analysis of questionnaires and interview results conducted with beginning teachers disseminated to all TEIs	• N/A	• Questionnaire and Interviews trialed with beginning teachers during SY2020/21	• PRESET tracking is institutionalized on an annual basis	• PRESET tracking is institutionalized on an annual basis

	Outcomes	Indicators	Projected Outputs			
			Baseline (2020)	Phase 1 (2021-2023)	Phase 2 (2024-2028)	Phase 3 (2029-2030)
6.7	CPD is fully implemented throughout secondary schools.	• CPD Framework and Action Plan (CPDFA) activities carried out	• CPDFA approved; Department of Personnel to manage	• Pilot in target schools as per CPDFAP	• Implement in 50% of schools as per CPDFAP	• Implement in 100% of schools as per CPDFAP
6.8	Induction, coaching, and mentoring programs are established as a key component of CPD for new and current teachers.	• Designated mentor appointed in each secondary school • NGPRC mentoring model used in schools where NGPRC graduates are placed	• N/A	• All graduates use the NGPRC mentoring model in their respective schools	• Mentoring and coaching approach used in 50% of secondary schools	• Mentoring and coaching approach used in 100% of secondary schools
6.9	A broad-based ICT system that includes a dedicated training unit providing online CPD for all teachers, school directors, and teacher educators (lecturers) from both urban and rural areas is implemented	• A dedicated MOEYS unit to provide online CPD for all teachers, school directors, and teacher educators (lecturers) is established and linked with DIT and the Centre for Digital and Distance Education • Secure platform in place that permits dissemination of notes, submission of assignments, monitoring and assessment of participant teachers, school directors and teacher educators	• Set up special CPD unit to provide online CPD for teachers, school directors, and teacher educators (lecturers) • Tender for and purchase of a commercial platform undertaken • Local context to be built into the program	• At least 10 CPD programs designed for Cambodian context • Programs added to the CPD platform and trialed with selected schools	• Additional CPD programs designed and added to the platform for CPD according to need • Program implemented across all areas.	• Additional CPD programs designed and added to the platform for CPD according to need • Program implemented across all areas.
6.10	Partnerships are established amongst secondary schools with NGS-type and/or high-quality international schools improving classroom instruction and school leadership.	• School-based records with annual reporting to DGSE	• N/A	• 5% of secondary schools engage with NGS-type and and/or high-quality international schools	• 10% of secondary schools engage with NGS-type and and/or high-quality international schools	• 15% of secondary schools engage with NGS-type and and/or high-quality international schools

CPD : Continuous Professional Development; **NGRPC** : New Generation Pedagogical Research Centre; **PRESET** : preservice teacher training;
CPDFA : CPD Framework and Action Plan, **N/A** : Not available; **RTTC** : Regional Teacher Training Center;
DIT : Department of Information Technology; **NGS** : New Generation School; **TEC** : Teacher Education College;
DGSE : Department of General Secondary Education; **NIE** : National Institute of Education; **TEI** : teacher education institution.
ICT : information and communication technology;

Source: Author generated from desk reviews, situation analyses, interviews and focus group discussions, and government and development partner consultation sessions.

Table 13: Priority 7—Diversify and Strengthen Technical Secondary Education Outcomes to Meet Local Economic and Labor Market Needs

	Outcomes	Indicators	Projected Outputs			
			Baseline (2020)	Phase 1 (2021-2023)	Phase 2 (2024-2028)	Phase 3 (2029-2030)
7.1	Graduate students of GTHS have at least minimum levels of knowledge and technical skills to be employable in specified areas	• Numbers of technical graduates (including females) increase • Private sector satisfaction ratings increase over time	• 14 GTHS [2,103 students (37% female) SY2018/19]	• Private/public sector surveys • 20% of secondary students enrolled in GTHS	• Private/public sector surveys • 40% of secondary students enrolled in GTHS	• Private/public sector surveys • 60% of secondary students enrolled in GTHS
7.2	Module-based subjects and learning materials that are aligned with and responsive to local economic and labor market needs are introduced and implemented in the technical secondary education curriculum	• Labor market needs assessments collected annually that align with module topics • Private sector satisfaction ratings regarding relevance of GTHS curriculum increase over time • Lists of available subject modules published	• GTHS Master Plan (2015)	• At least 10 subject modules are implemented in the technical secondary education curriculum • Modules are evaluated and revised as necessary for further use	• Modules for Phase 1 repeated • 10 additional modules are developed and implemented as for Phase 1	• 20 modules implemented in the technical secondary education curriculum • Additional modules developed according to need
7.3	Technical secondary education teachers are qualified and competent to deliver quality instruction, demonstration, and assessment.	• Numbers of qualified instructors • Annual performance appraisals	• N/A	• 30% of technical instructors qualified	• 60% of technical instructors qualified	• 100% of technical instructors qualified
7.4	The existing GTHS network is strengthened with improved facilities, skilled management, and provision of dormitory accommodation for students living away from home.	• Numbers of GTHS (qualified staff, adequate facilities, and resources) • Provide well-managed dormitories for students living away from home.	• 14 GTHS • (SY2018/19)	• 14 GTHS have modern and relevant equipment and teaching staff upskilled with reference to digital learning • Dormitories constructed to meet national standards	• 2 additional GTHS added in areas of need; national standards for new facilities to be met • Dormitories constructed to meet national standards	• At least 16 GTHS upgraded with additional modern and relevant equipment, particularly with digital equipment • Dormitories constructed to meet national standards
7.5	Collaboration strengthened between technical secondary schools and MLVT TTI to facilitate flexible pathways between technical secondary education and certificate and diploma levels under the CQF's assessment and certification system	• Pathways devised to allow study within technical secondary schools and MLVT's technical training institutes to achieve qualifications at either certificate or diploma levels	• N/A	• 2 GTHS pilot access for students to local MLVT Technical Training Institutes • Percentage of GTHS students accessing TTI courses	• 8–10 GTHS collaborate with local MLVT TTIs • Percentage of GTHS students accessing TTI courses	• All GTHS collaborate with local MLVT TTIs • Percentage of GTHS students accessing TTI courses

	Outcomes	Indicators	Projected Outputs			
			Baseline (2020)	Phase 1 (2021-2023)	Phase 2 (2024-2028)	Phase 3 (2029-2030)
7.6	GTHS are provided with basic core technical equipment and in collaboration with polytechnic, tertiary technical institutes, and public and/or private enterprises and industry are further strengthened to deliver quality technical programs.	• VOD strengthened to supervise and support GTHS system • Adequate, modern equipment and materials present in GTHS	• N/A	• SBM implemented in 50% of GTHS	• SBM implemented in remaining 50% of GTHS	• All GTHS well managed and resourced
7.4	MLVT, industry partners, and HEI will implement collaborative programs with secondary schools to provide career orientation for students contemplating future technical options or academic study	• Schedules in secondary schools for career advisory programs for MLVT and HEI personnel	• N/A	• 50% of all SRS receive career advisory orientation programs for potential career pathways in either TTIs or HEIs	• 100% of all SRS receive career advisory orientation programs for potential career pathways in either TTIs or HEIs	• 100% of all SRS receive career advisory orientation programs for potential career pathways in either TTIs or HEIs
7.5	MLVT and industry partners will implement collaborative programs with secondary schools to allow for dual-learning programs between school and industry that may include on-the-job training experiences	• Memoranda of agreement between secondary schools and local industries to provide dual-learning on-the-job experiences combined with theoretical sessions in school	• N/A	• 20% of all SRS negotiate collaborative dual-learning programs where students move between local industry and school	• 50% of all SRS negotiate collaborative dual-learning programs where students move between local industry and school	• 80% of all SRS negotiate collaborative dual-learning programs where students move between local industry and school

GTHS : General and Technical High School; **SBM** : school-based management; **TTI** : technical training institute;
HEI : higher education institution; **SRS** : Secondary Resource School; **VOD** : Vocational Orientation Department.
MLVT : Ministry of Labor and Vocational Training; **SY** : school year;

Source: Author generated from desk reviews, situation analyses, interviews and focus group discussions, and government and development partner consultation sessions.

Table 14: Priority 8—Improve Secondary and Post-secondary Engagement

	Outcomes	Indicators	Projected Outputs			
			Baseline (2020)	Phase 1 (2021-2023)	Phase 2 (2024-2028)	Phase 3 (2029-2030)
8.1	Secondary students are informed of available programs offered through NFE (re-entry, bridging, literacy)	• Counselling services in secondary schools inform students about NFE programs	• NFE materials available to secondary school career counsellors	• Early school leavers and students at risk of leaving are informed of NFE options	• Early school leavers and students at risk of leaving are informed of NFE options	• Early school leavers and students at risk of leaving are informed of NFE options
8.2	Secondary schools engage with local businesses to create educational and job opportunities for students (career orientation, work experience, job-site visits, guest speakers, apprenticeships, etc.)	• SRS network engages with TTIs and local businesses to raise awareness of career opportunities	• The SRS network (n=216) engages with TTIs and local businesses	• 50% of SRS engage with business partnership networks to provide work experience	• 80% of SRS engage with business partnership networks to provide work experience	• 100% of SRS engage with business partnership networks to provide work experience
8.3	HEIs and secondary schools collaborate annually to ensure their respective programs are shared, that there is relevance and continuity between programs, and that transfer paths from secondary to post-secondary education and training are understood.	• Schedules in secondary schools for HEIs to offer career advisory outreach programs • Links are formed to bridge the knowledge gap between secondary and higher education for both students and teachers (particularly in STEM subjects)	• HEI outreach programs developed within public relations departments	• 50% of all secondary schools experience HEI outreach programs	• 100% of all secondary schools experience HEI outreach programs	• 100% of all secondary schools experience HEI outreach programs

HEI : higher education institution; **NFE** : nonformal education; **SRS** : Secondary Resource School; **STEM** : Science, Technology, Engineering and Mathematics; **TTI** : technical training institute.

Source: Author generated from desk reviews, situation analyses, interviews and focus group discussions, and government and development partner consultation sessions.

11. Long-term Expenditure Framework

The budget requirements needed up to 2030 to support the activities described in this blueprint and to achieve certain minimum service standards for secondary education depends crucially on the level of enrollment growth over the period.

In the supplementary document, *Long-term Expenditure Framework for Secondary Education in Cambodia* (LTEF document), three alternative funding scenarios were considered.[110] In the Low target scenario, it is assumed recent historical trends will continue up to 2030, resulting in the Low target scenario GERs of 62.3% in lower secondary education (LSE) and 35.5% in upper secondary education (USE) by 2030. The Medium target scenario uses GER targets in LSE and USE set at the original target levels for 2023 in the ESP 2019–2023 of 66.7% in LSE and 38% in USE by 2030. Finally, the High target scenario sets GER targets higher at 71.7% in LSE (5 percentage points higher compared to Medium target scenario) and 50% in USE (12 percentage points higher compared to Medium target scenario).

The resource and budgetary requirements needed to support the Medium target scenario are presented below. Achieving the Medium GER target in LSE by 2030 requires an average annual enrollment growth of 2.9%, and in USE requires an average annual enrollment growth of 4.0%. As of now, there is no official set of minimum service standards for secondary education in Cambodia. For this exercise, the service standards contained in Table 7 of the LTEF document were used. CAMSEB activities listed in Table 8 of the same document are also costed. For unit pricing, the information presented in Table 9 of the same document were used, which are estimates gathered from different sources. The assumption is made that starting from the baseline prices in 2021, unit prices are increasing at an annual rate of 3.2%.

Including the existing shortages as of school-year 2019-2020, this level of enrollment growth requires the construction of 13,592 new classrooms and the hiring of 50,918 additional secondary teachers by 2030. The increase in number of students, classes/classrooms, and teachers have a follow-on impact on the number of personal computer labs, the number of science equipment sets, the number of Technical/ Vocational (Tech/Voc) equipment sets, the number of textbooks, and the number of student seats that have to be purchased, as well as the number of teachers that have to be trained, to meet the specified service standards.

The estimate of the resource requirements (in terms of additional units of each item) is given in Table 15. [111] The estimate of the budgetary requirements (in USD) is given in Table 16. The estimated annual cost is increasing over time, from USD74.5 million in 2021 to USD423.1 million in 2030. In terms of share to projected GDP, the estimated budgetary requirements range from 0.3% of GDP in 2021 to 0.6% of GDP in 2030. The estimated total cost from 2021 to 2030 in current terms is USD 2.3 billion and in 2021 prices is USD 1.9 billion. [112]

Note that while the costs seem substantial, it can be accommodated within the *Cambodia SDG 4 Education Roadmap 2030* target of increasing the share of the total education budget from a little over 3% of GDP currently to 4%–6% of GDP by 2030.

[110] G. Ducanes and D. Mao. 2020. *Long-term Expenditure Framework for Secondary Education in Cambodia.* Phnom Penh: Asian Development Bank.
[111] It was assumed that the teacher and classroom deficits are to be filled by hiring an equal number of teachers every year. Of course, alternative configurations are possible, such as backloading (hiring more teachers and building more classrooms closer to 2030) or frontloading (hiring more teachers and building more classrooms closer to 2021).
[112] For the Low target scenario, the estimated budgetary requirements range from 0.2% of GDP to 0.5% of GDP during the period, with total cost from 2021 to 2030 in terms of current dollars estimated at $2.06 billion, and in terms of 2021 prices estimated at $1.72 billion. For the High target scenario, the estimated budgetary requirements range from 0.3% of GDP to 0.8% of GDP during the period, with total cost from 2021 to 2030 in terms of current dollars estimated at $3.02 billion, and in terms of 2021 prices estimated at $2.51 billion.

Table 15: Resource Requirements to Meet Minimum Service Standards and/or Targets and Undertake CAMSEB 2030 Activities

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
Lower secondary											
New teacher items	2,351	2,351	2,351	2,351	2,351	2,351	2,351	2,351	2,351	2,351	23,507
Classroom construction	681	681	681	681	681	681	681	681	681	681	6,808
Furniture sets	681	681	681	681	681	681	681	681	681	681	6,808
Textbooks	3,826,980	3,941,784	4,058,244	4,176,348	4,296,096	4,417,488	4,540,524	4,665,216	4,791,552	4,919,532	43,633,764
Washrooms											
PC Lab	256	256	256	256	256	256	256	256	256	256	2,560
Math/Science equipment set	342	342	342	342	342	342	342	342	342	342	3,420
Tech/Voc equipment set	342	342	342	342	342	342	342	342	342	342	3,420
PRESET # of teachers to train	2,351	2,351	2,351	2,351	2,351	2,351	2,351	2,351	2,351	2,351	23,507
INSET # of teachers to train	6,018	6,488	6,958	7,428	7,898	8,368	8,839	9,309	9,779	10,249	81,334
Upper secondary											
New teacher items	2,741	2,741	2,741	2,741	2,741	2,741	2,741	2,741	2,741	2,741	27,411
Classroom construction	678	678	678	678	678	678	678	678	678	678	6,784
Furniture sets	678	678	678	678	678	678	678	678	678	678	6,784
Textbooks	2,098,140	2,189,628	2,282,736	2,377,464	2,473,812	2,571,792	2,671,380	2,772,600	2,875,440	2,979,900	25,292,892
Washrooms											
PC Lab	284	284	284	284	284	284	284	284	284	284	2,840
Math/Science equipment set	237	237	237	237	237	237	237	237	237	237	2,370
Tech/Voc equipment set	237	237	237	237	237	237	237	237	237	237	2,370
PRESET # of teachers to train	2,741	2,741	2,741	2,741	2,741	2,741	2,741	2,741	2,741	2,741	27,411
INSET # of teachers to train	3,580	4,128	4,676	5,225	5,773	6,321	6,869	7,418	7,966	8,514	60,470
CAMSEB Activities +											
Secondary Resource Schools establishment	0	0	0	0	0	0	0	0	5	5	10
New Generation Schools establishment	0	0	0	2	2	2	2	2	2	2	14
Segregated toilets with year-round water supply	358	358	358	72	72	72	72	72	179	179	1,792

Foreign language teacher items in SRS	24	24	24	20	20	20	20	20	60	60	292
Equipment set for GTHS	4	5	5	0	1	0	1	0	1	1	18
Dormitory construction	1	2	2	1	1	1	1	1	2	2	14
Teacher Education Center construction	0	0	0	0	1	0	1	0	1	1	4

GTHS : General and Technical High School; **PC** : personal computer; **SRS** : Secondary Resource School;
INSET : inservice teacher training; **PRESET** : preservice teacher training; **Tech/Voc** : Technical/Vocational;

Source; Authors' computations based on various data sources (ESP 2019-2023, Cambodia SDG4 Education Roadmap 2030, and CAMSEB 2030 projections).

Table 16: Budgetary Requirements to Meet Minimum Service Standards and Finance CAMSEB 2030 Activities ($ million)

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total (in current USD million)	Total (in 2021 USD million)
Lower secondary												
New teacher items	11.3	23.3	36.1	49.7	49.7	79.4	95.6	112.8	131.0	150.3	753.5	620.6
Classroom construction	6.8	7.0	7.3	7.5	7.5	8.0	8.2	8.5	8.8	9.1	78.9	68.1
Furniture sets	2.1	2.2	2.2	2.3	2.3	2.5	2.6	2.6	2.7	2.8	24.5	21.1
Textbooks	3.8	4.1	4.3	4.6	4.6	5.2	5.5	5.8	6.2	6.6	50.9	43.6
Washrooms												
PC Lab	3.3	3.4	3.5	3.7	3.7	3.9	4.0	4.2	4.3	4.4	38.6	33.3
Math/Science equipment set	3.4	3.5	3.6	3.8	3.8	4.0	4.1	4.3	4.4	4.6	39.6	34.2
Tech/Voc equipment set	2.4	2.5	2.6	2.6	2.6	2.8	2.9	3.0	3.1	3.2	27.7	23.9
PRESET # of teachers to train	0.7	0.7	0.8	0.8	0.8	0.8	0.9	0.9	0.9	1.0	8.3	7.2
INSET # of teachers to train	1.8	2.0	2.3	2.5	2.5	3.0	3.3	3.5	3.8	4.2	29.2	24.8
Upper secondary												
New teacher items	13.2	27.2	42.1	57.9	57.9	92.6	111.5	131.5	152.8	175.2	878.6	723.6
Classroom construction	6.8	7.0	7.2	7.5	7.5	8.0	8.2	8.5	8.8	9.0	78.6	67.8
Furniture sets	2.1	2.2	2.2	2.3	2.3	2.5	2.5	2.6	2.7	2.8	24.4	21.0
Textbooks	2.1	2.3	2.4	2.6	2.6	3.0	3.2	3.5	3.7	4.0	29.6	25.3
Washrooms												

PC Lab	3.7	3.8	3.9	4.1	4.1	4.3	4.5	4.6	4.8	4.9	42.8	36.9
Math/Science equipment set	2.4	2.4	2.5	2.6	2.6	2.8	2.9	3.0	3.1	3.2	27.5	23.7
Tech/Voc equipment set	1.7	1.7	1.8	1.8	1.8	1.9	2.0	2.1	2.1	2.2	19.2	16.6
PRESET # of teachers to train	0.8	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.1	1.1	9.7	8.4
INSET # of teachers to train	1.1	1.3	1.5	1.8	1.8	2.3	2.5	2.8	3.1	3.5	21.9	18.4
CAMSEB Activities +												
Secondary Resource Schools establishment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	2.9	5.6	4.3
New Generation Schools establishment	0.0	0.0	0.0	0.7	0.7	0.7	0.7	0.7	0.8	0.8	5.1	4.2
Segregated toilets with year-round water supply	1.8	1.8	1.9	0.4	0.4	0.4	0.4	0.4	1.2	1.2	10.0	9.0
Foreign language teacher items in SRS	0.1	0.2	0.4	0.5	0.5	0.7	0.9	1.0	1.4	1.9	7.8	6.4
Equipment set for GTHS	0.8	1.0	1.1	0.0	0.0	0.0	0.2	0.0	0.3	0.3	3.9	3.6
Dormitory construction	0.3	0.6	0.6	0.3	0.3	0.4	0.4	0.4	0.8	0.8	4.9	4.2
Teacher Education Center construction	0.0	0.0	0.0	0.0	0.0	0.0	18.2	0.0	19.4	20.0	74.5	60.0
Others (curriculum, review and rollout, review and revision of standards, etc.)	2.0	2.1	2.1	2.2	2.2	2.3	2.4	2.5	2.6	2.7	23.2	20.0
Total	74.5	103.3	133.4	162.9	162.9	232.4	288.7	310.4	376.5	422.3	2,318.5	1,930.3
as % of GDP	0.3%	0.3%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.6%	0.6%		

GTHS : General and Technical High School; **PC** : personal computer; **SRS** : Secondary Resource School;
INSET : inservice teacher training; **PRESET** : preservice teacher training; **Tech/Voc** : Technical/Vocational;

Source; Authors' computations based on various data sources (ESP 2019-2023, MOEYS current unit costs and expenditures, and regional minimum service standards).

12. Monitoring and Evaluation Framework

Results Chain	No.	Performance Indicators	Baseline 2019–2020	Target 2023	Target 2028	Target 2030	Data Sources and Reporting Mechanisms
Effectiveness of the secondary system improved	1	Primary completion rate	83.3%	86%	90%	91%	MOEYS EMIS (annual)
	2	Primary transition rate	81.5%	89%	N/A	N/A	
	3	LSE gross enrollment rate (GER)	56.6% (61.6%)	66.7%	N/A	66.7%	
	4	LSE early school leaving rate (drop out)	18.6% (17.4%)	9%	N/A	N/A	
	5	LSE completion rate	44.5% (49.5%)	53%	59%	61%	
	6	LSE transition rate	70.8%	86%	N/A	N/A	
	7	USE GER	28.9% (32.9%)	38%	N/A	38%	
	8	USE early school leaving rate	16.9% (14.8%)		N/A	N/A	
	9	USE completion rate	24.2% (27.3%)	33%	41%	45%	
Student access improved	11	LSE student enrollment	618,968 (325,504)	715,621	806,895	846,227	
	12	USE student enrollment	334,712 (183,394)	401,662	486,849	523,862	
	13	LSE Gender Parity Index	1.19	N/A	N/A	N/A	
	14	USE Gender Parity Index	1.31	N/A	N/A	N/A	
	15	LSE schools	1,247	N/A	N/A	N/A	
	16	LSE schools (urban/rural)	120/1,127	N/A	N/A	N/A	
	17	USE schools	544	N/A	N/A	N/A	
	18	USE schools (urban/rural)	108/436	N/A	N/A	N/A	
	19	Secondary Resource Schools	36	50		60	DGSE
	20	New Generation Schools	11	20+		25+	DGSE
	21	General and Technical High Schools	14	16		16+	VOD
Qualified teacher cohort increased	22	LSE teachers	27,738 (12,451)	28,484	28,542	28,564	EMIS
	23	LSE teachers qualified to national standards	34.5% (2018)	52%	65%	70%	TTD
	24	USE teachers	15,159 (5,524)	13,775	13,800	13,810	EMIS
	25	USE teachers qualified to national standards	98% (2018)	98.5%	98.9%	99%	TTD
	26	LSE teacher-student ratio	22.3	N/A	N/A	N/A	EMIS
	27	USE teacher-student ratio	22.1	N/A	N/A	N/A	
	28	LSE student-class ratio	45.2	N/A	N/A	N/A	
	29	USE student-class ratio	45.2	N/A	N/A	N/A	
School facilities improved	30	LSS with basic water, handwashing, and sanitation	33% (2018)	48%	57%	60%	DGSE
	31	USS with basic water, handwashing, and sanitation	59.4% (2018)	75%	86%	90%	DGSE
	32	Secondary schools with access to electricity, internet, and computers for pedagogical purposes	62.4% (2018)	80%	93%	98%	DGSE
	33	Secondary schools with adapted infrastructure and materials for students with disabilities	N/A	N/A	N/A	N/A	DGSE
Post-secondary participation improved	34	Higher education GER	11.6% (2018)	17%	23%	25%	DHE, TVET,NFE
	35	TVET participation rate (15–24-year-old)	0.03% (2016)	19%	30%	35%	
	36	Adult literacy rate (15+ yo)	82.5% (2018)	88%	93&	96%	

DGSE : Department of General Secondary Education;
GER : gross enrollment rate;
LSE : lower secondary education;
TVET : Technical and Vocational Education and Training;
USE = upper secondary education;
VOD = Vocational Orientation Department.

Note: N/A indicates no targets set as of 2020/21 and will be updated during CAMSEB 2030 Mid-Term Reviews and ESP 2024–2028.

Sources: MOEYS. 2019. *Education Strategic Plan 2019–2023.* Phnom Penh; MOEYS. 2019. Cambodia SDG4 Education Roadmap 2030.

Appendix 1. Existing Secondary Resource Schools (36)

Table A1. 1: Cambodia—Location of Secondary Resource Schools

Name of SRS	Province
Angkor	Siem Reap
Bavel	Battambang
Chbar Ampov	Phnom Penh
Chea Sim Takeo	Takeo
Chea Sim Tbeng Meanchey	Preah Vihear
Chub Vary	Banteay Meanchey
Hun Sen Balang	Kampong Thom
Hun Sen Chamkardoung	Kep
Hun Sen Chhouk	Kampot
Hun Sen Chumpouvoan	Phnom Penh
Hun Sen Kampong Popil	Prey Veng
Hun Sen Klakon	Banteay Meanchey
Hun Sen Mondulkiri	Mondulkiri
Hun Sen Oddor Meanchey	Odder Meanchey
Hun Sen Sereipheap	Kandal
Hun Sen Soung	Tbong Khmum
Kampong Speu	Kampong Speu
Kampong Thmor	Kampong Thom
Koh Kong	Koh Kong
Kralanh	Siem Reap
Kratie Krong	Kratie
Krong Preah Sihanouk	Sihanouk Ville
Krong Tepnimith	Pailin
Neth Yang	Battambang
Prasoth	Svay Rieng
Preah Ang Doung	Prey Veng
Preah Bath Soramarith	Kampong Chhnang
Preah Bochinikech	Steung Treng
Preah Reach Somphea	Kampot
Preah Sihanouk	Kampong Cham
Pursat	Pursat
Roveang	Preah Vihear
Samdech Ouv	Takeo
Samdech Ouv Samdech Mae	Ratanakiri
Svay Rieng	Svay Rieng
Tep Pranam	Kandal

Source: MOEYS. 2020. Education Management Information System 2019-2020. Phnom Penh.

Appendix 2. Projected Secondary Resource Schools (14)

Table A2. 1: Cambodia—Projected Secondary Resource Schools

Name of SRS	Province
Anglong Veng	Oddar Meanchey
Boribo	Kampong Chhnang
Krakor	Pursat
Kampong Thom	Kampong Thom
Koh Thom	Kandal
Oudong	Kampong Speu
O'Reang Ov	Tbong Khmum
Peam Ror	Prey Veng
Phnom Sampoeuv	Battambang
Poipet	Banteay Meanchey
Samphak Borak	Kratie
Skun	Kampong Cham
Sre Ambel	Koh Kong
Veal Rinh	Preah Sihanouk

Source; ADB. 2018. *Second Upper Secondary Education Sector Development Project.* Manila: Asian Development Bank.

Appendix 3. Provincial and Vocational Training and Job Centers (MLVT)

Table A3. 1: Cambodia—Location of Provincial Training and Job Centers

Polytechnic Institute/PTC (39)	Province (25)
Polytechnic Institute (1)	Banteay Meanchey
Polytechnic Institute/PTC (3)	Battambang
Polytechnic Institute (1)	Kampong Cham
PTC (1)	Kampong Chhnang
PTC (1)	Kampong Speu
Polytechnic Institute (1)	Kampong Thom
Polytechnic Institute/VTC (2)	Kampot
PTC (1)	Kandal
PTC (1)	Kep
PTC (1)	Koh Kong
PTC (1)	Kratie
PTC (1)	Oddar Meanchey
Polytechnic Institute (8)	Phnom Penh
Polytechnic Institute (2)	Preah Sihanouk
PTC/VTC (2)	Preah Vihear
PTC (1)	Prey Veng
Polytechnic Institute/VTC (2)	Pursat
Polytechnic Institute (2)	Siem Reap
PTC (1)	Tbong Khmum
PTC (1)	Mondulkiri
PTC (1)	Ratanakiri
PTC (1)	Stung Treng
PTC (1)	Pailin
Polytechnic Institute (1)	Svay Rieng
Polytechnic Institute (1)	Takeo

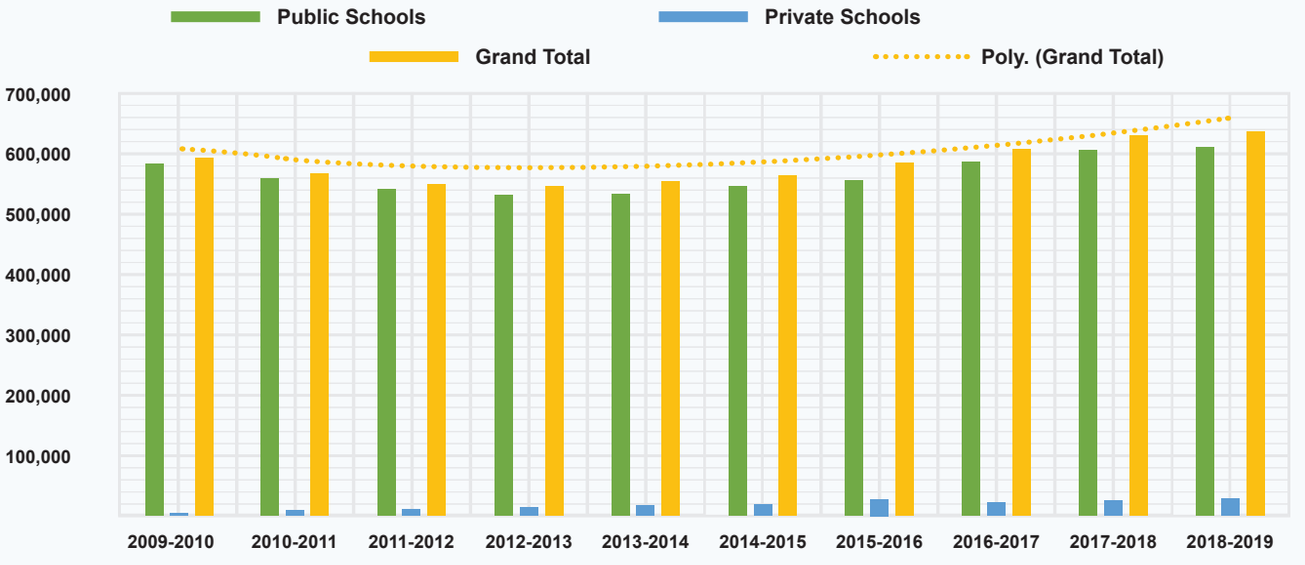
Source: Department of TVET Innovation. 2020. Management Information System. Phnom Penh: Ministry of Labor and Vocational Training.

Appendix 4. Student Enrollment in Public and Private Schools

Table A4. 1: Cambodia—Student Enrollment, SY2009/10–SY2018/19

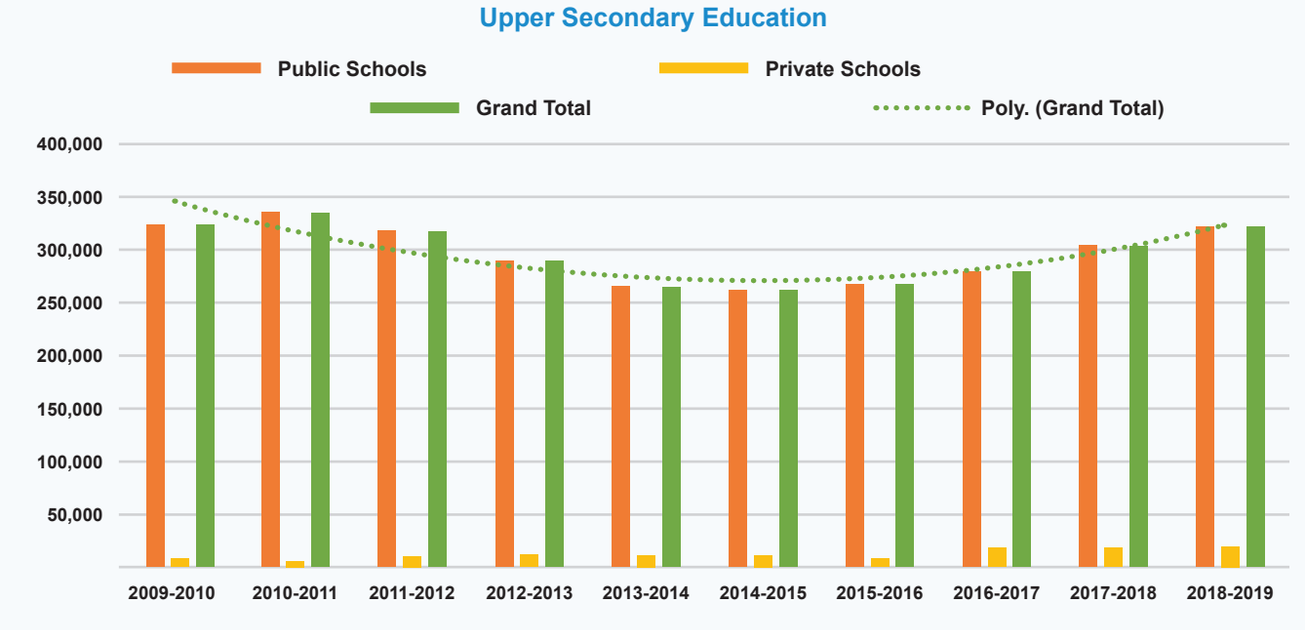
Education level	Primary School						Lower Secondary School						Upper Secondary School					
	Public		Private		Grand total		Public		Private		Grand total		Public		Private		Grand total	
School Year	Total	F	Total	F	Total	F	Total	F	Total	F	Total	F	Total	F	Total	F	Total	F
2009/10	2,240,651	1,070,093	31,876	15,863	2,272,527	1,085,956	585,115	297,527	8,963	4,166	594,078	301,693	323,583	140,883	8,127	3,810	331,710	144,693
2010/11	2,191,192	1,043,382	33,075	16,284	2,224,267	1,059,666	560,868	270,458	8,057	3,746	568,925	274,204	334,734	150,472	5,574	2,534	340,308	153,006
2011/12	2,142,464	1,021,591	45,537	23,061	2,188,001	1,044,652	541,147	263,593	10,163	4,860	551,310	268,453	318,165	145,517	9,159	4,291	327,324	149,808
2012/13	2,173,384	1,022,983	52,630	26,149	2,226,014	1,049,132	534,710	263,369	14,306	6,858	549,016	270,227	288,789	134,608	11,325	5,321	300,114	139,929
2013/14	2,073,811	994,989	54,874	27,537	2,128,685	1,022,526	538,626	267,773	17,341	8,235	555,967	276,008	266,293	127,037	12,079	5,739	278,372	132,776
2014/15	2,012,175	970,999	73,794	36,686	2,085,969	1,007,685	546,675	275,137	18,608	9,053	565,283	284,190	262,258	128,697	11,947	5,733	274,205	134,430
2015/16	2,010,673	971,812	95,230	46,853	2,105,903	1,018,665	558,464	285,399	28,235	13,797	586,699	299,196	266,606	133,736	8,691	4,198	275,297	137,934
2016/17	2,022,061	974,231	89,570	44,095	2,111,631	1,018,326	586,042	303,654	22,984	11,371	609,026	315,025	279,409	143,451	17,244	8,322	296,653	151,773
2017/18	2,028,694	975,563	111,798	55,094	2,140,492	1,030,657	605,097	314,663	25,928	12,492	631,025	327,155	303,969	159,225	18,107	8,744	322,076	167,969
2018/19	2,040,257	978,800	122,886	61,136	2,163,143	1,039,936	610,261	318,897	28,451	14,139	638,712	333,036	321,145	171,494	18,702	9,456	339,847	180,950

Figure A4. 1: Lower Secondary Education



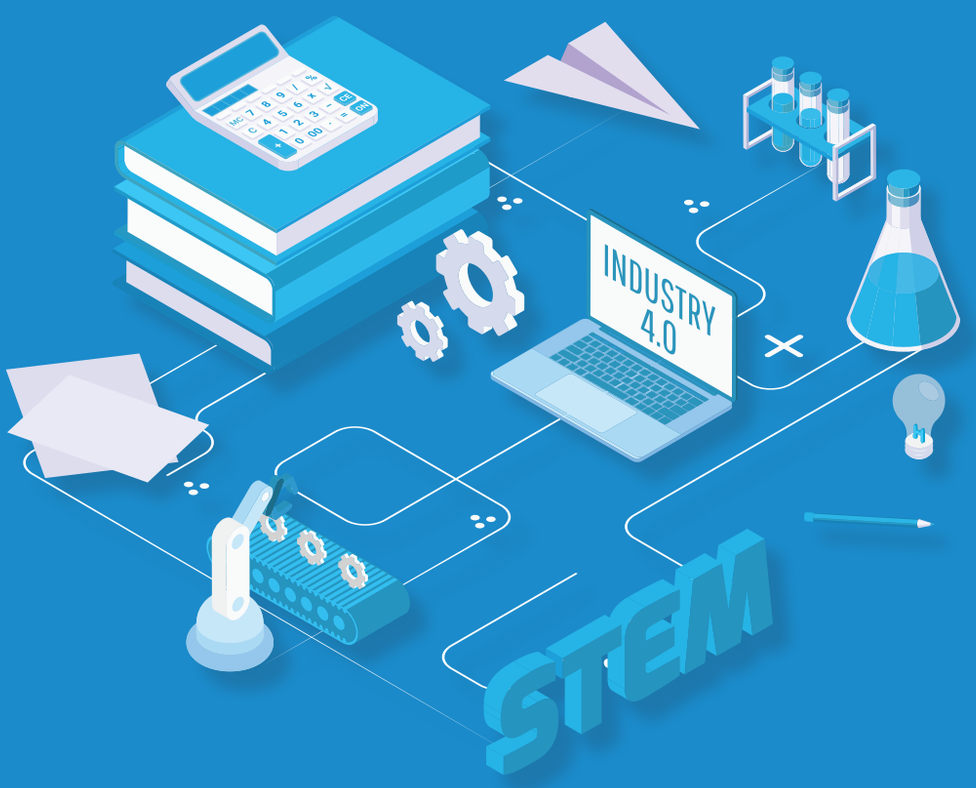
Source: MOEYS. 2020. *Education Management Information System 2019-2020.* Phnom Penh.

Figure A4. 2: Upper Secondary Education



Source: MOEYS. 2020. *Education Management Information System 2019-2020.* Phnom Penh.

CAMBODIA SECONDARY EDUCATION BLUEPRINT 2030


INDUSTRY
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