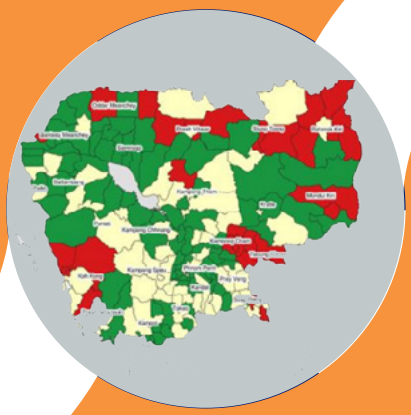
GPE KIX EAP HUB

KNOWLEDGE INNOVATION EXCHANGE



ANALYSIS OF GENDER PARITY IN LOWER-SECONDARY EDUCATION USING GEOSPATIAL DATA: A CASE STUDY OF CAMBODIA

Onn Sivutha
Khlok Vira
Neth Sorphorn
Chan Sophon
Nuom Sokhon
Sieng Virak

IDRC · CRDI
International Development Research Centre
Centre de recherches pour le développement international
Canada

GPE Transforming Education

In partnership with
United Nations Educational, Scientific and Cultural Organization
International Institute for Educational Planning

Hosted by NORRAG and IHEID
NORRAG
Network for international policies and cooperation in education and training
Réseau sur les politiques et la coopération internationales en éducation et en formation
GRADUATE INSTITUTE GENEVA
INSTITUT DE HAUTES ETUDES INTERNATIONALES ET DU DÉVELOPPEMENT
GRADUATE INSTITUTE OF INTERNATIONAL AND DEVELOPMENT STUDIES

ABOUT NORRAG

NORRAG is a global membership-based network of international policies and cooperation in education and training. In 1977 the Research Review and Advisory Group (RRAG) was established, which then founded several regional RRAGs, one of which became NORRAG in 1986. NORRAG's core mandate and strength are to produce, disseminate and broker critical knowledge and to build capacity for and with academia, governments, NGOs, international organizations, foundations and the private sector who inform and shape education policies and practice, at national and international levels. By doing so, NORRAG contributes to creating the conditions for more participatory, evidence-informed decisions that improve equal access to and quality of education and training.

NORRAG is an associate programme of the Graduate Institute of International and Development Studies, Geneva. More information about NORRAG, including its scope of work and thematic areas, is available at www.norrag.org

@norrag norrag.network vimeo.com/norrag

ABOUT THE KIX EAP HUB

The Global Partnership for Education (GPE) Knowledge and Innovation Exchange (KIX) is a joint endeavour with the International Development Research Centre (IDRC) to connect expertise, innovation, and knowledge to help GPE partner countries build stronger education systems and accelerate progress toward SDG 4. There are globally four KIX hubs or Regional Learning Partners, overseen by IDRC. The hub functions as a regional forum within KIX. NORRAG (Network for International Policies and Cooperation in Education and Training) is the Regional Learning Partner for the KIX Europe Asia Pacific (EAP) hub.

The KIX EAP hub facilitates cross-country knowledge and innovation exchange and mobilisation, learning, synthesis, and collaboration among national education stakeholders in 21 GPE partner countries in the EAP region.. The hub also offers opportunities for peer learning and exchange by means of professional development and inter-country visits.

@KIXEAP gpekix.org/regional-hub/kix-eap norrag.org/kix-eap

ABOUT UNESCO INTERNATIONAL INSTITUTE FOR EDUCATIONAL PLANNING (IIEP)

Established in 1963 within UNESCO, the International Institute for Educational Planning (IIEP) develops and strengthens the capacities of educational planners and managers through professional development programmes, technical cooperation, policy research, and knowledge sharing. IIEP's vision is rooted in the understanding that education is a basic human right and thus, its mission consists of contributing to the expansion of quality education, to provide equitable and relevant learning opportunities to all.

iiep.unesco.org

ABOUT THE KIX EAP LEARNING CYCLES

The KIX EAP Learning Cycles are professional development courses offered to national education experts from 21 GPE partner countries in the Europe | Asia | Pacific (EAP) region. Teams of national experts analyse, contextualise, and produce new knowledge on policy analysis and innovations. These professional development courses allow participants to share experiences, exchange knowledge, and contribute to the strengthening of their national education systems. The learning cycles are also an opportunity for national experts to publish their studies and findings internationally, and disseminate them on diverse online platforms, with support from the KIX EAP hub.

ABOUT THE LEARNING CYCLE ON EQUITABLE ACCESS TO EDUCATION WITH GEOSPATIAL DATA

This case study is a result of the KIX EAP Learning Cycle "Equitable access to education with geospatial data". Organised by NORRAG and the UNESCO International Institute for Educational Planning (IIEP), this professional development course ran from 15 June to 16 July 2021. Across 5 weeks, this Learning Cycle enabled participants to apply basic mapping techniques on a geographic information system (QGIS), understand the geospatial dimension of educational planning and management, and challenge the different aspects of equitable access to education by harnessing the power of geospatial data in their daily work. 10 national teams from Afghanistan, Bangladesh, Bhutan, Cambodia, Kyrgyz Republic, Maldives, Moldova, Pakistan, Papua New Guinea, and Sudan took part in this Learning Cycle.

KIX EAP Learning Cycle Case Study, February 2022

The KIX EAP Hub is supported by

Photo by the Cambodian Team in collaboration with IIEP-UNESCO team

KIX EAP Hub / NORRAG
20, Rue Rothschild
P.O. Box 1672 1211 Geneva 1
Switzerland
norrag.kix@graduateinstitute.ch

This case study is a product of the KIX EAP Learning Cycle: Equitable Access to Education with Geospatial Data with external contributions. This work was supported by the Global Partnership for Education (GPE) Knowledge and Innovation Exchange (KIX), a joint endeavour with the International Development Research Centre (IDRC), Canada. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of the KIX EAP Hub, NORRAG, GPE, IDRC, its Board of Governors, or the governments they represent. The KIX EAP hub / NORRAG does not guarantee the accuracy of the data included in this work.

A BIOGRAPHICAL NOTE ON THE AUTHORS

Mr. Sokhon Nuom is Education Officer at the UNICEF Cambodia country office. Previously, he worked with the United Nations' World Food Programme (WFP) as a School Feeding Programme Officer for three years. He also worked as a training management specialist with the Japan International Cooperation Agency (JICA) for two years. He holds a master's degree in Public Administration (MPA) from the National Graduate Institute for Policy Studies (GRIPS) in Japan. He is a Secretariat Member of the CDPF Steering Committee. Additionally, Sokhon serves as Secretary General of the Cambodian Political Scientist Community (CPSC) and as an honorary advisor to the vice-chair of the National Assembly of Cambodia, equivalent to the Secretary of State. Sokhon has broad experience and expertise in public administration reform, capacity development related to education management, teacher development, school reform, food security, social protection, gender and agricultural community development.

Mr. Sophon Chan is Head of Office at the Department of Educational Management Information System (EMIS), MoEYS Cambodia. He has a Master of Business Administration (MBA) degree from the National University of Management. He has been working for EMIS/ MoEYS since 2011 and has attended IIEP Educational Planning training in Paris, France. In the past, he attended Kobe University's Graduate School of International Cooperation Studies (GSICS) and the Japan International Cooperation Agency's (JICA) training on 'Education Finance and Administration: Focused on Basic Education Quality, Internal Efficiency, and Equity'.

Mr. Sorphorn Neth is Technical Official of Education Planning at the Department of Planning, Directorate General of Policy and Planning (DGPP), MoEYS. He has a bachelor's degree in Management Information Systems from the National University of Management (NUM) and a teaching degree in Information Technology, Management and Planning from the National Institute of Education in Phnom Penh, Cambodia. Sorphorn has over seven years' experience preparing the national education strategic plan (NESP) and coordinating the development of the provincial education strategic plan (PESP), the district education strategic plan (DESP) and other plans at both national and sub-national levels. He is also a member of a committee for accelerated funding to strengthen global partnerships for education's response to the COVID-19 pandemic and participates in implementing CDPF projects at MoEYS.

Mr. Virak Sieng is Technical Official of Education Planning at the Department of Planning, DGPP, MoEYS. He has Bachelor's Degree in Information Technology (IT) from the Royal University of Phnom Penh (RUPP) and a teaching degree in IT, Management and Planning from the National Institute of Education, Phnom Penh, Cambodia. In the past, he has participated in trainings and workshops on Education Policy and Planning at IIEP, Paris and supported in the preparation of Education Sector Plan. In addition to this, he participated in a workshop organised by UNESCO Bangkok and UNESCO-IIEP to update the country's education simulation modelling to help Cambodia accelerate efforts to meet its SDG commitments. Virak has over 7 years of experience in supporting national, sub-national, districts and schools with the development of annual operational plan.

Mr. Vira Khlok is Director of EMIS Department, MoEYS. He has a Masters of Economics in Science degree from Kharkov State University, Kharkiv, Ukraine. In the past, he participated in several trainings and workshops related to Information Technology offered by UNESCO Bangkok, macro-planning and school mapping with IIEP-UNESCO, and course on 'Education Finance and Administration: Focused on Basic Education Quality, Internal Efficiency, and Equity' offered by Kobe University's GSICS and JICA.

CONTENTS

Tables

Figures

LIST OF ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
CDC	Cambodian Development Council
CSDG	Cambodia Sustainable Development Goal
DEOs	District Education Offices
EMIS	Educational Management Information System
ESP	Education Strategic Plan
GDP	Gross Domestic Product
GER	Gross Enrolment Rate
GPE	Global Partnership for Education
GPI	Gender Parity Index
IIEP	International Institute for Education Planning
KIX	Knowledge and Innovation Exchange
KIX EAP	KIX Europe, Asia and the Pacific
LSE	Lower Secondary Education
MoEYS	Ministry of Education, Youth and Sports
NGO	Non-Governmental Organisation
NSDP	National Strategic Development Plan
POES	Provincial Education Departments
PTR	Pupil to Teacher Ratio
SDG	Sustainable Development Goal
SY	School Year
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WASH	Water, Sanitation and Hygiene
WB	World Bank
QGIS	Quantum Geographic Information System

ACKNOWLEDGEMENTS

The Cambodian learning cycle team, comprised of Mr. Onn Sivutha, Mr. Khlok Vira, Mr. Chann Sophon, Mr. Nuom Sokhon, Mr. Neth Sorphorn and Mr. Sieng Virak, would like to thank the IIEP-UNESCO course team: Amélie A. Gagnon, Senior Programme Specialist; Mr. Germán Vargas Mesa, Assistant Programme Specialist; and Ms. Özge Ozcan, Ms. Camilla Petrakis, Ms. Capucine Verstrete, Ms. Adreea Stanciu and Mr. Jacques Lecavalier, who dedicated their time and energy to training and supporting us in examining equity in education using geospatial data. This data was a useful tool for us in micro-education planning, most notably because it enabled us to identify disparities in the education field.

We extend special thanks to our colleagues from the KIX EAP Hub and the Global Partnership for Education (GPE), who funded this training. We particularly thank the taxpayers and contributors to the GPE fund.

Finally, we express our gratitude to our online supervisors. They recommended useful technical documents, relevant reports and other strategic documents that facilitated learning and helped us gather citations to develop this case study.

INTRODUCTION

Cambodia aims to achieve the status of an upper-middle income country by 2030 and a higher income country by 2050 (MoEYS, 2019a). To achieve this vision, Cambodia needs to become a knowledge-based, peaceful and democratic society with increased regional and international competitiveness.

According to Cambodia's Education Roadmap, by 2030, all girls and boys will complete nine years of free, inclusive, equitable and quality basic education and acquire functional literacy and numeracy skills, as well as subject knowledge and cognitive skills that will enable them to develop and reach their full potential (Ministry of Planning, 2020a).

This case study aims to analyse gender parity in access to education at the lower-secondary level using geospatial data and the QGIS software[1]. Thus, this study includes the following: (i) an overview of the Cambodian education system in the context of education equity; (ii) an overview of the demand and supply of education as a public good; (iii) an analysis of gender parity gaps at the district level, namely the third-lowest administrative tiers of the education administration system, by creating maps using geospatial data to visualise and interpret information; and (iv) the provision of policy recommendations to address gender gaps.

This analysis is important to understand equity in terms of access to education among female and male students and provide policy recommendations to address gender disparities and achieve more equitable access to education in Cambodia.

1 QGIS is a free and open-source cross-platform desktop geographic information system (GIS) application that supports the viewing, editing and analysis of geospatial data (Source: QGIS official website).

II

COUNTRY CONTEXT

1. Geographic Feature

Cambodia is the Kingdom of Wonder (Cambodia Travel News, 2011). It has a land area of 181,035 square kilometres and shares borders with Thailand, Vietnam, Laos and the Gulf of Thailand ('Geography of Cambodia', 2019). It is strategically located in the corridor of the Greater Mekong Sub-region. Cambodia enjoys a tropical climate and is dominated by monsoons, with temperatures ranging from 21 degrees Celsius to 36 degrees Celsius. It has two distinct seasons: the wet season (May–October) and the dry season (November–April). Cambodia has the largest freshwater resources in Southeast Asia, including the Tonle Sap, the Mekong River and the Bassac River. The Mekong River, the twelfth largest river in the world, transverses the country from north to south. In addition to this, Cambodia is rich in such natural resources as timber, gemstones, iron ore, manganese and phosphates. It also has unknown quantities of oil and gas in the offshore areas of its Great Lake. Cambodia is one of the most heavily forested countries in the region ('Geography of Cambodia', 2019). Finally, Cambodia has beautiful beaches, eco-friendly natural tourist destinations and thousands of historical ancient temples. Some of these temples are registered as UNESCO World Heritage sites.

2. Demographic and Social Feature

The population of Cambodia increased from 5.7 million in 1962 to 15.28 million in 2019. This total reported national population in 2019 did not include migrant workers (Ministry of Planning, 2020b). The annual growth rate declined from 3.43 percent between 1990 and 1995 to 1.2 percent in 2019. The sex ratio of the population is 95.2 males per 100 females, and the population density is 86 persons per square kilometre (Ministry of Planning, 2020b).

3. Administrative System

Cambodia is administratively divided into 25 provinces, with Phnom Penh as its capital. These provinces are further divided into 162 districts, 27 municipalities, 14 khan[2], 1,646 communes/sangkats and 14,372 villages across the country (ADB, n.d.).

2 In Phnom Penh, districts are called *khan* (ខណ្ឌ, *khăn*).

II

EDUCATION CONTEXT AND ROADMAP 2030

The 1993 National Constitution of Cambodia recognised the right to education for all, with the state taking responsibility for protecting citizens' right to quality education at all levels. Article 65 of the Constitution states: '*The State shall protect and update citizens' rights to quality education at all levels and shall take necessary steps for equal education to reach all citizens*' (Constitution of the Kingdom of Cambodia, 1993). Article 31 of Cambodia's Education Law, promulgated in December 2007, stipulates that every citizen has the right to at least nine years of free public education. The government of Cambodia subscribes to the notion that education is a basic human right, and as such, access to education plays a crucial role in the holistic development of its citizens (Education Law, 2007).

The Cambodian public education system consists of (i) three years of pre-school education; (ii) six years of primary education (grades 1 through 6); (iii) six years of secondary education, consisting of three years at the lower-secondary level (grades 7 to 9) and three years in upper-secondary (grades 10 to 12); (iv) four years of undergraduate education and (v) two years of master's education. The education system also includes informal education programmes, primarily focused on adult literacy and school equivalency. The country also has a range of technical, vocational and skills-oriented programmes that operate under the Ministry of Education, Youth and Sport and the Ministry of Labour and Vocational Training.

According to Cambodia's Education Roadmap 2030 and the country's Sustainable Development Goal 4, the Cambodian education system aims to achieve the following objectives:

(i) To inculcate and nurture a national consciousness and a sense of national pride by fostering common ideas, values and aspirations to forge a national unity and national identity while respecting diverse cultures, languages and identities;

(ii) To develop learners in a holistic and integrated manner who are physically, intellectually, emotionally, aesthetically and spiritually balanced;

(iii) To produce knowledgeable, skilful and competent human resources as required by the labour market for a diverse, knowledge-based economy that can compete globally and regionally; and

(iv) To prepare lifelong learners who can act effectively and responsibly at local, national, regional and global levels for a more peaceful, interconnected, interdependent and sustainable world (MoEYS, 2019a).

The hierarchy of administration and management of education consists of four levels: 1) the national or central level, 2) the provincial or capital level, 3) the district, municipal or khan level and 4) the educational institution or school level, as indicated in Article 7 of the National Education Law (Education Law, 2007). The education sector is managed by the Ministry of Education, Youth and Sports (MoEYS), which consists of six directorate generals, 34 technical departments, 25 provincial education departments (PoEs) and 203 district education offices (DEOs). The country has nearly 12,000 education institutions, comprising pre-schools, primary and secondary schools.

The Ministry is responsible for formulating, directing and monitoring education policies, plans and programmes. Provincial and municipal offices of education (POEs) are responsible for supporting the Ministry in implementing education policies and programmes, preparing and submitting plans for further education development, providing data and statistics and managing education staff. District Education Offices (DEOs) have a major role in ensuring the implementation of education policies and programmes. School directors prepare school development plans and annual plans and oversee the day-to-day operation of schools.

The MoEYS developed the Education Strategic Plan (ESP 2019–2023), for which the overarching goal is to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. The policy priority for lower-secondary education is for all girls and boys to have 'access to equitable and quality basic education with relevant and effective learning outcomes' (MoEYS, 2019b, p. 15). In accordance with

Target 4.1 of the Sustainable Development Goal (SDG) 4 – Education 2030, Cambodia proposes to increase completion rates at the lower-secondary level, as shown in Table 1 below:

Table 1: Key targets and benchmarks for lower-secondary education by 2030 (source: MoEYS, 2019a)

Indicator	Baseline	Benchmark for 2019–2023	Benchmark for 2024–2028	2030 Target
Lower-secondary completion rate	39% (2015)	50.8%	58.1%	61%

IV

DEMAND AND SUPPLY IN EDUCATION

This section of the case study explores the overall demand and supply of education at the lower-secondary level.

1. The Demand for Access to Education at the Lower-Secondary Level

The Kingdom of Cambodia envisions its students to be healthy, well-prepared and motivated learners who are committed to learning, regardless of their backgrounds, and who are provided with conducive learning environments. Students are to be supported by professionally competent and qualified teachers, as well as by their families and community members. When they graduate, they will be equipped with both hard and soft skills, sound moral judgement, emotional intelligence and a strong sense of national and global citizenship that will enable them to contribute to and actively participate in society.

Cambodia has made considerable progress in improving opportunities for all children to access education services and enhance their quality of learning. Good progress has been observed at the primary education level, yet challenges remain at the secondary level. Gender parity has been achieved for primary enrolment, with a net enrolment rate of approximately 98 percent and completion rate of roughly 80 percent (UNESCO Institute for Statistics, 2020). The enrolment ratio at the lower-secondary level also increased by 1.7 percent in the last five years (i.e., 2016- 2021) compared to the present 57.40 percent enrolment ratio (MoEYS, 2019b). However, gender gaps in the gross enrolment rates of lower-secondary schools are widening, with the gender parity index rising from 1.14 in school year (SY) 2016–2017 to 1.21 in SY 2020–2021. Drop- out rates rose from 17 percent in SY 2016–2017 to 19.6 percent in SY 2020–2021.

1.1 Mapping Out Gender Parity Index in Cambodian Districts

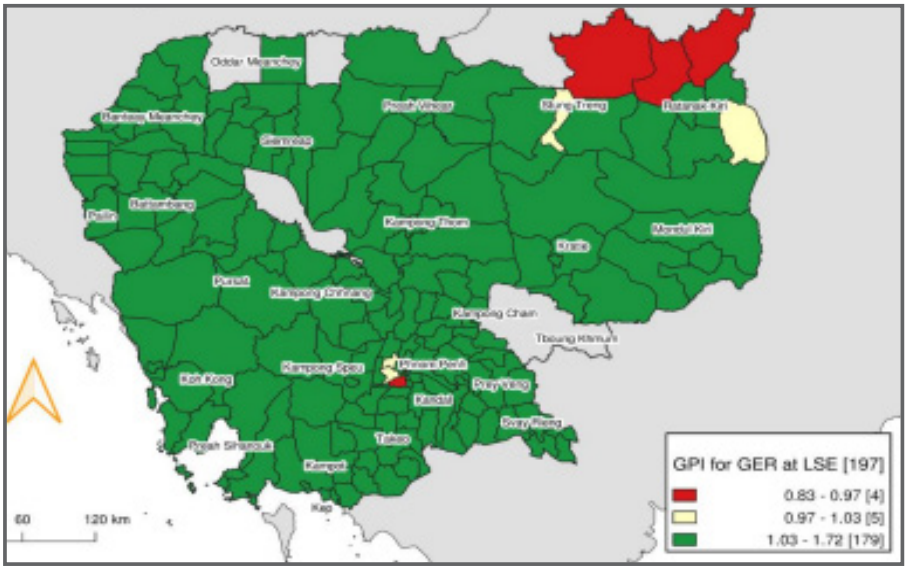
The gender parity index (GPI) is the ratio of female to male values of a given indicator (IIEP-UNESCO, n.d.). A GPI between 0.97 and 1.03 indicates parity between the genders. A GPI below 0.97 indicates a disparity in favour of males. A GPI above 1.03 indicates a disparity in favour of females.

The present study of GPI examines gender bias in access to education among female and male students and identifies the equitable access to education as 'equity'. This analysis of gender parity in access to education considers two dimensions: (i) gross enrolment rates and (ii) completion rates.

1.2 Gender Parity Index of Enrolment Rates at the District level

In Figure 1 below, the map shows the district distribution of the GPI lower-secondary gross enrolment rate (GPI of GER) broken down by district in each of the three quintile ranges for SY 2020–2021. Districts with a high GPI lower-secondary GER (between 1.03 and 1.72) are highlighted in dark green.

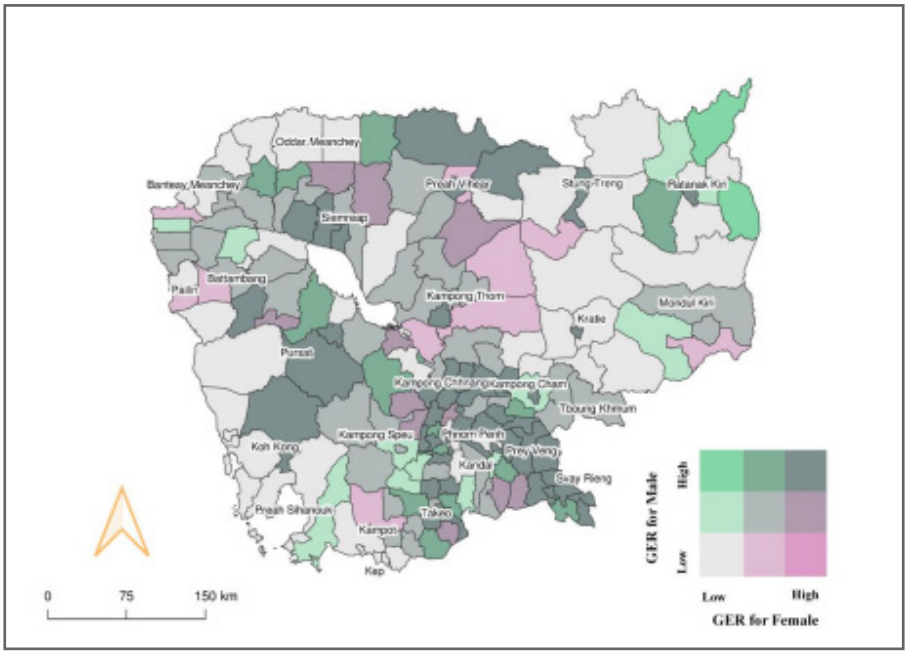
Figure 1: GPI Gross Enrolment Rate (GER) in Lower-Secondary Education (LSE) at the district level



Districts with a low GPI lower-secondary GER (between 0.83 and 0.97) are highlighted in red. Districts with a GPI lower-secondary GER between 0.97 and 1.03 are highlighted in yellow; these show parity in the participation of boys and girls in lower-secondary education as proportional to the population. The number of districts in each range is shown in brackets.

A total of 179 districts (91%), shown in dark green, have a GPI lower-secondary GER of 1.03 or greater. This indicates that significantly more girls participate in lower-secondary education than boys. Boys are failing to participate in lower-secondary education at significantly higher rates than girls in nearly all districts of the 25 provinces.

Figure 2: GPI gross enrolment rate (GER) in lower-secondary education for female and male students at the district level



By comparison, only four districts (2%) have a GPI lower-secondary GER of less than 0.97, indicating that more boys have completed lower-secondary education than girls (proportional to the population). In regions where boys are participating in lower-secondary education in greater numbers than girls, most are clustered in specific districts – particularly in Ratanakiri province.

Gender parity must be examined in the context of regional disparities when identifying equity strategies. In Ratanakiri, we see more boys completing lower-secondary education. In the rest of the country, however, more girls participating in this level of education. Therefore, we need to explore why these kinds of disparities occur by region, and what the most effective strategies and interventions are for addressing the participation disparities in lower-secondary education.

The map in Figure 2 shows the lower-secondary GER of female and male students in the whole country, broken down by district, according to colour range for SY 2020–2021. First, districts with low female and male GER at the lower-secondary level are coloured in light grey. These are all located in remote provinces and bordering provinces, such as Koh Kong, Odar Meanchey, Stungtreng and Kratie. Districts with high female GER at the lower-secondary level are coloured in dark pink; these are located in the middle provinces of the country, such as Kampong Thom, Phnom Penh and Kampong Chhnang. Districts with high male GER at the lower-secondary level are represented in light green. These are in the provinces of Ratanakiri, Modul Kiri and Preah Sihanouk.

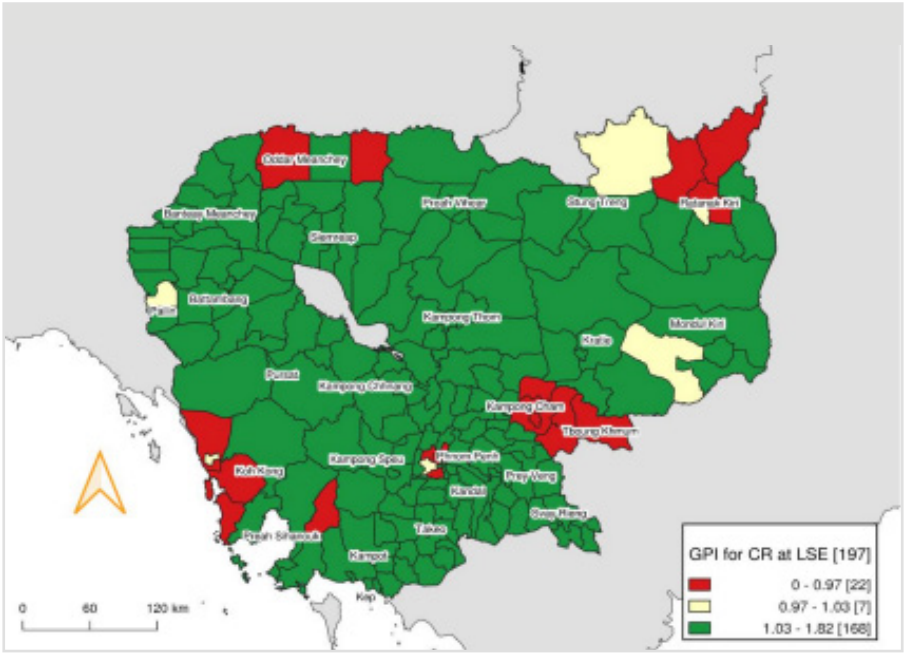
This bivariate map suggests that some districts in the remote provinces have little access to lower-secondary education, especially the districts within the provinces along the borders of all neighboring countries. This is likely due to resource shortages, which results in fewer school buildings and often requires students to travel long distances to reach lower-secondary schools. Interventions should pay greater attention to these districts to reduce gender disparity in accessing lower-secondary education.

1.3 Gender parity index (GPI) of completion rates at the district level

In Figure 3, rates are broken down by district in each of three quintile ranges for SY 2020–2021. Districts with a high GPI lower-secondary education completion rate (between 1.03 and 1.82) are shown in dark green. These indicate districts in which more girls complete lower secondary education than boys, proportional to the population. Districts with a low GPI lower-secondary education completion rate (less than 0.97) are shown in red, indicating where more boys complete lower-secondary education than girls, proportional to the population. Districts with a GPI lower-secondary education completion rate between 0.97 and 1.03 are shown in yellow. These areas indicate where parity exists between boys and girls in completing the last grade of lower- secondary education, as proportional to the population.

In total, 168 districts (85%) are shown in dark green. Boys fail to complete lower-secondary education at significantly higher rates than girls in approximately nearly all districts of the 25 provinces. In only 22 districts (11%) do more boys complete lower-secondary education than girls. These regions in which boys are more successful in completing their lower-secondary education than girls are clustered in certain districts within the provinces of Oddar Meanchey, Koh Kong, Tbaung Khmum and, to a lesser degree, Ratanakiri.

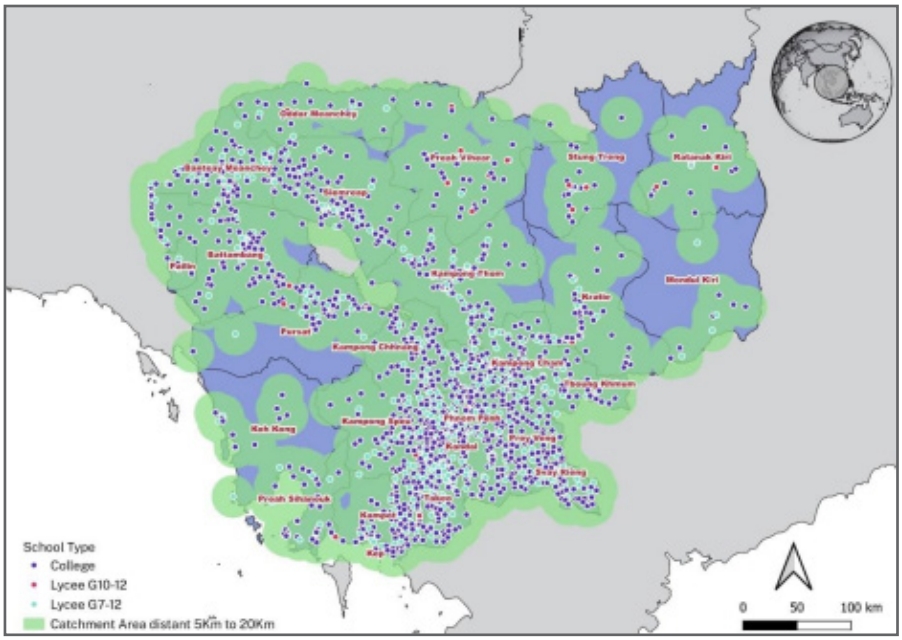
Figure 3: Gender parity index of completion rates in lower-secondary education (district level)



The map in Figure 4 shows three different types of schools: dark purple dots represent colleges, light blue dots represent *lycees*[4] from grade 7 to 12 and red dots represent *lycees* from grade 10 to 12. The catchment areas around the colleges and *lycees*, in distances between 5 and 20 kilometres, are shown in green colour. The green areas indicate where secondary schools are accessible within 20 kilometres. Lower-secondary schools extend across most areas, except those with low population densities. Examples include the highlands and forested areas of Ratanakiri, Mondul Kiri and Stung Treng (highland provinces) and the coastal areas of Koh Kong province.

Gender parity must be examined in the context of regional disparities when identifying equity strategies. In Ratanakiri, we see more boys completing lower-secondary education. In middle of the country, we see more girls completing lower-secondary education. Therefore, we need to explore why these kinds of disparities exist by region.

Figure 4: Catchment areas around schools (distance 5km – 20km)



2. Supply of Education

Education supply aims to improve completion rates at the basic levels of education and to reduce repetition and dropout, particularly for the poorest and most disadvantaged groups.

2.1 School Infrastructure

The Ministry of Education has increased the number of lower-secondary schools in recent years from 489 in SY 2013–2014 to 1,334 in SY 2020–2021 which demonstrates that access to lower-secondary education in Cambodia is on the rise (MoEYS, 2019b). Further, the Ministry aims to provide colleges in communes[3]. At present, 115 out of 1,646 communes do not have lower-secondary schools (MoEYS, 2019b).

2.2 Teacher Deployment

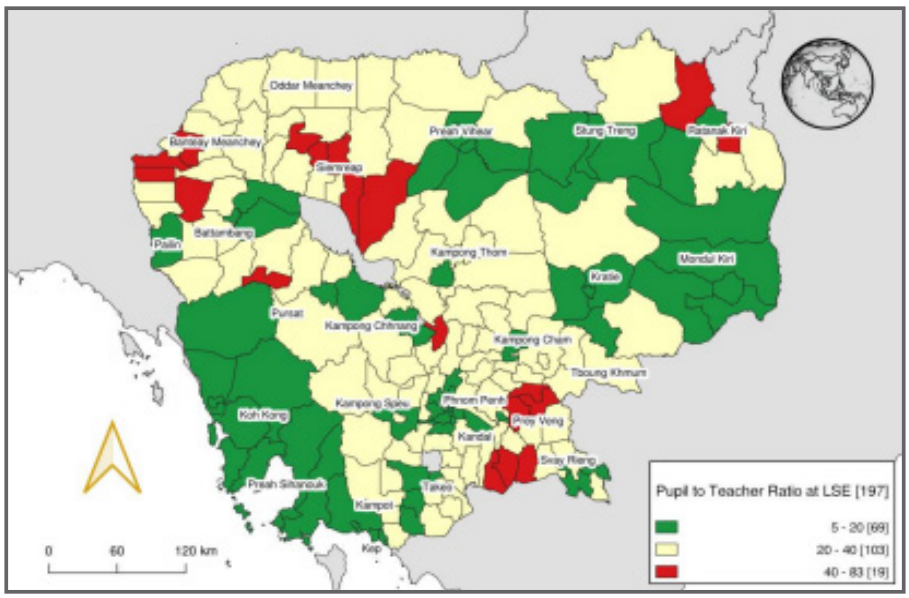
The number of lower-secondary teachers has also increased, from 23,158 teachers in SY 2007–2008 to 28,174 in SY 2017–2018. This contributed to a sharp decline in the pupil–teacher ratio (PTR), from 27.53 in SY 2007–2008 to 22.4 in SY 2017–2018 (MoEYS, 2019a).

The map in Figure 5 breaks down PTRs in lower-secondary schools by district in each of the three quintile ranges for SY 2020–2021. Districts with a low lower-secondary PTR (between 5 and 20 pupils for each teacher) are coloured in dark green.

3 Communes, also known as sangkat, are the third-level administrative divisions in Cambodia. Depending on the population, communes can consist of 3 or as many as 30 villages (phum).

4 Lycees are upper-secondary schools

Figure 5: Pupil–teacher ratio at the lower-secondary level by district



These represent districts that may have an excess of teachers. Districts with a high lower-secondary PTR (between 40 and 83 pupils per teacher) are coloured in red. These represent districts that may have an insufficient number of teachers. Districts with PTRs between 20 and 40 pupils per teacher are coloured in yellow; these represent districts that may have an appropriate number of teachers. Further research may be needed to fully understand the reasons for unusually high or low PTR in these districts.

2.3 Teacher Qualifications

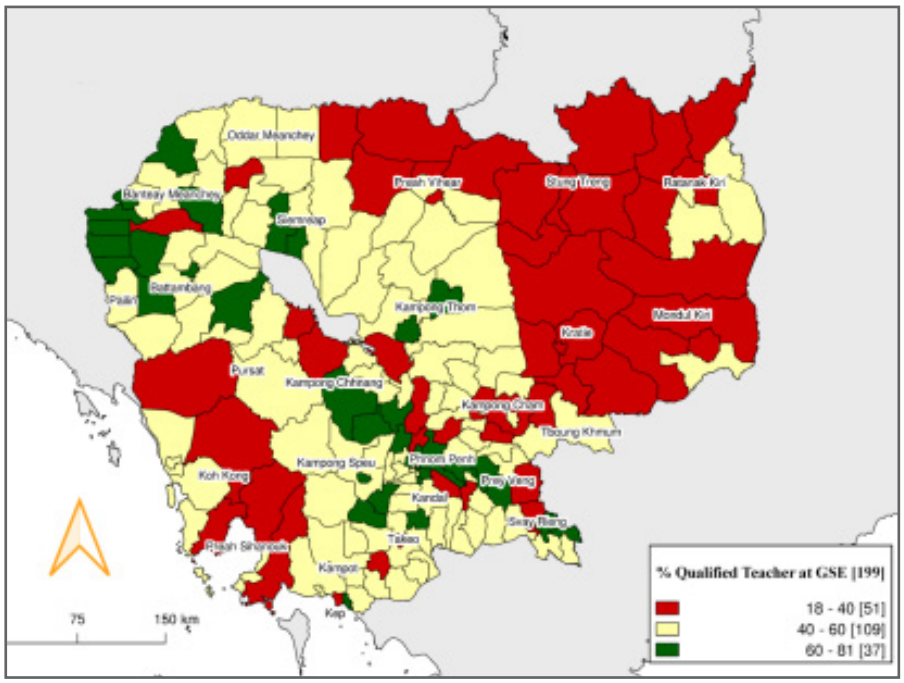
In Cambodia, most lower-secondary teachers only have a bachelor's degree, meaning they have attended two years of a teacher training programme at a regional teacher training centre[5]. Furthermore, these teachers rarely receive any professional development. Currently, there are approximately 5,322 lower-secondary teachers in the Cambodian education system.

The map in Figure 6 shows the percentage of qualified teachers in general secondary education in the whole country, broken down by districts, in each of three quintile ranges for SY 2020–2021. Areas with low percentages of qualified teachers (between 18 and 40 percent) are highlighted in red. These are most present in Preah Vihear, Stungtreng, Kratie, Ratanakiri, Modul Kiri, Preah Sihanouk and Koh Kong (51 districts). Areas where the percentage of qualified teachers falls between 40 and 60 percent are coloured in yellow; these areas include Kampong Thom, Kampong Speu, Kampot, Takeo, Pailin and Odar Meanchey (109 districts). Areas with a high percentage of qualified teachers (between 60 and 80 percent) are highlighted in green. These are found in the provinces of Phnom Penh, Batambang, Banteay Meanchey and Kep (37 districts).

2.4 Education Budget

In terms of financing, the national education budget comes predominantly from the central government. The education sector also receives funding from other sources, including non-governmental organisation (NGO) funding, foreign loans, technical assistance and grants and local revenues generated by each school community and the school itself. The proportion of gross domestic product (GDP) dedicated to education stands at seven percent for the whole education system.

Figure 6: Percentage of qualified teachers at the lower-secondary level by district



The share of the national budget allotted to education has increased in recent years. In 2013, the education share of the national education budget was 15.5 percent; this increased to 19 percent in 2021. The annual estimated recurrent budget for education is USD 737 million. This total does not include the capital budget, which is estimated at USD 178 million. Of this USD 178 million, USD 70 million is dedicated towards school construction (GPE, 2019). Of that,

5 The Regional Teacher Training Centers provide training to teacher trainees for a period of two years (2,658 hours), lectures (2,154h = 144 credits) and field work, laboratory and workshops (504h = 11 credits)

roughly USD 2.5 million is directly managed by the MoEYS. The Office of the Prime Minister manages the remaining balance (GPE, 2019). Additional education funding from bilateral and multilateral donors totals approximately USD 258 million.

Despite recent improvements, Cambodia still falls short in terms of public education expenditure and per-child spending. The latter is USD 217 in Cambodia, as opposed to USD 1,200 in the overall Asia-Pacific region (UNESCO Bangkok, 2013). Cambodia's expenditure per student at the primary level on average is USD 208, compared to USD 1,207 in Vietnam and USD 3,564 in Thailand (MoEYS, 2019a). At the lower-secondary level, Cambodia's average spending per student reaches USD 467 (MoEYS, 2019a). However, the average spending per student is three times higher in Vietnam and seven times higher in Thailand.

2.5 Scholarships for Poor Children

The government provides scholarships to poor students in public lower-secondary schools (72,418 scholarship recipients), with 60 percent of the recipients being female (UNICEF Cambodia, 2019). NGOs and development partners also provide some scholarships, reaching about 50 percent of girls on average.

2.6 Gender Parity Index of Promotion Rates

The analysis of the gender parity index on promotion rates, repetition rates and dropout rates aimed to reveal the rate of student flow and internal efficiency.

The map in Figure 7 shows the district distribution of GPI lower-secondary promotion rates by districts in each of three quintile ranges for SY 2020–2021. Districts with a high GPI lower-secondary promotion rate of over 1.03, equalised to 49 percent (the promotion rate), are highlighted in dark green. These indicate the districts in which significantly more girls are advancing than boys. Districts with a low GPI lower-secondary promotion rate of less than 0.97, equalised to 16 percent (the promotion rate), are highlighted in red. These indicate the districts in which more boys advance than girls. Districts with a GPI lower-secondary education promotion rate between 0.97 and 1.03, equalised to 35 percent (the promotion rate), are shown in yellow. These indicate districts in which a parity exists between boys and girls to advance in lower-secondary education. The number of districts in each range is shown in brackets.

The most concerning point is still the disparity in GPI lower-secondary promotion rates between male and female students in many rural districts, as indicated in Figure 3. We need to explore why these kinds of disparities exist per region and what might effective strategies and interventions be to address the repetition of male students in lower-secondary education.

The map in Figure 8 shows the distribution of GPI lower-secondary repetition rates by district in each of three quintile ranges for SY 2020–2021. Districts with a low GPI lower-secondary repetition rate (less than 0.97, equalised to 92 percent) are highlighted in dark green. These indicate the districts in which significantly fewer girls repeat grades than boys. Districts with a high GPI lower-secondary repetition rate (more than 1.03, equalised to seven percent) are highlighted in red. These indicate the districts in which more girls repeat grades than boys. Districts with a GPI lower-secondary education repetition rate between 0.97 and 1.03, equalised to 0.5 percent, are represented in yellow. These indicate districts where parity exists between boys and girls who must repeat a grade during their lower-secondary education. The number of districts in each range is shown in brackets. Disparities in GPI lower-secondary repetition rates are a concerning issue among male students in nearly all districts, as indicated in Figure 8.

Dropout rates at the lower-secondary level across the whole of Cambodia remain high at 19.6 percent (Creative Associates International, 2014). Reasons for these dropout rates may vary according to location. One significant 'pull factor' that has been previously identified is high opportunity costs associated with early employment, especially in the agriculture and

Figure 7: Gender parity index of promotion rates in lower-secondary education at the district level

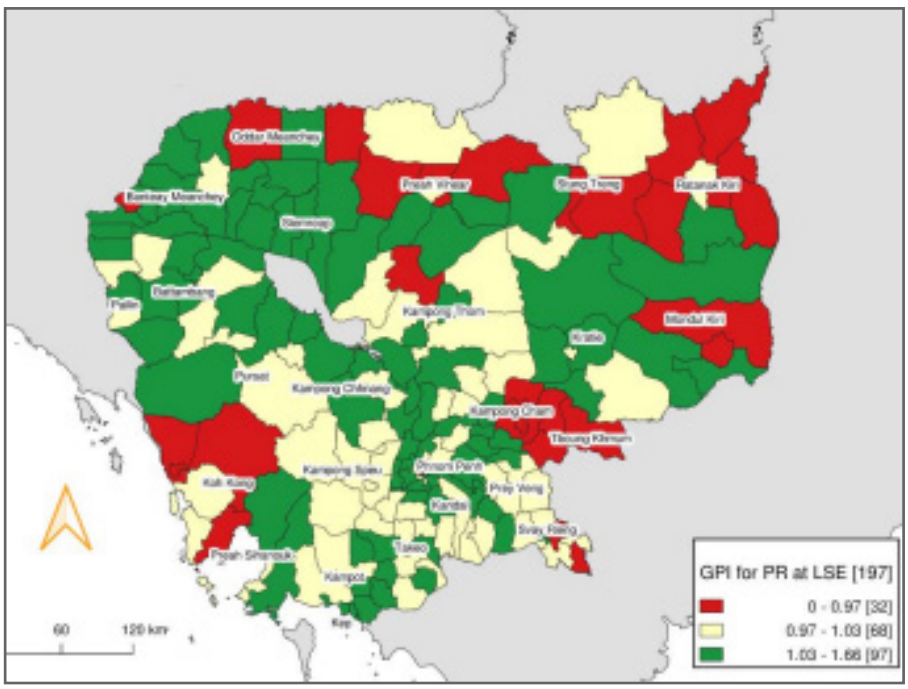
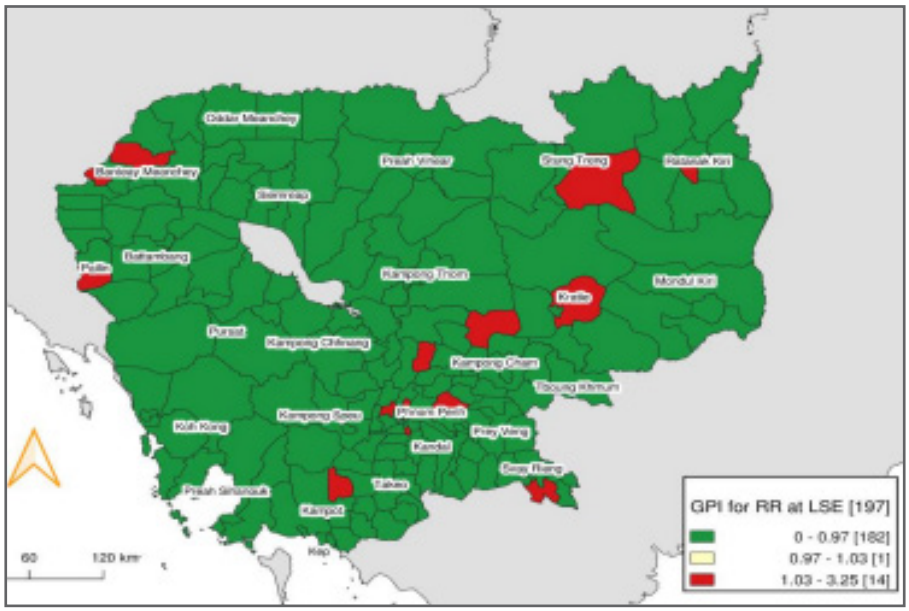


Figure 8: Gender parity index of repetition rates in lower-secondary education at the district level



garment sectors (Creative Associates International, 2014). On the flip side, an important 'push' factor that has been noted is the absence of sufficient water, sanitation and hygiene (WASH) facilities at schools, which is a particular issue for adolescent girls.

V

POLICY RECOMMENDATIONS FOR MORE EQUITABLE ACCESS TO EDUCATION

The immediate task is to improve the internal efficiency of the education system by reducing dropout and repetition rates. Mapping the supply and demand lower-secondary education indicators has drawn attention to districts that may need further research and/or support in identifying pathways to provide equitable access to education. As such, depending on the specific challenge the following policy recommendations may prove useful in addressing some of the inequities faced by many districts in Cambodia.

The Demand Side:

- **Awareness raising/education campaigns:** MoEYS, education NGOs, development partners and local education authorities should initiate an awareness campaign that emphasises the importance of education to parents and communities and encourages parents to keep their children in school, at least so far as they complete basic education (Grade 9).

- **Social accountability frameworks:** Activate social accountability activities in schools by engaging parents and local authorities to monitor school budget spending and child learning outcomes. This would include monitoring children's learning results and participating in other school development activities.

- **School–community relationships:** Schools should conduct regular parent association meetings and school management committee meetings to discuss and address students at risk of dropout in a timely manner. This would include activating a mechanism for early dropout warning. A school management committee should be given the authority to enact school development plans and budgets to employ adequate teachers and school staff members.

- **Social auditing:** Activate local citizens, elected council forums and education stakeholders at least once a year to discuss education issues and supportive mechanisms to address ongoing educational challenges.

The Supply Side:

- **Schools:** To ensure high quality education for all, schools should have administrative and financial autonomy and be held accountable for achieving high-quality learning outcomes. For this, schools should be equipped with professionally competent and motivated teachers and visionary instructional leaders to provide safe, healthy, gender-responsive, inclusive, technology-supported, high-quality teaching and learning environments.

  Constructing schools closer to the target population's homes would facilitate better class attendance, particularly among girls of poor households, reduce transportation costs and help ensure safety. Separate bathrooms and toilets should be constructed for female and male students, as well as adequate facilities for disabled students, particularly at secondary-education institutions, to further promote regular class attendance. Our research findings indicate that an additional 115 colleges need to be constructed for every commune to have at least one college and to ensure that students have a college within 20 kilometres of home, especially in the remote provinces (see Figure 4).

- **Teachers:** In general, teachers need to be competent, motivated and well-supported to ensure high-quality education. In the same vein, the Cambodian education system should have teachers who are professionally competent, motivated, supported and equipped with sufficient academic content, as well as pedagogical skills, a passion for teaching and love for their students. The status of the teaching profession needs to be elevated to attract and retain the most qualified and motivated people (e.g. implement a teacher career pathway policy). Teachers need to be lifelong learners, and they should be continuously supported to develop the knowledge and competencies that best promote student learning. Teachers should perform with the highest morals, ethics and professionalism to ensure their students' success. There should be continuous professional development

programmes for teachers, including upgrading their qualifications. This should be prioritised in districts where more teachers have lower qualifications (see Figure 6, red highlighted areas).

- **Classroom learning:** Smart classrooms provide students with the best opportunity to learn using modern and innovative and modern technology. School classrooms in Cambodia need to be gradually transformed into smart classrooms equipped with educational and technological resources to provide carefully organised, safe and conducive learning environments for all. As such, teachers' will need to learn to be facilitators as they create learning opportunities through the effective use of various interactive and collaborative instructional methods and pedagogical approaches.

- **School financing:** The government should increase the transfer of block grants to schools and provide them with flexible budgets. At the same time, there needs to be an accountability mechanism in schools, as well as a strong system of compliance for expenditure procedures, policies and auditing.

- **Budget allocation for the education sector:** The government should increase its budget allotment for the education sector by at least one percent every year (baseline 19 percent of the national budget), in both the capital budget and recurrent budget. Spending per lower-secondary student should increase from USD 467 to double or triples, so that the spending is like that in neighbouring countries like Thailand and Vietnam.

- **Scholarship provision:** Scholarship programmes should be expanded, especially in districts with the most gender disparity. Examples could include cash transfer programmes to compensate lost income when parents keep their children in school, or scholarships for priority students, outstanding students, female students, priority poor students and students with disabilities.

- **School counselling programmes:** Schools should establish school counselling programmes to address student issues in collaboration with a student peer support/youth council. This could help detect the early warning signs of dropout, promote positive discipline in school and help establish gender-sensitive WASH facilities.

- **Gender Awareness and mainstreaming:** Schools should ensure that teachers receive regular and comprehensive training on gender equality to eliminate gender bias and discriminatory gender stereotyping. In addition, schools should provide training to teachers on incorporating the topic of gender and gender mainstreaming into their teaching and learning process.

REFERENCES

Asian Development Bank. (n.d.). *Sector assessment (summary): public sector management* (RRP CAM 52145-001) [Data set]. ADB. https://www.adb.org/sites/default/files/linked-documents/52145-001-ssa_0.pdf

Cambodia Travel News. (2011, August 04). *The kingdom of wonders*. Tourism Cambodia. https://www.tourismcambodia.com/news/localnews/3653/the-kingdom-of-wonders.htm

Constitution of the Kingdom of Cambodia. Chapter VI § Article 65 (1993). https://www.refworld.org/docid/3ae6b5428.html

Creative Associates International Inc. (2014). *Cambodia situational analysis: factors and conditions that affect dropout*. USAID. http://schooldropoutprevention.com/wp-content/uploads/2015/10/SDPP_Cambodia_Sit_Analysis_FINAL.pdf

Education Law. Chapter VII § Article 31 (2007). https://www.moeys.gov.kh/images/moeys/laws-and-regulations/48/EducationLaw-EN.pdf

Geography of Cambodia. (2019, May 28). In *Wikipedia*. https://en.wikipedia.org/wiki/Geography_of_Cambodia

Global Partnership for Education. (2019). *Summative GPE country program evaluation batch 5, country 14: Kingdom of Cambodia* [Final Report]. https://www.globalpartnership.org/sites/default/files/document/file/2019-08-summative-gpe-country-program-evaluation-for-cambodia.pdf

IIEP-UNESCO. (n.d.). Gender Parity Index (GPI). In *IIEP Learning Portal*. International Institute for Educational Planning. https://learningportal.iiep.unesco.org/en/glossary/gender-parity-index-gpi

Ministry of Education, Youth and Sport. (2019a). *Cambodia's education 2030 roadmap: sustainable development goal 4*. https://planipolis.iiep.unesco.org/sites/default/files/ressources/cambodia_education_2030_roadmap_sustainable_development.pdf

Ministry of Education, Youth and Sport. (2019b). *Education strategic plan 2019–2023* [PDF]. https://drive.google.com/file/d/1kdtxQD1F4Pym1_h056hzoJqQHy7C7CqZ/view

Ministry of Planning. (2020a). *National strategic development plan 2019–2023*. Open Development Cambodia. https://data.opendevelopmentcambodia.net/laws_record/national-strategic-development-plan-nsdp-2019-2023/resource/bb62a621-8616-4728-842f-33ce7e199ef3

Ministry of Planning. (2020b). *General population census of the Kingdom of Cambodia 2019* [National Report on Final Census Results]. National Institute of Statistics. https://www.nis.gov.kh/nis/Census2019/Final%20Geneal%20Population%20Census%202019-English.pdf

UNESCO Bangkok. (2013). *Financing of secondary education in the Asia-Pacific region: synthesis paper*. Asia and Pacific Regional Bureau for Education. https://unesdoc.unesco.org/ark:/48223/pf0000225507

UNESCO Institute for Statistics. (2020, February). *School enrollment, primary (% net) – Cambodia* [Data set]. The World Bank. https://data.worldbank.org/indicator/SE.PRM.NENR?locations=KH

UNICEF Cambodia. (2019). *Consultant to support the development of a MoEYS scholarship transition strategy*. https://www.unicef.org/cambodia/sites/unicef.org.cambodia/files/2019-11/ToR%20MoEYS%20Scholarship.pdf

KIX EAP Learning Cycle Case Study, February 2022

20, Rue Rothschild I P.O. Box 1672
1211 Geneva 1, Switzerland
+41 (0) 22 908 45 47
norrag.kix@graduatenstitute.ch

@KIXEAP

norrag.network

norrag.org/kix-eap

gpekix.org/regional-hub/kix-eap