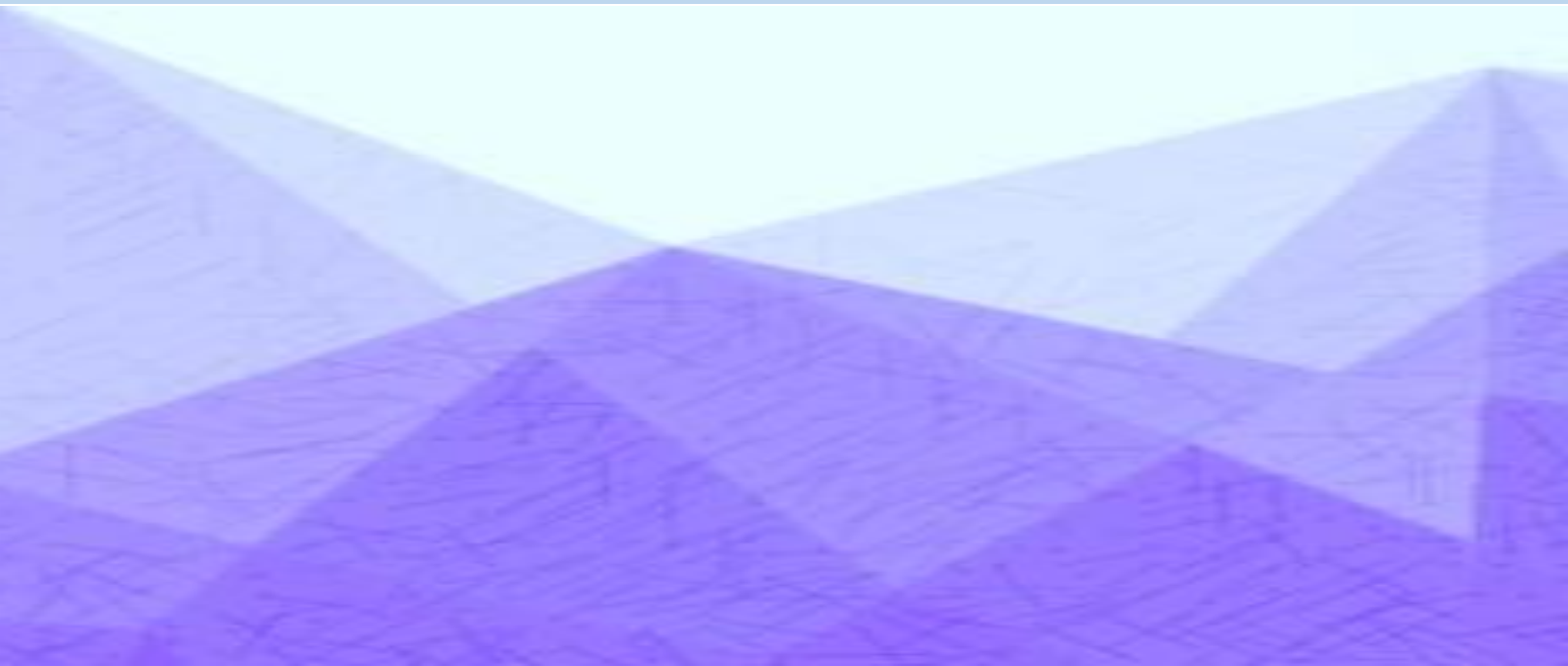


CRITICAL ISSUES IN CAMBODIAN EDUCATION

INSIGHTS FROM YOUTH



**Edited by
Kimkong Heng, Koemhong Sol
with Chan Hum, Samnang Yen,
and Sovanncharya Ren**

**CAMBODIAN
EDUCATION
FORUM**

A forum for education

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វេទិកាអប់រំកម្ពុជា

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Notes on Cambodian Education Forum

The Cambodian Education Forum (CEF) was co-founded on 01 July 2020 by a group of three emerging Cambodian scholars (Mr. Kimkong Heng, Mr. Sopheap Kaing, and Mr. Vutha Ros) who aspire to promote education research and publication in Cambodia. The team was later joined by Mr. Koemhong Sol, also an emerging Cambodian scholar. The common vision is to provide a platform for Cambodian researchers, educators, teachers, students, and administrators, especially novice and emerging writers, to express their views and share their perspectives, understanding, and research findings on topics relevant to education in Cambodia and beyond.

CEF strongly believes that Cambodian students, teachers, academics, and researchers have a wealth of knowledge and perspectives to share in shaping understanding, beliefs, and attitudes regarding education-related issues confronting Cambodia and other countries in the region and the world.

Although the focus is on education in Cambodia, CEF welcomes and publishes unsolicited short or full-length research articles on educational issues of interest to readers in different countries in the region and beyond.

CEF's main aims are as follows:

- To provide a publication platform for Cambodian researchers, educators, and students
- To share knowledge, research findings, and informed opinions about education in Cambodia and beyond
- To support Cambodian novice writers to publish through quality peer review, mentorship, and editorial processes
- To publish essays, opinion pieces, and research articles about education in Cambodia and beyond
- To offer insights from education experts through interviews, discussions, and publications
- To share education-related resources with students, teachers, academics, and researchers
- To promote Cambodia's image in the regional and international arena

CEF is still under development, but the vision behind this initiative is ambitious and inclusive. We seek to promote research and publication in Cambodia, particularly research conducted by Cambodians.

We are currently seeking funding, sponsors, donors, and volunteers to maintain and sustain this platform to offer common benefits to diverse users such as students, teachers, academics, and researchers.

We start as a small team, aim high, and aspire to make a positive impact on the education sector and the research and publication culture in Cambodia. Now the CEF team consists of 13 core members: seven editors and six associate editors. There are also several guest editors and a number of reviewers.

We believe each Cambodian has a vital role to play to shape and improve Cambodian society and raise Cambodia's image on the global stage.

We start small, aim big, and aspire to create a real positive impact.

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THE ROLE OF YOUTH AND THE IMPORTANCE OF THEIR PERSPECTIVES

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Introduction

With young people aged below 30 making up about two-thirds of its population, Cambodia is a young country. Cambodia's recent history was unfortunate. The country experienced a prolonged civil war and a genocide regime that decimated approximately two million Cambodians, equivalent to almost a quarter of the population in the 1970s (Becker, 1998). Many Cambodian people were born after 1979 when the genocidal Khmer Rouge regime collapsed. Cambodia now has a population of 16.7 million. Its GDP per capita in 2020 was USD 1,543.7 (World Bank, n.d.). Cambodia is currently considered a lower-middle-income country, a status that it achieved in 2015 (World Bank, 2021). Cambodia's long-term vision is to become an upper-middle-income country by 2030 and a high-income country by 2050 (Royal Government of Cambodia [RGC], 2018).

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To achieve its development vision, Cambodia has made efforts to develop its human resources, regarded as a key development goal in the Cambodian government's Rectangular Strategy Phase IV (2018-2023) (RGC, 2018). Guided by this overarching development goal, the Ministry of Education, Youth and Sport (MoEYS) of Cambodia has introduced a vision to develop Cambodia into a knowledge-based society in response to the influence of globalization and the need for regional and global integration.

Since 2010, MoEYS has introduced a number of policies aimed at enhancing Cambodia's human capital. Notable policies include Policy on Research Development in the Education Sector (MoEYS, 2010), Master Plan for Research Development in the Education Sector 2011-2015 (MoEYS, 2011), Policy on Human Resource in Education Sector (MoEYS, 2012), Policy on Higher Education Vision 2030 (MoEYS, 2014), and Policy and Strategy on Information and Communication Technology in Education (MoEYS, 2018). In its Education Strategic Plan 2019-2023, MoEYS (2019) outlined some key achievements in the areas of educational access, public school governance, teachers' quality, scholarships for poor students, and educational quality. MoEYS has a vision "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" (MoEYS, 2019, p. 18).

To achieve this vision, the Cambodian government, through MoEYS and concerned stakeholders, particularly educational institutions, needs to pay attention to young Cambodians who are the future of the country. The United Nations defines youth as young people aged 15 to 24 years old. In Cambodia, according to the National Policy on Cambodian Youth Development (RGC, 2011), youth are young people aged 15 to 30 years old, single or married. They are the change agents who have the power to make a difference to society and hold the government accountable for their actions (Heng, 2019). Likewise, the Kingdom of Cambodia regards youth as "key and most valuable resource for economic, social, cultural, and environmental development and the maintenance of peace in both the present and the future" (RGC, 2011, p. 1).

Therefore, it is crucial to listen to youth's perspectives and understand their desires and needs. After all, they are the hope and backbone of the country.

Their voices deserve attention, and their ideas and reasonings need to be taken into consideration to foster inclusive growth and sustainable development.

In this introductory chapter, we will discuss the role of youth in Cambodian society and the need to understand their perspectives that may provide valuable insights into their needs, ambitions, and aspirations. We argue that a good understanding of youth's perspectives on social issues, including educational issues, that impact Cambodian society, is needed in order to develop Cambodia into a society in which young Cambodians are empowered and given the opportunity to fully contribute to social, economic, political, and cultural development. The last part of the chapter will outline the organization of this book.

The Role of Youth in Cambodian Society

No doubt, youth are the future of any nation. In Cambodia where youth and young people make up almost two-thirds of the population, these people are the backbone of the country, and they play essential roles in different aspects of society. In the political sphere, youth can influence political decision-making. For example, it has been found that youth were “key actors in halting the country's democratic backsliding” (Chap, 2018, para. 1). Their activities and activism on social media such as Facebook could trigger “changes in government decisions and behaviours” (Vong & Hok, 2018, p. 219). In this regard, some analysts argued that Cambodian youth should “consider a deeper embrace of online activism as a safer way to express their concerns, mobilise support and make their voices heard” amid the government's crackdown on dissent (Heng, 2020, para. 3).

In addressing social issues in Cambodia, youth have been at the forefront in recent years. For example, environmental youth activists affiliated with the Mother Nature Cambodia and Prey Lang Community Network have actively engaged in peaceful protest and activism to expose illegal logging, deforestation, and other environmental issues. Although their environmental activism has been viewed negatively by the authorities, their voices have been heard and have influenced society. More Cambodian people are now aware of important social and environmental issues affecting their country. They have a

better understanding of what is going on and what has impacted their community and country.

Youth also have important roles in advancing Cambodia's diplomacy. Vann and Heng (2020a) argued that Cambodian youth have a vital role in promoting Cambodia's image through cultural diplomacy. For example, they could serve as cultural ambassadors to promote Cambodia's culture and image, particularly when they have a chance to study or work abroad. Similarly, Vann and Heng (2020b) noted that Cambodian youth are "a dynamic and energetic group of people who can play active roles in enhancing Cambodia's digital diplomacy" (para. 9). They can help the government to project a positive image of Cambodia to the world by employing social media platforms such as Facebook and Twitter to inform and shape public opinion about Cambodia.

Cambodian youth also play a critical role in enhancing Cambodia's foreign relations with neighboring countries. Writing about Cambodia-Vietnam relations, Heng and Po (2017) argued that Cambodian youth had vital roles to play in strengthening bilateral ties between the two countries. They wrote:

Cambodian youth who are the future for Cambodia have pivotal roles to play. They can either be future architects of the Cambodian development pathway, including Cambodia's foreign policy, or prospective captains of the Cambodian ship. Most importantly, they can be Cambodian ambassadors in the making who are responsible for raising the profile of Cambodia in the region and the international stage. They have, in particular, active and fundamental roles to play in Cambodia's endeavours to enhance its relations with Vietnam. All of these roles require knowledgeable, open-minded, pragmatic and outward-looking Cambodians. (para. 13)

Likewise, Heng (2017) noted that the younger generation of Cambodians played a pivotal role in improving Cambodia-Thailand relations. He suggested that they should learn from history lessons and use them to deal with the present-day issues concerning Thailand and the Thai people. In addition, they needed to engage in personal and professional development and adopt open-minded and pragmatic approaches to dealing with Khmer-Thai issues.

In the education sector, youth can also be key actors in fostering positive changes. Their roles are not limited to studying hard to prepare themselves for future employment. They can be proactive in seeking opportunities to develop themselves and enhance their skills so that they can contribute to society in different ways. For example, they can join internship programs, participate in public debates or discussions, and volunteer to be mentors to provide guidance to their juniors (see Soth, this volume). They can also help raise public awareness of different issues impacting their community and society by writing opinion pieces or other forms of publications as what has been published by Cambodianess, Politikofee, Future Forum, and the Cambodian Education Forum (see, for example, Heng et al., 2021; Sol et al., 2021).

Overall, youth play an essential role in society. They can contribute to positive changes and promote public awareness of important social issues through their activities and activism in various forms, including publications and social media activities such as discussing and sharing information on Facebook and other online platforms. With their flexibility, adaptiveness, and digital literacy, they can also contribute to enhancing their country's competitiveness in the era of the Fourth Industrial Revolution and the fast-changing world.

The Importance of Youth's Perspectives

Our world is predominantly run by adults, so youth's opinions or views on addressing pressing social issues are not often sought. However, this trend is increasingly reversed, as there is growing recognition of the significance of youth's fresh and creative perspectives and energy in shaping a tangibly better world (Salas, n.d.; Scurlock, 2020).

Youth generally look at social issues with fresh eyes and fewer constraints. Unlike adults or elders, who are often influenced by deep-rooted social or cultural norms, youth are less constrained by those norms and come up with newer perspectives that might not have crossed the minds of their seniors (Scurlock, 2020). Therefore, their perspectives can potentially shed light on social issues and illuminate ways to solve them. In Cambodia, where young people represent a significant share of the total population, their ideas and approaches to social issues are of fundamental importance to ensure the

government's policies are responsive to their concerns (Organisation for Economic Cooperation and Development, n.d.).

Because many of the greatest social issues, including educational issues, have directly affected their lives, young people tend to perceive many different ways to resolve them that can be both innovative and efficient with the level of energy and confidence they hold. Moreover, with the rapid penetration of technology and social media, youth have greater access to information and witness broader social issues involving their future. That makes their perspectives even more critical, deserving attention from key stakeholders responsible for policy formulation and implementation. Even though inputs from young people in solving social issues may not always be viewed as practical from the perspectives of adults, they have the potential to uncover opportunities for change, thereby deserving attention and consideration.

Recognizing the role of youth and the importance of their perspectives, the Cambodian Education Forum has offered a series of six-month internship programs in which Cambodian youth are the primary participants. The program aims to provide support to young Cambodians who are novice but potential writers and researchers to help them learn to write academically and publish their written work in the form of short articles or book chapters. What will be discussed in the next part of this chapter is a summary of each of the nine chapters written by youth who participated in one of the internship programs offered from June to November 2021.

As lead editors of this edited volume, we strongly believe that the voices and perspectives of Cambodian youth need to be heard and taken into consideration. With this belief, in this volume, we have included all chapters contributed entirely by youth who were the participants of the internship program. We are convinced that their perspectives can provide valuable insights into various educational issues that impact Cambodian society and that through writing, their views and concerns can be heard and hopefully be considered by policymakers or relevant stakeholders in education in Cambodia.

Organization of This Book

This edited volume contains 10 chapters. Following the introductory chapter, the remaining nine chapters are divided into two parts. Part 1 consists of three chapters examining research and education systems in Cambodia. Part 2 contains six chapters dealing with different issues in Cambodian education.

Part 1: Research and Education Systems

This part focuses on research and education systems. In Chapter 2, Liseinet Din discusses the need to promote research in Cambodia. She argues that it is crucial to promote research as it contributes to knowledge advancement, human resources development, evidence-based policy development, and economic growth and competitiveness.

In Chapter 3, Phanna Kov turns the discussion to the education systems in Cambodia and Thailand. He compares Cambodia's and Thailand's education systems by focusing on five aspects: provision, financing, enrollment rates, decentralization, and higher education recognition.

In Chapter 4, Sivly Houy examines the issues surrounding an educational reform project, called New Generation Schools (NGS), introduced by the Cambodian Ministry of Education, Youth and Sport in 2015. The author describes what NGS schools are, explains why they are important, and discusses key issues with the implementation of the NGS project before offering a few recommendations to address the issues.

Part 2: Key Issues in Cambodian Education

The second part of the volume deals with different issues impacting Cambodian education, including educational gaps, women's education, school bullying, educational corruption, sex education, and youth and Industry 4.0. In Chapter 5, Chhayheng Soth examines the issue of the geographical gap in Cambodian education. He discusses key challenges to education in rural areas and offers a set of recommendations for relevant stakeholders to narrow the geographical gap in education in Cambodia.

In Chapter 6, Sreypich Lay discusses issues concerning Cambodian women in education, particularly higher education. She elaborates on women's education in Cambodia, their roles in socioeconomic development, and the progress and remaining challenges for Cambodian female students to access higher education.

In Chapter 7, Pech Monyleap Neang looks at the issue of school bullying. She frames the discussion around the causes and effects of school bullying and then puts forward some suggestions for school teachers, school staff, and schools to address the issue.

Chapter 8, contributed by Thavrith Sara, examines corruption in education, a hot issue that has had great impacts on the education system in Cambodia. The chapter focuses on three important aspects of educational corruption, namely causes, effects, and solutions.

In Chapter 9, Sreypich Lay and Pech Monyleap Neang turn to discuss sex or sexuality education, an interesting topic that is rarely discussed in the Cambodian educational context. The chapter focuses on the definition of sexuality education, its effectiveness, and barriers to effective sex education. Recommendations to promote sexuality education in Cambodia are also discussed.

Finally, Chapter 10 concludes the book. In this chapter, Vicheka Mon discusses how Cambodian youth can prepare themselves for the Fourth Industrial Revolution, commonly known as Industry 4.0. The chapter focuses on what Industry 4.0 is, why it is important, and the role of Cambodian youth in the context of Industry 4.0. It also discusses the skills needed for Industry 4.0.

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Part 1:

Research and Education Systems

THE IMPORTANCE OF PROMOTING RESEARCH FOR THE FUTURE OF CAMBODIA

Liseinet Din

Cambodian Education Forum

Phnom Penh, Cambodia

Abstract

Research plays a vital role in developing a nation by advancing our knowledge and understanding of social issues and solutions to them. In line with the increasing movement toward a knowledge-based society, the Ministry of Education, Youth and Sport and its development partners introduced several research-related policies and initiatives to promote research activities in Cambodia, particularly at the higher education level. However, research in Cambodia is still confronted with many challenges. Drawing on secondary sources, this chapter first defines the term research from different perspectives. It then discusses the importance of research for Cambodia and highlights some key challenges to promoting research in the country. The chapter concludes with some recommendations to promote research in Cambodian society.

Keywords: Research; promoting research; challenges; higher education; Cambodia

Introduction

Cambodia went through a dark period during the Khmer Rouge regime (1975-1979) that killed about 2 million innocent Cambodian people, including political leaders, professionals, and academicians (Becker, 1998). This brutal regime also eradicated the country's education system, causing massive destruction to educational infrastructure. After the fall of the Khmer Rouge regime, Cambodia has tried to restore its education system at all levels as part of the national rebuilding process. For instance, Cambodian higher education has rapidly expanded since the late 1990s when private universities were allowed and public universities could offer fee-paying programs to respond to the limited public funding for higher education and the fast-growing number of high school graduates (Kitamura et al., 2016).

Along with the continuous expansion of higher education in Cambodia, the Ministry of Education, Youth and Sport (MoEYS) and various development partners have also endeavored to enhance the quality of higher education and promote research in Cambodia. Notably, MoEYS introduced a number of research-related policies, such as the Policy on Research Development in the Education Sector in 2010, the Master Plan for Research Development in the Education Sector 2011-2015 in 2011, and the Policy on Higher Education Vision 2030 in 2014. The World Bank, a key development partner, has played an active role in improving higher education quality in Cambodia through various projects, including two major projects worth USD 115.5 million: the Higher Education Quality and Capacity Improvement Project 2010-2015/2017 and the Higher Education Improvement Project 2018-2024. One of the objectives of the two projects is to improve the quality of research, mainly in science, technology, engineering, and mathematics (STEM) and agriculture, at five targeted public higher education institutions (World Bank, n.d.). In 2020, MoEYS unprecedentedly announced the Research Creativity and Innovation Fund (RCI Fund) to promote research in Cambodia with small grants available to Cambodian researchers (Heng, 2020b).

Despite all of these efforts, Cambodia's research performance is still low compared to other countries in the region. Based on the number of research publications indexed in the Scopus database over the last decade (2010-2019),

Cambodia was ranked 8th among the 10 ASEAN countries (Heng, 2020a). In terms of the quality of higher education and training, Cambodia was ranked 75th out of 100 countries, while other countries in the region, such as Indonesia, the Philippines, and Thailand, were ranked 23rd, 27th, and 28th, respectively (World Economic Forum, 2018). With the current performance, research needs to be further developed and promoted so that Cambodia can move toward a knowledge-based society.

This chapter argues for the promotion of research in Cambodia. It begins by defining the term “research” from different perspectives. It then discusses the importance of research for Cambodia before highlighting some key challenges to promoting research and offering recommendations to encourage research in Cambodia.

What is Research?

In general terms, research is a process of seeking to explain and find answers to an inquiry. Socrates (469-399 BC), a well-known philosopher, said, “Life without inquiry is not worth living for a human being.” Inquiry plays an essential role in the research process because it can push humans to acquire knowledge or experiences. Boudjelal (2020) stated that curiosity is an intrinsic feature of humans; it inspires us to make discoveries and explore the unknown. More systematically, Okokpujie et al. (2018, p. 7) defined research as “the quest for truth with the assistance of study, perception, examination, and test.” With an emphasis on finding solutions to social problems, Ajoku (2006, as cited in Chikwe et al., 2015) sees research as the process of searching for knowledge, truth, similarities, relationships, and solutions to problems through systematic data collection, analysis, and interpretation. Research is, therefore, an intensive and extensive quest for solutions to problems in our society (Chikwe et al., 2015) and is key to advancing human society.

The Importance of Research for Cambodia

Nowadays, many developed and industrialized nations across the world have prioritized research development as a way to strive for a robust knowledge-based society. For instance, since 1999, New Zealand has implemented a

tertiary education manifesto, called “Nation Building: Tertiary Education and the Knowledge Society,” as one of the national strategies to foster national development through promoting research and knowledge creation (Scoop, 2004). In particular, New Zealand’s universities have invested heavily in research and development.

To date, Cambodia is still a developing country, seeking to actively integrate itself into other regional and global economies to achieve its national goals of becoming an upper-middle-income country by 2030 and a high-income country by 2050 (Royal Government of Cambodia, 2018). Achieving these ambitious goals require clear and effective strategies and collective efforts from all stakeholders. Concomitantly, the role of research must be prioritized to help Cambodia realize its goals.

Research, by its nature, contributes to knowledge creation and human capital development, which are indispensable components for developing a nation. While creating new knowledge and understanding, involvement in research promotes critical thinking and analytical skills necessary to solve social problems. On the academic side, new knowledge and understanding created from research stimulate further studies and ultimately contribute to building qualified human resources for the future workforce. Recognizing the essential role of research in human capital development, MoEYS introduced several research-related policies, such as the Policy on Research Development in the Education Sector and the Policy on Higher Education Vision 2030, to improve higher education and promote research in Cambodia.

Research also influences government policies in response to social issues and governance. Research plays a vital role in identifying problems and seeking directions to solutions. Research plays an important role in the policy-making process because it helps to better understand social issues, set out effective policies to address them, and propose the best ways to deliver the policies. Moreover, research helps the government to understand how concerned stakeholders feel and respond to each policy, enabling the government to reflect on its policy implementation (Boa et al., 2010). As the welfare of many Cambodians is still in a vulnerable condition due to various social issues (Chheang, 2014), the government needs to implement effective policies in

response to those social issues. Government policies need to be planned and evaluated based on research, as it can identify specific issues and generate accurate information to formulate appropriate policies that can help improve living conditions and contribute to social development.

Research is also crucial for economic growth. According to Khan (2015), boosting research and innovation is essential for developing nations to sustain economic growth. Accurate data collected through well-planned research on the national and global economy can guide policy planning and implementation to cope with risks that a country faces, especially for a transitional economy such as Cambodia. Thus, research can identify loopholes in the economy and what changes need to be adjusted to minimize risks and maximize profits. Moreover, policymakers and practitioners can use research results to modernize and innovate the economy and strengthen regional and global competitiveness.

Challenges to Promoting Research in Cambodia

Promoting research has remained a critical challenge for many nations. It is indeed a challenging task to accomplish, especially for low-income and middle-income countries, since reinforcing research requires funding and structure of the knowledge system (Kearney, 2009). Cambodia is not an exception. Many fundamental challenges have restricted the promotion of research in Cambodia. Some of the challenges include a lack of government funding, limited research capacity and involvement, insufficient incentives for researchers, and a lack of national publications and research platforms (Cambodian Institute for Cooperation and Peace, 2016; Heng, 2020b; Heng & Sol, 2021; Kwok et al. 2010).

Concerning state funding, Cambodian higher education institutions do not receive enough funds from the government to carry out research and innovation projects. MoEYS has received USD 1 million each year from the Ministry of Economy and Finance for research activities since 2015 (Sok & Un, 2018). The availability of this fund is essential to promote research activities in Cambodia. However, the budgets have also been used for other purposes rather than promoting research in the country (Sok & Un, 2018). This funding problem lies within the bureaucratic model of financial management that is not

responsive and flexible in practice, making the monetary capital for research activities scarce (Mak et al., 2019).

The limited research capacity and involvement among Cambodian faculty members and students are also a pressing challenge. Eam (2015) surveyed 444 Cambodian lecturers at ten different universities, of which three are private. Results showed that 65% of the lecturers were not involved in any research over the past five years. Most higher education institutions in Cambodia are teaching-oriented and do not have clear policies and mechanisms to support and promote faculty research (Kwok et al., 2010). For Cambodian students, they have barely experienced research until they reach university (Heng & Rautakivi, 2020). Even at the university level, students have limited opportunities to be involved in research activities or projects because research is not perceived as the core mission of most Cambodian universities (Kwok et al., 2010). Students themselves do not enjoy writing reports and drawing up research projects, including writing literature reviews (Borin, 2020).

Thus far, Cambodia has yet to become a knowledge-based society and is not readily adaptive to research involvement. From the culturalist perspective, cultural traditions have influenced the mindset of students, which may have affected how they perceive research. Asking teachers questions to validate knowledge can sometimes be regarded as rude or inappropriate; therefore, students often accept new knowledge without question. This cultural influence may have prevented the spirit of inquiry, which is essential in research, from developing among many Cambodian students (Kwok et al., 2010).

The lack of research incentives has also significantly impacted researchers' motivation and commitment to research. This is a major challenge to promoting research in Cambodia. Some critical issues include the lack of financial support from national and institutional levels, time constraints, limited recognition for research, and insufficient research infrastructure (Eam, 2015; Kwok et al., 2010). With the current conditions, most researchers would use their time to do other activities to earn extra income (Ros & Oleksiyenko, 2018).

Along with other challenges, the lack of national publication and research platforms has also weakened the development of research in Cambodia.

Therefore, efforts need to be made to increase national publication outputs and platforms (Hanover Research, 2014; Heng & Rautakivi, 2020). However, this work requires a strong commitment from the government to acknowledge the need for developing research and encourage national research outputs by establishing national research centers or other platforms (Marchant, 2009). In Cambodia, research publications tend to come from researchers who have intense interests in research (Heng, 2020b), and most of their works were published overseas. Only a few local universities have promoted research activities and can produce research outputs. At the national level, the Education Research Council (ERC) was formally launched in March 2015 and institutionalized via Prakas No. 658 in July 2017 to promote research activities through insightful and innovative ideas in the education sector (MoEYS, n.d.). However, only a limited number of research publications have been made.

Conclusion and Recommendations

Promoting research in Cambodia is crucial for the future of the country because research contributes to creating new knowledge and understanding, building vital human resources, guiding government policies and governance, and boosting economic growth and competitiveness through innovation. Despite continuous efforts made by MoEYS and the development partners, research development in Cambodia is still in its initial phase and confronted by many challenges that need to be addressed systematically and collectively.

To ensure that research in Cambodia continues to grow, all relevant stakeholders at different levels have indispensable roles to play. The government should work with all stakeholders to address the current challenges and place research development as a national development priority. The government should also allocate more funds to nurture a research culture and build more specialized research facilities. Promoting national publication and research platforms will also promote awareness among the public of the importance of research. Moreover, MoEYS should consider establishing a research bonus system to draw a great deal of interest among scholars, academicians, and researchers and show respect and recognition for their contribution to research development in the country.

At the institutional level, universities shall play a leading role in promoting research and publication. University curriculum should instill research interest in students and build their research capacity so that they can contribute to research development in Cambodia while studying and after entering the workforce. Collaboration between faculty members is also vital to promote research activities and productivity. Therefore, universities should endeavor to foster research communities within their institutions and beyond as well as initiate a wide variety of research projects or competitions to raise public awareness.

Individual scholars, researchers, and academics also have a vital role to play in enhancing research in Cambodia. They should be actively involved in research activities to advance their careers and contribute to knowledge creation in their fields. As financial support for research activities is still significantly limited, those who have a strong motivation for research should look for collaborative opportunities to enhance their research productivity and contribute to promoting research in Cambodia.

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THE EDUCATION SYSTEMS IN CAMBODIA AND THAILAND: A COMPARATIVE PERSPECTIVE

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Abstract

Education is widely recognized for its significant roles in economic and social development; therefore, many countries have tried to improve their educational systems. Cambodia and Thailand are no exception, yet the strategic educational plans and policies implemented to improve the educational systems in these two countries differ. This chapter compares the Cambodian and Thai education systems to promote a deeper understanding of the educational systems in both countries by focusing on educational provision, financing, enrollment rates, decentralization, and higher education recognition.

Keywords: Cambodian education system; Thai education system; comparative perspective; Cambodia; Thailand

Introduction

Cambodia experienced three decades of civil war during the darkest period of its modern history. Under the genocidal Khmer Rouge regime (1975-1979), Cambodia experienced massive destruction to its education system and the intelligentsia, with intellectuals and educated people, including teachers, professors, government workers, and people speaking foreign languages or wearing glasses being targeted for execution (Kiernan, 2002). Over the past two decades, a peaceful and stable Cambodia has seen economic growth, social development, educational reconstruction, and poverty reduction. Cambodia was one of the fast-growing economies, with an average Gross Domestic Product (GDP) growth of 7% per annum between 1999 and 2018, leading to a substantial decline in the poverty rate from 47.8% in 2007 to 13.5% in 2014 (ADB, 2019; Sam, 2020). The GDP per capita in Cambodia has increased from USD 295.90 in 1999 to USD 1,643.12 in 2019 (World Bank, 2020).

For Thailand, despite its repeated military coup d'états, its GDP per capita has increased from about USD 2,000 in 1999 to approximately USD 7,800 in 2019 (Statista, 2021). Over the past three decades, Thailand has substantially reduced poverty from over 65% in 1965 to under 10% in 2018 (World Bank, 2020). Thailand's economic growth experienced fluctuation between 1999 and 2018, with 7.5% being the highest GDP growth in 2010 (World Bank, 2020).

Cambodia and Thailand are placing a great emphasis on their educational systems by continuously increasing national budget allocations for the education sector considered a key driver of social and economic development. Despite having the same goal of improving their respective education systems, education in both countries have significant differences.

This chapter aims to provide a brief introduction to Cambodia's and Thailand's education systems and discuss various education-related issues, including educational provision, public financing, enrollment rates, education decentralization, and the recognition of the education systems of both countries. The chapter concludes with some recommendations to enhance the education system in Cambodia.

Brief Introduction to Cambodia's and Thailand's Education Systems

Cambodian Education System

In Cambodia, the education sector is mainly under the administration and management of the Ministry of Education, Youth and Sport (MoEYS) and the Ministry of Labor and Vocational Training. The Cambodian Constitution adopted in 1993 mandates free primary and secondary education in state-run schools. In 2007, the government passed the Cambodian Education Law, requiring the state to provide nine years of compulsory basic education (Millar, 2018). Formal education in Cambodia consists of general and higher education. The general education is structured as 6+3+3, consisting of six years in primary school, three years in lower secondary school, and three years in upper secondary school. Although Cambodia provides free education from grade 1 to grade 12, many parents with sufficient financial resources prefer to send their children to private schools. However, students from both state-run and private schools need to take the same grade 9 and grade 12 national examinations.

According to MoEYS (2021), in the academic year 2020-2021, there were 114,170 education staff, of which 93,956 were teachers, and 3,223,475 students enrolled in 13,597 public schools across the country. There were also 14,152 teachers and 219,818 students enrolled in 1,307 private schools in Cambodia (MoEYS, 2021). Over the last few decades, Cambodia has experienced a rapid increase in the number of higher education institutions (HEIs), increasing from 8 in 1997 to 128 in 2021 (Sok & Bunry, 2021). Among the 128 HEIs, 80 are private HEIs (MoEYS, 2021). Cambodian HEIs are mostly concentrated in Phnom Penh, Cambodia's capital city, and they are under the supervision of 16 different ministries and institutions. MoEYS oversees 80 HEIs with 16,676 teaching staff and 201,900 students enrolled in 76 private and 13 public HEIs in the academic year 2020-2021 (MoEYS, 2021). Many public universities often provide degree programs from bachelor's to doctoral degrees, while large private universities offer all degrees ranging from associate's to doctoral degrees. Some private and small HEIs provide only associate and bachelor's degrees.

Thai Education System

In Thailand, formal education consists of general and higher or tertiary education. Under Thailand's 1997 Constitution, the state provides all Thai citizens with at least 12 years of free basic education, including pre-primary, primary, and secondary education (ASEAN Secretariat, 2013). Thailand has nine years of compulsory education for all children starting at the age of six. Basic education in the Thai educational system is formulated as 6+3+3, with six years in primary school, three years in lower secondary school, and three years in upper secondary school. Basic and higher education are provided, promoted, and overseen by the Ministry of Education (MOE). However, in May 2019, a significant change occurred with the establishment of the Ministry of Higher Education, Research and Innovation (MHESI) to oversee higher education, promote research and innovation, and strengthen science and technology in Thailand. Currently, public and private HEIs are no longer under the administration and supervision of MOE's Higher Education Commission and Private Education Commission. Instead, following the establishment of MHESI, these two offices have been merged under the MHESI operation.

According to the National Statistical Office of Thailand (n.d.), there were 756,573 teachers and 8,266,269 students enrolled in public schools and 2,371,660 students in private schools in 2019. Since its first university was established in 1917, Thailand saw a substantial increase in the number of HEIs, particularly over the past five decades. As of 2021, Thailand has 156 HEIs, and the current HEIs landscape is divided into three categories: autonomous, public, and private (MHESI, 2021). Among the 156 HEIs, there are 27 autonomous universities and 57 public HEIs, consisting of nine Rajamangala universities of technology, 10 public universities, and 38 Rajabhat universities. There are also a total of 72 private universities. Of the public universities in Thailand, there are two open universities, namely Ramkhamhaeng University and Sukhothai Thammathirat Open University, established in 1971 and 1978, respectively. An open university refers to a university that usually accepts students without formal academic qualifications, employing distance learning technologies and allowing students to study from home. Around 30% of HEIs are concentrated in Bangkok, and public HEIs account for approximately 86% of all student enrollment (The Quality Assurance Agency for Higher Education, 2019). Many

HEIs, both public and private, provide all levels of programs ranging from bachelor's to doctoral degrees.

Cambodia's and Thailand's Education Systems: A Comparative Perspective

Provision

Cambodia and Thailand have the same educational system formulation of 6+3+3, with 12 years of free basic education and nine years of compulsory education. Education in both countries is classified into three systems: formal, non-formal, and informal (Southeast Asian Ministers of Education Organization, 2017). Such education systems are believed to provide students with an understanding of basic life skills and the culture and society in which they live. They can also develop the human resources needed to meet the demands of the labor market and to compete in the regional and global arena.

Both countries have a mixed involvement of the public and private sector in providing education. Even though the majority of the students in both countries receive their basic education from state-run schools, a small but increasing percentage of students are enrolled in private schools. However, in recent years, Cambodia and Thailand have been promoting private schools to varying degrees, demonstrating recognition of the growing importance of private and state-run schools in contributing to the education systems. Appropriate public and private sector involvement in educational provision can be recognized as a key component to ensuring equity, effectiveness, and efficiency of educational system management (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2014). The existence of private schools simultaneously promotes diversity and innovation as well as inequality, as many private schools are located in urban areas.

Financing

Cambodia's and Thailand's increasing allocation of finance and resources to the educational sector indicates their dedication to education. Significant investment of public spending in education by the two governments ensures

the self-sufficiency of all citizens through social and economic skill development while eradicating poverty and sustaining economic growth and social benefits through human capital development. Thailand spends more in terms of the percentage of GDP on its education sector than Cambodia does. Thailand's public spending on education was 5% of its GDP of USD 506.2 billion in 2018 (National Economic and Social Development Board, 2018), a more significant investment in the educational sector than many other countries over the past decade (The Bangkok Post, 2020). By contrast, Cambodian public expenditure on education was 2.16% of its USD 24.57 billion GDP in 2018 (World Bank, 2020). In Thailand, public spending on the educational sector has been around 20% of the total government expenditure since 1999 (The Bangkok Post, 2020). Compared to Thailand, Cambodia spent approximately 2.16% of its public expenditure on education in 2018, although the Cambodian government planned to commit around 20% of the national budget to the education sector (International Centre for Technical and Vocational Education and Training, 2020).

Enrollment Rates

The education systems in Cambodia and Thailand have seen a continual increase in student enrollment in primary education, with both countries achieving over 90% of net enrollment over the past several years (ASEAN Secretariat, 2020). However, some students leave school before completing their basic education. Table 3.1 shows that Cambodia experienced a high dropout rate in the transition from primary to secondary education, suggesting that Cambodia still lags behind Thailand despite its nine-year compulsory education provision. According to Vann (2014), the significant dropout rate was due to school shortages in remote communities, household poverty, domestic work, and wage employment. Although Thailand also faced the problem of school dropouts, its dropout rate was lower than that of Cambodia when students transitioned from primary to secondary education. Moreover, Thailand was still confronted by the critical challenges of having many out-of-school children. These children were school-age children who were not enrolled in any formal education or those who had previously been enrolled but dropped out. They were mostly children of low-income families, rural-

urban migration workers, foreign-born workers, remote community dwellers, and exploited laborers (Vann, 2014).

Table 3.1

Net Enrollment Rate (%) by Education Level in 2018

Country	Primary education	Secondary education
Cambodia	92.4	41.9
Thailand	99.4	85.1

Source: ASEAN Secretariat (2020)

In terms of enrollment by gender, female students have a slightly higher enrollment rate than male students in primary and secondary education in Cambodia, with a significant dropout rate during the transition (see Table 3.2). For Thailand, it does not experience a significant transitional dropout rate, and the percentage of student enrollment by gender is similar.

Table 3.2

Net Enrollment Rate (%) by Gender in 2018

Country	Primary education		Secondary education	
	Male	Female	Male	Female
Cambodia	90	92.8	38.3	45.7
Thailand	99.9	98.9	83.2	87.1

Source: ASEAN Secretariat (2020)

Decentralization

The education systems in both countries underwent decentralization reforms in functions and responsibilities for lower levels of administration to improve relevance, effectiveness, and efficiency (UNESCO, 2014). Since the mid-1990s, Cambodia has implemented decentralization reforms in various sectors, including education. The benefits of the decentralized educational system and the inflexibility of the centralized education system have been discussed since the early 1990s (Pellini & Bredenberg, 2015). The decentralization of Cambodia's education system aims to provide equitable access to education,

increase educational quality and efficiency, and promote institutional development and capacity building at local administrative levels. Similarly, Thailand's National Education Act, B.E. 2542 (i.e., 1999) introduced educational reforms, significantly changing the organizational structure and promoting decentralized administration and management at local levels by consolidating educational planning at the central level to ensure universal basic education and opportunities for lifelong learning (MOE, 2008). Thus, Cambodia and Thailand have pursued different decentralization reforms to build and strengthen the lower administrative level capacity to improve the planning, management, implementation, monitoring, and decision-making of educational policies across different levels.

Higher Education Recognition

Financial resources allocation, decentralization, education reforms, and the implementation of the Education Strategic Plans by Cambodia and Thailand demonstrate the dedication of both governments to improve educational quality and efficiency and make their respective education systems nationally and internationally recognized. In 2020, Thailand had 16 universities listed in the Times Higher Education (THE) World University Rankings, making it a leading country in Southeast Asia to have the highest number of universities listed in the THE World University Rankings 2020 (Heng, 2020). In 2021, there were 23 Thai universities listed in the THE World University Rankings 2021 (THE, n.d.). For Cambodia, it was one of the only three ASEAN member states, including Laos and Myanmar, whose universities were not on the list of the THE World University Rankings 2020 (Heng, 2020). However, in 2021, one of Cambodia's private universities, the University of Puthisastra, was listed in the THE Global Impact Rankings (Khmer Times, 2021).

Another factor that could indicate higher education recognition and internationalization in both countries is the number of inbound international students. Over the period of five years, the number of international students in Thai universities increased from 16,000 in 2008 to 18,814 in 2013, with students coming from 139 countries (Snodin, 2019). The number of international students in Cambodian universities was only around 150 in 2016 (Dash, 2016), indicating Cambodia's limited internationalization of higher education.

Another essential factor that needs to be considered when comparing Cambodia and Thailand's higher education is research output and performance. Cambodia's performance in research and development was ranked 121st, while Thailand's performance was 56th out of 141 countries, showing that Cambodia considerably lags behind Thailand (Heng, 2021b). Heng (2021b) also found that the total number of Scopus-indexed publications emanating from Thailand over the last decade (2010-2019) was 143,507, while Cambodia had only 3,521 publications over the same period. This difference is not surprising because the research capacity of Cambodian universities and academics is limited (see Heng & Sol, 2021; Kwok et al., 2010).

Citing previous studies, Heng (2021b) noted that research in Cambodia was underdeveloped and underfunded, resulting in low research engagement and output of Cambodian universities and academics. Compared with Cambodia, Thailand has constantly provided financial support to drive university research activities and develop national research infrastructure and capacity. This has enhanced Thailand's research output and competitiveness, enabling it to serve as a regional hub for education, research, and development (The Quality Assurance Agency for Higher Education, 2019).

Conclusion and Recommendations

In conclusion, Cambodia and Thailand have placed great emphasis on providing free basic education with nine years of compulsory education for all students. Although both countries have experienced significant increases in primary school enrollment, Cambodia still struggles with high dropout rates during the transition from primary to secondary education. Both countries have pursued decentralization reforms in their educational systems to improve educational quality and efficiency and promote capacity building among staff at lower administrative levels. The public financing for the education sector in both countries demonstrates their recognition of the importance of education in contributing to nation-building and developing intellectuals and the moral fiber of society for future generations. The educational systems in both countries are different due largely to the different stages of their economic development.

Considering the differences between the education systems in Cambodia and Thailand, significant efforts are needed to improve Cambodia's education system, regardless of positive development in recent decades (see Heng, 2021a; Heng & Sol, 2021). It is crucial for the Cambodian government to expand its educational provision, improve educational infrastructure, and ensure that young people, especially female students, are in schools. The education reform within the context of teacher quality, decentralization, deconcentration, and budget management is essential to improve Cambodia's educational quality and efficiency. Underfunded and underdeveloped research infrastructure and low research engagement of academics need to be addressed to foster a research culture in Cambodia and internationalize its higher education. The Cambodian government needs to consider its current national budget and resources allocation for the education sector because limited funds and budgets have posed significant challenges to the education system. It is also worth noting that efforts by the government or MoEYS alone are not sufficient to improve Cambodia's education system. Active participation and collaboration from all stakeholders play an integral part in developing the Cambodian education system and promoting a research culture in Cambodia.

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NEW GENERATION SCHOOLS IN CAMBODIA: ISSUES AND RECOMMENDATIONS

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Abstract

In response to contemporary challenges confronting Cambodian general education and increasing economic and educational competitiveness, New Generation Schools (NGS) were established as part of the educational reforms implemented by the Ministry of Education, Youth and Sport. The aim of NGS was to create autonomous public schools with a mandate to innovate and improve the quality of education. Currently, NGS schools have been operated in 11 different school sites in Cambodia. The presence of NGS schools has enhanced the performance of school governance, teachers, and students, helping to reduce corruption in public schools. However, some issues associated with the implementation of NGS schools remain. This chapter discusses these issues and makes some recommendations to improve the overall operation of the NGS reform.

Keywords: New Generation Schools; NGS; issues; Cambodia

Introduction

In 2015, the New Generation Schools (NGS) program was launched as a new education reform that serves as a framework to improve the quality of the education system in Cambodia. The NGS program originated from a pilot project called the “Beacon School Initiative,” which was initiated by the Kampuchea Action to Promote Education (KAPE) in 2011. With positive results of this project, in 2015, the Ministry of Education, Youth and Sport (MoEYS) adopted and implemented this project under the NGS framework as an education reform to pave the way for enhancing the quality and outcome of the Cambodian general education system in public schools and prepare students for the workforce in the 21st century (KAPE, 2014).

Until now, the NGS program has expanded itself to 11 different school sites in Cambodia, including in Phnom Penh, Kampong Cham, Kandal, and Kampong Speu (No, 2020). Among the 11 school sites, there are seven secondary schools and four primary schools. The outcome of the NGS implementation has been positive. For instance, grade 12 students of Preah Sisowath High School outperformed the non-NGS schools in the grade 12 national examination in 2019, with a passing rate of 94% compared to the national average passing rate of 68% (MoEYS, 2020). Based on the demographic subgroup analysis of the exam results, NGS students tend to perform better than students in regular public schools. They also have better learning culture and behavior (Donaher & Wu, 2020). Notably, NGS teachers reported that the NGS program had provided them with more creative and modernized methods for developing students’ cognitive skills (Sacker, 2017).

To set the scene for further discussion, this chapter first briefly presents the challenges confronting Cambodian general education and then explains what an NGS school is. After that, the chapter describes the importance of the NGS program for Cambodian general education and identifies some key issues associated with the implementation of the NGS program in Cambodia. Finally, the chapter suggests some recommendations to address the issues and enhance the quality of the NGS program.

Key Challenges Facing Cambodia's General Education

From 1979 until the present, Cambodia's formal education system has been changed from time to time. There were different systems for general education: the 10-year system (4+3+3) from 1979-1987, the 11-year system (5+3+3) from 1987-1994, and the 12-year system (6+3+3) from 1994 until the present (Sem & Hem, 2016). Although the transformation of the Cambodian education system has evolved from time to time, the quality of education remains an issue. According to Sem and Hem (2016), most public schools face challenges of large class sizes (high student-teacher ratio), insufficient textbooks, limited library resources, and inadequate learning facilities. These challenges make students unable to gain sufficient knowledge and skills for further education and become quality human resources required to drive the country's socioeconomic development. Moreover, because teachers earn meager salaries, many teachers tend to have a second or even a third job to increase their incomes. This has undoubtedly lowered the effectiveness of teaching due to reduced time in planning and other associated overloads. For instance, many public school teachers earn additional incomes by teaching a double shift, offering private tutoring, or teaching more classes at private schools. According to Brehm and Silova (2012), this is a major issue causing low quality in public schools because teachers usually pay more attention to teaching in private classes and tend to ignore the quality of their teaching in public school classes. On top of that, different forms of corruption between students and teachers always occur in almost every public school. Teachers usually sell lessons or exam papers to students for money, and some students could buy passing scores without studying hard or taking exams (Kirya, 2019).

Furthermore, the low quality of teachers has undermined the quality of Cambodian education. The education system in Cambodia suffers from the limited quality of teacher preparation programs, lack of a standard evaluation system of teachers, inadequate opportunities for continuing professional development, and failure to recruit highly qualified teachers into the teaching workforce (Phim, 2014). Prigent (2016), for example, found that 84.9% of the Provincial Teacher Training Center students were selected from students who achieved grades C, D, or E in their grade 12 national examination. Moreover, many, if not most, high school graduates perceived the teaching career as their

last choice. In rural areas, the quality of education is much lower than in urban areas because of the lack of qualified teachers and basic school infrastructure. Many rural students are living below the poverty line (Lay et al., 2017).

To address these issues, MoEYS has made efforts to improve the education sector by implementing Education Strategic Plans (ESP) every five years, including ESP 2000-2005, ESP 2006-2010, ESP 2009-2013, ESP 2014-2018, and ESP 2019-2023. Since 2014, under the leadership of Dr. Hang Chuon Naron, the current education minister, a significant reform was made to the education system to improve the quality and eliminate corruption in the grade 12 national examination. When the examination reform was first implemented, only 26% of grade 12 students passed the national exam in 2014, a sharp drop in the passing rate compared to 80% in 2013 (Robbins, 2015). In the 2019 national examination, the passing rate was 69%, suggesting an increase in the quality of education in Cambodia (Gravett, 2019). Another critical reform since 2015 was the introduction of the NGS framework to enhance the autonomy and the quality of teaching and learning in public schools (KAPE, 2014).

What is an NGS School?

Based on the NGS Operational Policy Guidelines published in 2019, MoEYS defined an NGS school against five core principles: (1) new standards of governance with strict accountability for performance, (2) high professional standards, (3) operational autonomy, (4) a system of accreditation, and (5) rationalized resource allocation framework (MoEYS, 2019). To illustrate, NGS schools introduce a new governance structure that encourages the operational autonomy of school principals to promote innovations and ensure high professional standards for teachers, students, student services, and learning facilities. This autonomy is being held with strict accountability to improve schools' performance by adhering to the NGS guidelines. An NGS school will lose its accreditation if it does not comply with the accreditation criteria laid out in the NGS Operational Policy Guidelines under the monitoring of the National Oversight Board. New Generation Schools introduce new governance on efficient allocation of resources with high accountability to improve student services, teachers' performance, and school facilities by negotiating voluntary contributions from parents and communities. These contributions help

improve Cambodia's general education by eliminating the low accountability of teachers' performance in public schools and large payments from parents in private tutoring (MoEYS, 2019).

With the continuous rise of regional integration, economic competition, industrialization, and private school expansion in the country, the establishment of NGS schools aims to have autonomous public schools similar to the charter schools in the United States (MoEYS, 2016). School leaders are granted autonomy for education innovation to promote good governance and restore the reputation of public schools in Cambodia through enhanced education quality (MoEYS, 2016). The NGS model focuses on science, technology, engineering, and mathematics (STEM) education, information and communication technology (ICT), critical thinking skills, and interpersonal and intrapersonal competencies to prepare students for the competitive society in the 21st century.

The Importance of NGS Schools for Cambodian General Education

NGS schools have played an essential role in improving the quality of education in Cambodian public schools. There are at least four fundamental roles of NGS schools in contributing to the development of the general education system in Cambodia.

Firstly, NGS schools are the catalyst for improving the quality of teacher performance. One of the issues in the Cambodian education system is the severe lack of training and professional development opportunities for in-service teachers (Bredenberg, 2018). With the establishment of NGS schools, teachers can receive various training and capacity development opportunities to foster 21st-century teaching and learning which involve new teaching methods with the support of modern technologies and experiments. Through this, teachers can enhance their capabilities and are able to provide students with quality learning experiences (Tandon & Fukao, 2015). As the education minister said, "After one year of visiting Sisowath [High School], I could see that the students had changed as a result of the altered teaching method. I think they have curiosity, they want to learn, and they want to explore, to have dreams" (Sacker, 2017, para. 24).

Secondly, NGS schools are a major driver to enhance the quality of learning for students. Unlike the regular public schools that are usually in shortage of learning infrastructure, NGS schools provide comfortable libraries, science labs, playgrounds for sports activities, and experiment facilities, among others (Bo, 2020). Moreover, NGS schools focus on STEM subjects which are vital for improving students' critical thinking skills and capabilities to compete on the international stage (Donaher & Wu, 2020). At NGS schools, students can improve their foundational knowledge and skills through enhanced learning experiences.

Thirdly, NGS schools foster a significant transformation of school governance. School autonomy and accountability are the innovative governance features that make NGS schools unique from regular public schools (Bo, 2020). NGS schools use school-based management in which schools have self-governance in terms of school operation, management, resources, school missions, and vision. They can also set their own goals for the national education policy (Bo, 2020). This autonomy has been a major driver for NGS schools to innovate the education system to meet the interests or needs of students. For instance, the autonomy of NGS schools allows school directors and teachers to innovate the curriculum, instruction, technology, and facilities in any particular subjects that are the primary catalyst for students to develop their knowledge and skills (MoEYS, 2019).

Lastly, the NGS framework plays a significant role in the development of Cambodian education going forward because it has initiated a system for eliminating corruption in public schools, which is one of the main problems in Cambodian education (Donaher & Wu, 2020). NGS schools focus fundamentally on school accountability and sustainable governance by eliminating corruption. If any form of corruption occurs, then it is no longer an NGS school, and it will lose its autonomy and become a typical public school (Donaher & Wu, 2020).

Issues Associated with the Implementation of NGS Schools in Cambodia

Even though the NGS reform has offered immense benefits and played a pivotal role in improving the quality of general education in Cambodia, there are some major issues associated with the implementation of the NGS program.

First, there is no standard process for choosing or training school principals for NGS schools, which could jeopardize the NGS framework (Jones, 2020). NGS schools have a development and training program for teachers but not for school principals. This can be a critical problem when school principals do not adhere to the NGS vision and accountability standards (Donaher & Wu, 2020). It can potentially lead to more serious problems such as ineffective allocation of school resources or corruption if school principals use their autonomy and power to exploit students' parents through voluntary contribution money (Donaher & Wu, 2020).

Second, there is a gap between NGS and non-NGS schools in terms of budget allocation. Bo (2020) noted that regular public schools received less funding from MoEYS than NGS schools, leaving them unable to enhance their quality. Thus, the large-scale implementation of NGS schools will affect the budget allocation for non-NGS public schools.

Third, the NGS admission policy creates inequality between rich and poor students (Bo, 2020). As a matter of fact, students can be admitted to NGS schools if they pass a competitive entrance exam and an interview or get a lottery ticket. Therefore, poor students who did not take extra classes will have low chance of passing the entrance exam, and the lottery ticket scheme cannot ensure their admission (Sacker, 2017).

Last but not least, the implementation of NGS schools faces the problem of students' low literacy, particularly among grade 6 students in rural areas. The NGS framework assumes that all NGS students have the necessary knowledge and can learn in grade 7 in NGS schools (MoEYS, 2020). This literacy issue makes it hard to implement NGS schools and ensure the standard of education quality in rural areas (Chea & Chen, 2021).

Conclusion and Recommendations

The NGS program is a reform framework for upgrading the quality of general education in Cambodia. It has become a fundamental program to guide further educational reform implemented by MoEYS. The NGS program has brought about a new model of school governance to ensure education quality in Cambodian public schools. NGS schools also provide students in public schools with access to quality education through innovative teaching and learning with the support of plentiful resources, technologies, and experimental facilities, among others. However, there are also some issues associated with the implementation of the NGS model, including the lack of a standard process for choosing or training school principals for NGS schools, unequal allocation of budget, educational inequality, and the limited basic knowledge of students to cope with the demanding NGS program.

In order to tackle some of the issues concerning the implementation of the NGS schools in Cambodia, all concerned stakeholders may consider the following recommendations.

First, a standard and transparent appointment process for NGS school principals should be strengthened to ensure that they have sufficient knowledge and skills for effective school management and leadership. While NGS schools are unique in terms of their autonomy, innovative teaching and learning, and high accountability for education quality, NGS school principals should receive regular training opportunities for professional development and capacity building for effective school oversight. Moreover, it is vital to have a school-based governing board to hold the school management accountable for educational performance and adhere to the NGS guidelines. The entire school community, such as parents, teachers, and the school management, should also be involved in the monitoring and evaluation process of the NGS program so that they have a strong sense of responsibility for the future of NGS students.

Second, parents who are key actors in implementing the NGS program should be more willing to support and sustain the NGS reform through their financial contributions. While the funding for public schools is still limited, financial

contributions from the parent community are essential to ensure the expansion and sustainability of the NGS program as part of the education system in Cambodia at large.

Finally, MoEYS should reinforce and expand collaboration and partnerships with other key stakeholders, such as the private sector and development partners, to diversify support and investment in building the necessary infrastructure for a more effective operation of the NGS program. More support and investment will also allow a continuous expansion of the NGS program to the wider student community so that they can access better quality education through enhanced learning experiences. This will also help to narrow the educational gap between NGS and non-NGS students.

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Part 2:

Key Issues in Cambodian Education

SO CLOSE, YET SO FAR: NARROWING THE GEOGRAPHICAL GAP IN CAMBODIAN EDUCATION

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Abstract

Decades of civil war have brought immense destruction to Cambodia. After the country was liberated from the brutal Khmer Rouge regime in 1979, the internal power struggle continued for another decade, leaving little room for the country to recover. The education sector was no exception and had to restart from scratch. There were many challenges that the country had to overcome in order to rebuild its human resources. Among those challenges, the geographical gap between education in urban and rural areas remains a pressing issue that needs to be resolved. This chapter aims to discuss the challenges of the geographical gap facing Cambodian education, specifically for students in rural areas. It then offers some recommendations to narrow the geographical gap.

Keywords: Geographical gap; education; challenges; urban and rural areas; Cambodia

Introduction

According to the World Bank (2021), Cambodia's population stood at 16.7 million in 2020 and was forecast to reach 16.9 million in 2021. The country is relatively young, with two-thirds of its population aged between 15-64 and 29% under 15 (Open Development Cambodia, 2020). About 78% of the Cambodian population live in rural areas where access to quality education is generally limited. Despite its small size, Cambodia has a promising future because of its young population. However, Cambodia needs to further improve its education system to ensure that its young population can have equal access to quality education that allows them to contribute meaningfully to the country's socioeconomic development.

In recent years, the Royal Government of Cambodia (RGC) has placed a strong emphasis on the role of education, as evidenced by the continuing increase of the national budget allocation to the education sector. In 2020, the Ministry of Education, Youth and Sport (MoEYS) was listed as the first priority among the top ten ministries that received the highest share of total national expenditure. In 2021, MoEYS was among the five prioritized ministries, receiving the highest budget of USD 859 million out of the USD 8 billion national budget for 2021 (Long, 2020). According to a report from the Parliamentary Institute of Cambodia (2019), the average growth of the education budget stood at 16.7% over the years 2016-2019.

However, education in Cambodia remains confronted with many critical issues, including the lack of teachers and qualified teachers, limited quality of the learning environment, and inadequate school infrastructure and learning resources, among others. Another key issue is the unequal access to quality education between students in rural and urban areas. This educational inequality is not only limited to access to quality education but also information about scholarships, training programs, and other learning opportunities. As a result, students in urban areas consistently outperformed their peers in rural areas, as reported in the PISA-D national report (MoEYS, 2018). One of the leading causes of this inequality is the geographical gap that largely defines the fate of many Cambodian students.

No doubt, a wide range of opportunities is concentrated in urban areas. People in urban areas have better access to quality education, job opportunities, career prospects, and many more. Foreign language studies such as English, Chinese, Thai, Korean and other languages are also widely accessible in urban areas, particularly in the capital city. Thus, it is obvious that people in urban areas can enjoy more educational advantages than those in rural/remote areas.

This chapter aims to discuss issues around the geographical gap that poses significant challenges to Cambodian education. It examines the challenges of education facing students in rural areas, followed by a brief discussion of how the geographical gap becomes a major barrier to inclusive education in Cambodia. The chapter then offers some recommendations to narrow the geographical gap in Cambodian education.

Challenges Facing Students in Rural Areas

Cambodia views education as a means of achieving its long-term vision of becoming an upper-middle-income country by 2030 and a high-income country by 2050 (RGC, 2018). Therefore, the Cambodian government has put much effort into improving the education system by building educational infrastructure, especially schools, across the country and introducing a number of educational reforms. While the government's efforts need to be recognized and commended, many challenges remain. MoEYS, for example, has recognized and highlighted the geographical gap or disparity as one of the main challenges to education in Cambodia (MoEYS, 2018). Although thousands of scholarships are provided every year by the government to underprivileged students across the country to narrow the educational gap and promote inclusive education, a lot more work needs to be done. In particular, more efforts need to be made to address the limited access to information and the lack of learning resources/facilities and opportunities in rural areas of the country.

One of the most common challenges for students in rural areas is the lack of access to information, for example, information about extracurricular activities, additional learning materials, educational competitions and opportunities, recent educational developments, and career prospects. Even in the digital age,

where information is widely shared over social media and the internet, rural students still lack the necessary means to access useful information, including digital devices, affordability for internet connectivity, guidance, and language proficiency needed to access the information in foreign languages, particularly English.

Students in rural areas are very likely to be unaware of the available opportunities for them. Although sometimes useful information finds its way to this group of students, other challenges prevent them from grasping the opportunity available to them. For example, they may not have the resources to travel to towns or the city, or they may not have the support, including parental support, required to fully participate in or meet the requirements of the program for which they intend to apply. Moreover, due to the lack of many important services in rural areas, students are likely to be confronted with a number of roadblocks such as limited access to information that enables them to make informed decisions about which major or which university they can select for their higher education, provided that they have the opportunity to continue their education beyond high school (Lay et al., 2017).

The lack of learning resources/facilities and local educational opportunities is another major challenge for students in rural areas, leaving them at a disadvantage compared to their peers in urban areas. Students in rural areas do not normally have access to reading materials, particularly textbooks and library books, to support their learning. Ravet and Mtika (2021) conducted a study involving a number of rural primary schools in Cambodia and reported an acute shortage of both teaching and learning resources to support educational inclusion and quality. In rural areas, school facilities such as reading spaces and science laboratories are generally not adequately equipped to support the teaching and learning process and, in the worst cases, are completely absent.

The lack of necessary resources/facilities to support students' education and development has made educational inequality a key issue preventing Cambodia from promoting inclusive education and achieving inclusive development. In Cambodia, students want to have an improved independent learning environment with the necessary support such as reading materials and

libraries. For example, a survey conducted by the World Vision Cambodia in 2016 involving over 4000 Cambodian students showed that they wanted the standard of education to be improved. They also wanted to have more books, better reading environments, and more reading activities in the library (World Vision, 2017).

There is also a severe lack of community programs/activities in many rural areas, such as volunteering opportunities and academic competitions, to support students in developing their confidence and skills to strive for success in their studies and future careers. In rural areas, many students finish their primary and secondary school education often without engaging in significant extracurricular activities that can help them develop their soft skills and gain practical knowledge to ensure their success in further education and personal and professional life.

On the contrary, students in urban areas are more likely to be exposed to various learning opportunities that can help them achieve their potential and realize their education and life goals. For instance, students in Phnom Penh and some other provincial towns can find various educational activities to participate in such as debates, educational fairs, and public speaking contests to enhance their knowledge and skills. Moreover, a variety of available learning resources/facilities that schools in urban areas have to offer create a conducive and supportive learning environment for students, usually making them outperform their peers in the countryside. Students in urban areas also have better access to a great variety of information that helps them with their learning and allows them to make informed decisions about their future, for example, choosing a university major or career pathway. The same opportunities are less likely to be available to students in rural areas.

Geographical Gap: A Major Barrier to Inclusive Education

As discussed above, the geographical gap is a major barrier to Cambodian education, particularly for many students in rural areas. While rural students often face greater problems when it comes to their education, several other related issues affect inclusive education in Cambodia. One of the issues is related to the perception of rural citizens, particularly parents, who tend not to

value higher education and consider it the key to their children's bright future. They are often hesitant to send their children to school in the first place or do not let their children pursue higher education as they believe that education is costly and useless (Stew, 2021). This perception and other geo-economic factors have led to high dropout rates among students in rural areas. A report by the Creative Associates International (2011), submitted to the United States Agency for International Development, analyzed the dropout trend in Cambodia and showed that:

Dropout rates for rural populations are consistently above the national average whereas dropout rates for urban populations are found to be below. In the rural areas, dropout is 9.1 percent at the primary, 22 percent at the lower secondary, and 15 percent at the upper secondary level. The rate among the urban population is 6.5 percent at the primary, 11 percent at the lower secondary, and 6.7 percent at the upper secondary level. (p. 10)

The geographical factor also significantly impacts the likelihood of students in rural areas pursuing tertiary education. Because the number of provincial universities is still deficient, after completing secondary school education, students in rural areas have to migrate to the capital city or a few other provincial towns where universities are located to pursue their higher education. However, due to financial constraints, concerns over safety and security, especially for female students, and other factors such as parental perceptions, many high school graduates in rural areas do not have the opportunity for further education.

Recommendations to Narrow the Geographical Gap in Cambodian Education

Narrowing the geographical gap in Cambodian education demands time and great efforts from all concerned stakeholders. Putting an absolute end to this critical issue in the short term is not a practical vision at the moment. What follows are some recommendations that can contribute to narrowing the geographical gap in Cambodian education.

Promoting Digital Access

One cannot ignore that during this fast-transforming technological era, digital learning can play an essential role in narrowing the geographical gap in education. The COVID-19 pandemic has proved that digital learning access remains beyond the reach of millions of Cambodian rural students, requiring immediate and visionary solutions. It was estimated that “some two millions students in rural areas cannot access the government’s recently launched E-Learning and Distance Learning programmes after schools in the Kingdom were ordered shut due to the COVID-19 pandemic” (Joshua & Khat, 2020, para. 1). Therefore, more support is required to help students in rural areas access wider digital learning.

Greater digital access can also help students in rural areas reach out to more information, educational resources, and academic opportunities that will improve the prospects of their education and future careers. Educational events such as public speaking, competitions, debates, and other extracurricular activities should also allow virtual participation so that students in rural areas, if affordable, can have better opportunities to develop their academic skills and knowledge.

Promoting Mentorship Programs

All concerned stakeholders, including Provincial Offices of Education, development partners, schools, and school communities, should, with resources at their disposal, look at the possibility of running mentorship programs to support students in rural areas. The mentorship programs can engage senior students who have successfully overcome their geographical challenges and achieved outstanding academic results to contribute to their community by supporting their younger generations. Students from rural areas are usually keen on contributing back to developing their province or community. Thus, the mentorship programs will provide them with the opportunity to give back and engage in social work to contribute to the betterment of education in their community and society at large. The mentorship programs can be implemented in different forms, such as helping

students access more information, providing regular academic guidance, helping students to prepare for a scholarship program, or inviting scholars or successful individuals with origin from the province to be guest speakers of events held in the community.

Presently, a few local mentorship programs are conducted both physically and virtually. One example is a mentorship program run by the Ponheary Ly Foundation in Siem Reap province. The program aims to provide guidance to local students about the path forward in their academic journey, foster a culture of leadership and inclusion, build a community of role models, and offer various other opportunities. The program is categorized into three parts: inviting university scholars to share their stories, hosting guest speaker events, and organizing field trips to different schools, universities, workplaces, and career fairs (The Ponheary Ly Foundation, 2020).

Another example is an online initiative named “Edon-KH.” This youth-led online initiative was launched in 2020 to organize various virtual training and workshops. One of its flagship programs is the “Scholarship Mentorship Program,” which provides selected mentees with the opportunity to work directly with former scholarship awardees so that they can receive guidance on how to search and apply for scholarships and have their scholarship essays reviewed (Edon-KH, 2021). At present, Edon-KH has about 10,000 followers on its Facebook page, and it is recruiting the second batch of mentees for its mentorship program. These mentorship initiatives are a good example that should be promoted and made more available to support students in rural areas in preparing them for their studies and future work. Thus, schools, school communities, and other concerned stakeholders in the countryside should find ways to offer similar mentorship programs or other initiatives that can support rural students to gain better knowledge and necessary skills to help them achieve their academic goals.

In addition, other relevant academic programs such as capacity-building workshops and academic conferences should include provincial outreach campaigns as part of their plan. This would be very helpful for rural students in accessing useful information and learning about life outside of their community. One good example of this type of outreach program is the

Provincial Youth Outreach Program run by the Fulbright and Undergraduate State Alumni Association in Cambodia (FUSAAC). It is a series of information-sharing workshops for high school and university students in different provinces. The workshops cover diverse topics ranging from information about different U.S. scholarship programs and mock Test of English as a Foreign Language (TOEFL) tests to soft skills (FUSAAC, n.d.). This unique program can contribute to a better understanding of scholarship opportunities and the importance of soft skills among students in different provinces across the country.

Organizing Provincial Education Fairs

Another recommendation that may contribute to narrowing the geographical gap for rural students is to hold regular “Provincial Education Fairs,” and any relevant groups that have the necessary resources can take the lead to organize the education fairs. A Provincial Education Fair is a special event held to help local students and parents receive information about various educational opportunities and related awareness of the significance of higher education as well as how students can prepare and plan for their life after secondary school education.

Here are some suggestions on how to organize this program. First, the program should consist of a series of activities, such as (1) university/school open sessions, (2) panel discussions on selected topics that address issues faced by rural students (e.g., how to choose a suitable major and university, how to overcome barriers to higher education, etc.), (3) consultation sessions with experts for students and parents, and (4) student academic planning workshops. Sustainable funding and resources are required to hold this program, so active involvement and cooperation from all key stakeholders, such as MoEYS, development partners, relevant non-governmental organizations (NGOs), and the private sector, are imperative. If implemented, the Provincial Education Fair will benefit thousands of people, including students, teachers, and parents. The formulation of the plan for such a program should be studied and discussed in detail among all relevant parties.

Establishing Local Academic Information Centers

Establishing Local Academic Information Centers (LAICs) would be very helpful for students in rural areas. LAICs can serve as the information providers for local schools, teachers, students, and parents. In addition, they can provide consultation services to students and parents about different academic opportunities available both locally and beyond. With enough resources and capacity, LAICs can also organize small community events to raise the value of education, publicize academic information, and engage parents in their children's learning process. The first step is to begin at the provincial level. For example, a private, non-religious and non-political school in Ratanakiri province named Krou Yeung School has created a "Scholarship Club" that provides several services to support their students in getting access to various academic information. The club serves as an information center while also providing a scholarship preparatory mentorship program for high school students and organizing various alumni experience-sharing events and workshops. The school has a number of alumni pursuing degrees in the capital city and receiving scholarships to study in different countries. With their resources, the school has been able to send their students to join a few national competitions in the city, according to the school's Facebook page.

Conclusion

Education is the hope of Cambodia's future and should be considered the number one priority. Investing in education for the young generation is the most viable means to make Cambodia prosperous in the so-called knowledge-based society. Therefore, maximizing human resources development in every part of the country is crucially important. To achieve it, a more supportive learning environment for students in rural areas needs to be further enhanced to narrow the geographical gap in Cambodian education and promote educational quality and equality for all.

This chapter has presented the challenges of education confronting students in rural Cambodia, particularly in terms of inadequate access to information and learning resources/facilities. It has put forward some recommendations to

narrow the geographical gap and achieve more inclusive education. All in all, efforts from the government alone are not sufficient to address this vital issue. Support from all concerned stakeholders in the education sector is crucial to the successful development of education in Cambodia.

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CAMBODIAN WOMEN IN HIGHER EDUCATION: PROGRESS AND CHALLENGES

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Abstract

Cambodia has endeavored to improve educational equity and quality through various policy reforms and initiatives since the collapse of the Khmer Rouge regime in 1979. After decades of efforts, the gender gap in Cambodian higher education has significantly been narrowed. In spite of this, female enrollment, especially in higher education in Cambodia, still faces some challenges. This chapter explores the issues of Cambodian women in higher education and their roles in socioeconomic development. It also discusses the progress and challenges that female students face in pursuing higher education. The chapter concludes with some recommendations to further enhance Cambodian women's participation in higher education.

Keywords: Cambodian women; higher education; progress; challenges

Introduction

In the wake of the brutal Khmer Rouge regime (1975-1979), the education system in Cambodia had to start from scratch. The Cambodian government, its development partners, and other concerned non-governmental organizations (NGOs) have worked side by side to improve quality and equity in the education system through various policy reforms and initiatives. These efforts have remarkably made good progress in reducing the gender gap in Cambodian higher education. As a result, female student enrolment increased from 15.8% in 1995 to 43.7% in 2015 (Knoema, 2020). In 2018, the higher education enrollment rate for female students was about 49.68% (Ministry of Education, Youth and Sport [MoEYS], 2019) and reached 50.8% in 2020 (MoEYS, 2021).

Despite the increasing enrollment rate of female students, traditional and cultural norms, financial constraints, and other social problems have prevented Cambodian women from furthering their education. Especially, the gender inequality between women and men in Cambodia has undermined the roles of women in participating in political and economic development. This has limited their contribution to society.

Gender inequality has also hindered the Royal Government of Cambodia (RGC) in leading the country toward sustainable economic development (RGC, 2014). To address this issue, RGC has cooperated with its development partners and other concerned NGOs to formulate policies, strengthen law implementation, and establish strategies and plans to promote gender equality in all sectors, particularly in the education sector. Moreover, recognizing the vital role of Cambodian women in contributing to socioeconomic development, the government has ratified international conventions and enacted domestic laws to scale up female enrollment in higher education. It is strongly believed that bolstering their capacity to participate in society is crucial for promoting sustainable development in Cambodia (Dim, 2018).

Against this background, this chapter explores the issues of Cambodian women in education by focusing on the progress and challenges when it comes to female students in higher education. The chapter begins by discussing issues

around women's education in Cambodia and their roles in socioeconomic development and then looks at the challenges they face in furthering their post-secondary education. The chapter concludes with some recommendations to further strengthen and sustain female student enrollment in higher education.

Women's Education in Cambodia

The education system in Cambodia was destroyed during the Khmer Rouge regime, and therefore the development of Cambodian education is relatively recent. The impact of Khmer culture and traditions has contributed to limiting Cambodian women's rights and freedom to lengthen their education. Traditionally, it was believed that women's roles are limited to house chores as they have limited capacities to do things outside the household. As a well-known Khmer saying goes, "Women cannot manage around the stove," meaning that women's place is in the kitchen. The combination of regime changes and Khmer traditions has shaped the public perceptions about women and their roles in society. Consequently, women tend to have fewer opportunities than men in many areas, particularly in education and public leadership.

According to the United States Agency for International Development (USAID) (2013), Cambodian women have been regarded as inferior, weak, and submissive, especially for any critical decision-making in their life, such as pursuing their studies and choosing their life partner. Based on Cambodia's traditions and culture, women are perceived to be caregivers of their families, including taking care of the young and elderly. In this sense, women need to manage and do most of the housework such as washing, cooking, child caring, and so on. Moreover, people tend to give less value to women in terms of participating in social life, including political and economic development activities, because many Cambodian women spend most of their time doing the housework. As a result, women's opportunities outside their family and home are limited. They are often neglected when it comes to the pursuit of higher education, self-development, leadership skill training and capacity-building opportunities, and social decision-making because of their social status.

Moreover, the demographic and geographic conditions of the Cambodian population have caused wide disparities in literacy and educational level. The 2017 Cambodia Socio-Economic Survey shows that Cambodian women's literacy rate was only 67.7% in 2008, compared to 84.6% for men (Ministry of Planning, 2018a). Although the literacy rate has improved, women's literacy rate (78.1%) was lower than men's (87.3%) in 2017. Moreover, the adult literacy rate of the population aged 15 and above between 2014 and 2016 was higher among men than women in all geographical areas in Cambodia (Ministry of Planning, 2018b). Research by Hoeurn (2021) showed that the average dropout rate in the provinces of Cambodia was 1.87%, while 7.99% of students faced a high risk of dropout during the school closure in the time of the COVID-19 pandemic. Girls and women are amongst the vulnerable groups to endure the negative impacts of school disruption and closures caused by the pandemic. The economic and social pressure caused by the pandemic has also added a disproportionate burden of the family on females, thus disrupting women's opportunities to access remote learning (Babb & Buchanan, 2020).

In addition, a study by Seithi (2013) indicated that the level of education determined the level of self-confidence among women in Cambodia. Insufficient training and low education were among contributing factors that hindered women's capacities in partaking in social, political, and economic development. The inadequacy of Cambodian women's participation is most likely seen in politics because people tend to view women as having lower capabilities than men in conducting any political affairs and give more privileges to men in society. Approximately 30% of women have reached undergraduate levels but are unable to use their capacities to engage in public office (Seithi, 2013). This is due to the fact that women's competency is thwarted by the male-dominated culture in Cambodia. Hence, pursuing tertiary education with sufficient training will help women reduce injustice and discrimination that prevent them from having any pivotal role in social, political, and economic activities (USAID, 2013).

Women's Roles in Socioeconomic Development

Dundar and Haworth (1993) argued that "Education of women is important not only from the angle of equal education opportunity between the sexes but also

for the substantial social and economic returns to female education that can be achieved by raising women's income level and productivity, producing better educated and healthier children, and reducing fertility rates" (p. 1). This statement suggests the significant role of women in the family and society. Undoubtedly, educated women play a crucial part in boosting positive effects on social well-being. Hence, encouraging women to pursue higher education will enhance their productivity at home, which can improve family well-being, child survival, and investment in children's cognitive development.

Hill and King (1995) studied the effects of female education and showed that female education and the gender gap in education were essential determinants of social well-being and economic growth. Educated women could inspire and create opportunities for other women to utilize their equal status as men on the national and international stages. According to Hill and King (1995), key benefits included "fostering economic growth, extending life expectancy, and improving the functioning of the political process" (p. 23).

Furthermore, having female representatives in the public sector, such as politics and economy, minimizes the gender gap in the national representation and provides them with opportunities to participate in the process of formulating laws or policies that could affect everyone's life. For instance, Madame Siv Eng Tong, who was the first female member of the Cambodian parliament from 1958-1970 and served as the Minister of Social Action, the Minister of Health, and the Acting President of the National Assembly, encouraged other women to stand for office. She fought fiercely for women's rights in the areas of maternity care, gender mainstreaming in education and employment, and protection for child and female sex workers during her time in office (Cambodian League for the Promotion and Defense of Human Rights [LICADHO], 2004). Unequivocally, all of the campaigns she fought for are still high on today's government agenda (LICADHO, 2004). Thus, if more Cambodian women could participate in political and economic policy decisions, it is more likely that they could bring enormous benefits to themselves and their society.

Cambodian Female Students in Higher Education: Progress and Challenges

The Cambodian government has made significant progress in establishing the legal foundations and policy frameworks to promote education for women in Cambodia. According to MoEYS (n.d.), the Cambodian government has recognized the importance of providing equal access to higher education for all citizens, regardless of social status such as gender, age, and disability. The government adopted the Law on Education in 2007 and the National Policy on Lifelong Learning in 2019 to foster adult education through collaboration with other NGOs (Neak, 2020). Likewise, in 2008, the Ministry of Women's Affairs developed a third five-year strategic plan focusing on five strategic areas, including, among others, "the education of women and girls, attitudes and behavior change" (Maxwell et al., 2015, p. 2).

As accessing higher education remains a challenge for female students, the government introduced the National Strategic Development Plan (2019-2023) to increase women's enrollment in higher education, especially in the field of science, technology, engineering, and mathematics (STEM) (RGC, 2019). Another policy called the Policy on Higher Education Vision 2030 has been implemented to promote educational equality and equity at all levels by providing national scholarship programs and capacity development for female students (Kem et al., 2019).

Despite the progress of female student enrollment in higher education, many challenges remain. One of the critical challenges for female students is financial constraints. According to Chea (2015), the scarcity of financial resources has obstructed women from enrolling and completing their tertiary education. In developing countries, direct and indirect costs of education affect women desperately (McCrackon et al., 2015). Cambodian women from disadvantaged backgrounds, particularly those living in rural areas, who had to move to study in the city, where most of the major universities are located, needed to make more expenses in addition to school fees such as expenses on accommodation, food, travel, and other associated living costs (Chea, 2015). Adding to the direct costs on tuition fees, study-related materials, and other living costs, there are also indirect costs involved when they are away from home due to their limited contribution to house chores, family businesses, or farming work (McCrackon

et al., 2015). In addition, the United Nations Educational, Scientific and Cultural Organization (2014) found that there was a significant disparity between Cambodian women from rural and urban areas enrolling in higher education, with only 4% of women from rural areas compared to 24% of women from urban areas.

Cultural norms and gender stereotypes are also leading causes preventing Cambodian women from pursuing a higher level of education. According to Univers'ELLES (2017b, para 8), “Both spoken and unspoken rules regarding a woman’s place in the social structure of Cambodia are extremely rigid and unyielding.” The idea or value of how Cambodian women should behave is described in Chbab Srey (i.e., a code of conduct for women). Chbab Srey has been grounded in representing gender roles in Cambodia for years. The rules of Chbab Srey had also been included in the school curriculum until 2007, after which some rules were removed by the Ministry of Women’s Affairs (Univers'ELLES, 2017a). However, the impacts of Chbab Srey have deeply affected the value given to women, as reflected in a saying in Chab Srey that goes, “School is more useful for boys than girls” (Univers'ELLES, 2017a). Moreover, women are usually urged to quit school and get married at an early age to fulfill their roles as good women in the family and society. Some research has suggested that women and girls are not adequately encouraged to study, experience, and obtain opportunities in STEM subjects because the subjects are often thought to be for men (McCrackon et al., 2015).

Finally, another major challenge for Cambodian female students is the possibility of achieving good academic performance. Financial, social, and cultural constraints not only restrain women from participating in education but also impact their academic achievement. Odaga and Heneveld (1995) argued that socioeconomic constraints, cultural beliefs, and unsupported environment could negatively affect females’ academic performance in particular and their education in general. Chimombo (1999) showed that although girls’ enrollment in schools was almost the same as boys’, girls had a higher likelihood of dropout than boys. Moreover, the participation of women in education in many developing countries is characterized by poor performance and low enrollment (King & Hill, 1993; Odaga & Heneveld, 1995). For these reasons, the amount of time Cambodian women spend on household

chores and other works as well as how they are influenced by social and cultural perceptions, have limited their performance in school and can even lead to school dropouts (Odaga & Heneveld, 1995).

Conclusion

As a developing country that went through decades of civil war and a genocide, Cambodia today has come a long way. The Cambodian government has been trying to improve the education system and narrow the gender disparities as much as possible. The cooperation and contribution from other stakeholders, particularly NGOs and development partners, have helped improve Cambodian women's opportunities to access education, as evidenced by the increase in female student enrollment across different levels of education (see MoEYS, 2021). Improving women's access to higher education is a smart economic goal of the government as it can develop the whole country by first reducing gender inequalities in the education sector, which can, as a result, enhance social well-being, improve human resources development, and drive economic growth in Cambodia.

Considering the crucial roles of women in society, the government and concerned stakeholders should continue to support women's enrollment in education and introduce strategic plans with efficiency and quality to enhance their roles in socioeconomic development. The government, moreover, should provide more support and alleviate the difficulties of women in rural areas in pursuing higher education because they generally face more obstacles than those in urban areas. Finally, families, schools, and the community play a vital role in creating a supportive and inclusive environment for women. These stakeholders should provide women with support and encouragement. They should also ensure that Cambodian girls and women understand the importance of education, particularly higher education, in transforming their lives, families, and communities and shaping the future of Cambodian society.

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SCHOOL BULLYING: CAUSES, EFFECTS, AND SOLUTIONS

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Abstract

School bullying is a subset of aggressive acts or behavior among students in schools. While some consider it a part of character building, others see it as a provocative problem that needs to be addressed. Although much is known about the nature of school bullying, the issue is still widespread and prevalent among school children in the 21st century. This chapter seeks to define school bullying, explore its different forms, and explain its effects. The chapter also provides some suggestions to address the issue of school bullying, focusing on the need for all concerned stakeholders to work together to detect, discourage, and reduce school bullying.

Keywords: School bullying; causes; effects; solutions

Introduction

School bullying is a severe problem that must not be overlooked. It has affected the lives of many students from primary to high school. School bullying was initially seen in Scandinavian countries, with research and case studies conducted ever since (Olweus, 1973). Although numerous school bullying cases occurred in the old days, this issue was only seriously investigated and systemically discussed starting from the 1970s (Leymann, 1996; Olweus, 2000). Interestingly, Debarbieux (2003) found that school bullying could affect schools worldwide, irrespective of geography, race, national border, culture, and politics.

In the context of Cambodia, the United Nations Children's Fund (2018) reported that 52.4% of adolescents befriended the gang and the bully group in urban Cambodian schools. This infers that the students had to become bullies to stay in that circle and prevent themselves from becoming the victims of school bullying. The phenomenon of school bullying, generally referred to as "being picked on," has now received massive and consistent attention from the public, parents, teachers, and researchers. Research has shown that the students who were victims of bullying in different forms during school years could suffer from substantial, short-term and long-term consequences, including trauma, scar, and emotional despair (Carlisle & Rofes, 2007; Tippet & Wolke, 2014; Wolke & Lereya, 2015)

This chapter aims to provide definitions of school bullying and discuss its forms and causes. It also examines the repercussions of school bullying, focusing on its physical, psychological, academic, and social effects. The chapter concludes with suggestions for all concerned stakeholders to work together to address the issue of bullying in schools.

Defining School Bullying

According to Olweus (1999), bullying is a form of aggression committed by a child/teenager that shares three common characteristics: (1) the behavior to hurt another individual, (2) the behavior which is performed repeatedly, and (3) an imbalance of power. Bullying can be defined as "a unique but complex

form of interpersonal aggression, which takes many forms, serves different functions, and is manifested in different patterns of relationships” (Swearer & Hymel, 2015, p. 344). Moreover, bullying can be carried out in various forms, such as teasing, taunting, hitting, destroying properties, insulting, name-calling, spreading false rumors, showing aggression, threatening, dating violence, sexual abuse, and social exclusion (Berger, 2007; Owens, 2000; Whitney & Smith, 1993). These pervasive types of aggression inflict harm either directly or indirectly, and physically or emotionally, but one thing for sure is that these acts are intentional.

Overall, bullying is the harmful acts of aggression and harassment characterized by an imbalance of positions between the perpetrators and the targets who appear socially, economically, and physically different from them (e.g., appearance, possessions, personalities, social background, gender, race, or academic ability).

Types of School Bullying

There are various typologies and forms of bullying seen in schools around the world. The two common types of bullying are verbal and non-verbal bullying. Verbal bullying is a form of bullying with written and spoken words. According to Dracic (2009), verbal bullying can be straightforward to spot. It comes in coercion, intimidation, intrusion, revenge, offensive communication, manipulation, and evasion. Some bullying behaviors might range from kicking, punching, spitting, name-calling, bossing around, locking the victims indoors, and damaging the properties of the victims (Dracic, 2009). Nowadays, cyber-bullying is a common form of verbal bullying. As defined by Patchin and Hinduja (2010), cyber-bullying is willful and repeated harm inflicted through the use of the internet and social media, including chat rooms or groups to threaten and embarrass the victim, or force someone to do or post something they do not want to on the internet. Cyberbullying also includes abuse, sexual harassment, graffiti, homophobic remarks, and imitation of cultural gestures as a joke to offend someone.

On the other hand, non-verbal bullying is depicted as actions intended to insult or tease another person using facial expressions and non-verbal signals. Crick

et al. (1999) defined non-verbal bullying as indirect aggression that conveys threats using body language rather than direct speech. Leaving the victim out of any collective/class/social activities, giving dirty looks, and instilling the perceptions of the intention to bully, harm, and abuse are examples of non-verbal bullying (Garlen & Waxler, 2000; Olweus, 1996; Underwood, 2003). Additionally, if one intentionally ignores or excludes other individuals from accessing information or takes credit away from someone, it is also a form of non-verbal bullying (Crick et al., 1999). The act of being oblivious, playing dumps, changing the subject, distracting the issue away, blocking someone's work, exempting someone from the responsibility can also be considered non-verbal bullying (Garlen & Waxler, 2000).

Causes of School Bullying

According to Dunbar and Burgoon (2005), school bullying is mainly characterized by aggression, power, superiority, and dominance in which someone who is more superior influences the behaviors of the weak. School bullying occurs when there is an imbalance of powers among students. The perceived imbalance of power often results from the victims of bullying who are being physically weaker than the perpetrators, being mentally and emotionally vulnerable to offenses, and being left out alone against the large gangs (Olweus, 2003). Likewise, Leymann (1996) and Hoel and Cooper (2001) emphasize that the asymmetric power relationship motivates bullies to harm or harass those who have difficulty defending themselves. Peterson and Rigby (1999) have also noted that school bullying is not the conflict between two or three students with the same strengths but the abuse of power by many against one.

Bullying often happens to students with a peculiar identity. The reasons do vary, yet the findings by Pritchard (2013) showed that children who were more likely to be bullied possess similar traits and risk factors, such as having different gender identities (lesbian, gay, bisexual, or transgender), being children with disabilities, or coming from peculiar families with bad reputations. Furthermore, children of colored groups, disabilities, lower class, low-status, or poor living conditions who cannot afford typical materials like the other students in the class are also vulnerable targets for bullying (Malecki

et al., 2020). Tippet and Wolke (2014) carried out a study to examine whether or not the socioeconomic status of a student makes him/her a bully or a target of bullying. The results showed compelling evidence that school bullying was associated with socioeconomic status, meaning that poverty, low social status, economic disadvantage, or parental unemployment made the children susceptible to being bullied by others.

Brito and Oliveira (2013) stated that children with low self-esteem, anxiety, depression, and mental disorders are more or less viewed as weak by the popular or affluent students in schools. Not surprisingly, physical appearance can make children the victim of bullying too. Bullying often happens to those who are underweight, obese, or have weird body structures (Ganapathy et al., 2019). However, some bully others because they have hidden inferior complexes and low tolerance of criticism directed against themselves, so they use bullying behavior as a way to make themselves feel better and more superior compared to their targets (Lindroos, 1996, as cited in Pörhölä et al., 2006). Mostly, wealthy students tend to bully others due to jealousy of parental love as they tend to lack it and face high mental and emotional pressure or expectations from home (Brito & Oliveira, 2013). However, some children who have friends who are school or class bullies and need to maintain this group of friends to protect themselves are likely to take part in the bullying process (Malecki et al., 2020). Xiong (2020) conducted a study to examine the correlation between academic achievement and bullying. The results revealed that students tended to resort to bullying to gain dominance, superiority, and out-study over their peers in class.

Effects of School Bullying

School bullying can create physical, psychological, academic, and social effects on both the bully and the bullied. Each of these effects is discussed in turn.

The Physical Effects

The body and mind relate to each other. The effects of school bullying on the mind are also associated with the physicality of the victims. Mental stress from being bullied can trigger physical problems. Wolke and Lereya (2015) indicated

that some physical implications of school bullying on the bullied victims could include a loss of appetite, sleep disturbance, weakened immune system, heart problems, stomach pains, headaches, and frequent digestive problems. In addition, verbal bullying could leave scars, bumps, and bruises on the victim's face and body which can last for a long time. Research conducted by Vanderbilt and Augustyn (2010) showed that bullying experience could leave a negative impact on the growth, nutrition, general health development, and quality of life of a bullied person.

According to a cross-sectional school-based survey conducted by Garmy et al. (2019) on Icelandic participants aged 11-15, eight in ten bullied students reported weekly pain, frequent headaches, stomachaches, back pain, and neck and shoulder pain. Similarly, many young students and adolescents who had been bullied complained about their nausea, backache, dizziness, enuresis, tiredness, and aches (Srabstein et al., 2006). Fife and Forste (2018) found that bullied kids were often seen using analgesics and pain-killing drugs to relieve their pain after reporting the case of bullying to the school committee.

The Psychological Effects

Bullying is a horrible experience for the person who faces it. There are numerous psychological effects of school bullying, especially for the bullied students. Bullied kids develop feelings of depression, anxiety, loneliness, and inferiority. Some develop self-destructive behaviors, including self-harm, a tendency to be a loner, and feelings of anger and bitterness along with the desire for revenge (Boulton & Smith, 1994; Callaghan & Joseph, 1995; Hodges & Perry, 1996). At the same time, some victims think of suicide as their end because they constantly feel desperate and helpless due to a lack of social support, lack of future optimism, and poor self-esteem (Roland, 2002).

Albaladejo-Blázquez et al. (2019) conducted a study to investigate the negative psychological impacts on three types of participants, including the bully, the bullied, and the uninvolved, to evaluate how different types of bullying impact on health-related quality of life as well as psychological and mental health in adolescents. The results from a survey of 1723 Spanish adolescents from both public and private schools revealed that those who were never involved in the

bullying case were fine. However, the bully and victims admitted facing problems of anxiety, depression, and suicidal thoughts. Interestingly, Ferran and Selman (2014) argued that three types of school environments, negligent, authoritarian, and cohesive, are conducive to bullying. Psychologically speaking, the level of safety, order, care, and empowerment in school influences students' choices when they witness bullying incidents. There tend to be more bullies and bystanders than defenders in schools where bullying behavior is neglected (Ferran & Selman, 2014). School climate can influence students' behavior in school and determine whether they join the gangs, the bystanders, or the defenders.

The Effects on Academic Performance

Missing school, dropping out of school, or coming to school with fear and anxiety are some of the results of bullying. According to the U.S. Department of Health and Human Services (2013), in 2012, more than 280,000 students were physically attacked in schools in the United States alone, and one out of ten students who dropped out of school mentioned repeated bullying as one of the major factors for their school dropout. The academic side effects are that the bullied students participate less and less in class, develop a fear of standing out in class, or purposely do poorly in tests to avoid being the target of bullying (Mottet & Thweatt, 1997).

Some other bullied students feel demotivated and hopeless in their studies. Consequently, they receive poorer grades and are identified as low achievers who are, in turn, paid less attention in class. This situation lessens their impetus to study, and as a result, they end up fading into the background in terms of their academic records, significantly leaving a negative impact on their present and future school performance (Ammermueller, 2012). Similarly, Xiong et al. (2020), who studied the effects of bullying on the academic achievements of 3227 Chinese middle and high school students, found that bullying considerably hampered students' self-confidence and self-worth because, in China, academic achievements are crucial in determining students' worth.

The Social Effects

Children who experience bullying in school are prone to greater risks of maladjustment, social and behavioral difficulties, and poor social skills (Tippet & Wolke, 2014). Research by Wolke (2013) indicated that bullying accounted for constant violence in a romantic relationship, poor family relationships or family dysfunction, fear of social life, lack of best friends or confidants, and problems making and trusting friends. School bullying could also create social problems in childhood which could be extended into adulthood. Elliot and Shenton (1999) conducted a study in the United Kingdom to investigate the long-term social impacts of school victimization. It was found that 828 out of 1000 respondents reported having very little social lives, fears of new and unfamiliar situations, fear of meeting new people, and difficulties in sustaining friendships and relationships. Likewise, participants in Carlisle and Rofes's (2007) study admitted having relational difficulties as adults and having a tendency to escape from social events. Moreover, Rivers (2004) found that some people who experienced frequent and prolonged bullying during their school years used prescription or nonprescription drugs and alcohol to cope with their tragic memories of the past.

Suggestions to Address School Bullying

School bullying often goes unnoticed because many teachers and parents may not know how to identify it or take action when they know it. Below are some suggestions for different stakeholders to address school bullying. Although these suggestions are for general contexts, it is argued that they are also applicable to the context of Cambodian education.

School Teachers

Bullying in school generally takes place following teachers' attitudes toward the classroom, learning environment, and how everyone is being treated. It is essential to have specific disciplines and punishments for the bully, with no exception. To reduce school bullying, teachers should encourage students' positive attitudes toward peers. They must ensure a safe and peaceful learning environment and that not a single student is neglected when they need help.

Bullying is less likely to happen in the presence of a teacher who stands against these actions. Teachers should report the cases to the school principal or school committee when it is too overwhelming to resolve in class.

School Staff

School staff also play a vital role in addressing the issue of school bullying. Staff need to be on the move and speculate what is going on in the classroom and are obligated to protect the students who report the incidents. Moreover, the pastoral staff have the duty to deliver a safe and supportive environment for students and deal with any issues of unfair treatment and bullying promptly and effectively. School principals also need to monitor their staff, train them, and develop a network to assess bullying and cope with bullying incidents in schools. A bullying prevention committee is also helpful when it comes to sharing summaries of data/evidence with students, parents, and school personnel.

Schools

A support network in schools is crucial. It is recommended that an anti-bullying club and counseling club for the junior and younger students in schools should be established to help vulnerable students and discourage the potential bully from committing the acts. An increase in physical deterrence can also help mitigate the problems of school bullying. As most incidents occur in the bathroom, recess, or places away from the eyes of other students, schools had better install surveillance cameras in some of these places. At the same time, visible signs of protection or punishment regarding bullying are equally necessary. Schools have the duty to develop a concrete plan and response to the incidents. Posters or signs about the punishments for the bully should be displayed in the classroom and communal facilities on the school premises. In addition, there is a need to use technological tools to combat bullying in schools. This includes using intelligent tutoring systems, analytical applications, and other Artificial Intelligence (AI) applications to track and detect incidents. Information and communication technology-mediated intervention and other available anti-bullying tools are strongly needed for bullying mitigation that occurs physically or digitally in schools.

Furthermore, it is also vital to engage all stakeholders, including parents, guardians, victims, suspects, and witnesses of school bullying during the incidents and in the aftermath, as a follow-up strategy (Bradshaw, 2015). In fact, there needs to be a call for action, including school strategies with effective ranges of clear responses and sanctions. In so doing, any problems may be solved through informal conversations or formal facilitated meetings, workable conflict resolution, and mediation mechanisms. The prevention and detection of school bullying, when done early, can also improve students' behavior in schools.

Conclusion

School bullying does not only create a cost to the children or students involved, but it also causes a big concern for educational institutions. The chapter has discussed the causes, effects, and strategies to address the issue of school bullying. Overall, consistency, persistency, commitment, use of information technology, provisions of sufficient support, and involvement from all stakeholders are needed to build resilience in school children, create a culture where bullying and discrimination are unacceptable, and encourage tolerance and respect among school students.

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CORRUPTION IN EDUCATION: CAUSES, IMPACTS, AND SOLUTIONS

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Abstract

As education plays a crucial role in the development process of a nation, it would be disastrous if corruption existed within the education system. Given the significance of education, corruption in education can be more harmful than corruption in any other sectors. Thus, corruption in education needs to be taken seriously into account. The aim of this chapter is to raise awareness of the issue concerning corruption in education and bring it to all stakeholders' attention. To achieve this aim, this chapter begins by explaining corruption in education before discussing its causes and impacts. The chapter concludes with some possible solutions to tackle corruption in education.

Keywords: Corruption in education; causes; impacts; solutions

Introduction

A prominent African-American figure, Malcolm X, once said, “Education is the passport to the future, for tomorrow belongs to those who prepare for it today.” According to Hang (2018), education plays a crucial role in the development of a nation. However, the development of the education system in many countries is often constrained by corruption. For example, while there are many issues facing the education system in Cambodia, corruption is a key issue that has considerably hampered the development of education in the country. According to UNICEF (2018), many teachers in Cambodia have tried to increase their incomes by charging students ‘informal fees’ for extra classes and study materials such as worksheets and exam papers. By law, Cambodian public education is free of charge for students. However, informal fees and costs associated with food, books, and uniforms have forced some impoverished and low-income families to pull their children out of school (UNICEF, 2018).

Corruption in education is not only a critical issue for Cambodia. In many other countries where weak education systems exist, corruption in education tends to take place. According to Urien (2012), corruption is the main reason that Nigeria has not been able to rise above the poverty line despite gaining its independence from the United Kingdom more than 50 years ago. Nigeria is considered one of the poorest nations despite its enormous natural resources. A survey conducted with university students in six countries, such as Bulgaria, Croatia, Kazakhstan, Moldova, the Kyrgyz Republic, and Serbia, showed that corruption varied in accordance with the demand for university subjects; that is, a higher frequency of corruption was found in subjects of the highest demand, such as law, economics, finance, and criminology (Heyneman et al., 2007).

This chapter focuses on corruption in education. It begins by defining corruption in education in general and then highlights the causes and impacts of corruption in education. The chapter concludes by providing some suggestions to combat corruption in education.

What is Corruption in Education?

Corruption in education is worse than corruption in other sectors because it contains both immoral and illegal elements involving either minors or young people. Education is a medium through which good behavior is shown to young people. Through education, students are taught how to behave in society, so if corruption occurs in education, students might be corrupted as well in the future (Heyneman et al., 2007). According to Brehm (2016), corruption in education is often conceptualized between two extremes: individualized behavior (the individuals) and social determinism (the system). The former leads to individualized policy and the latter is derived from structural deficiencies. Meier (2004) claimed that corruption in education could badly affect the potential growth of a whole country, and it could take several forms: bribes paid by parents to a teacher or public official to get good grades or to pass an exam, bribes paid by teachers to get preferred posting and promotion, embezzlement of funds allocated to buy teaching materials or develop the school, and other exploitation on students by teachers, among others. Overall, corruption in education can be seen in various forms which are not only committed by teachers but also by other stakeholders, including government officials, parents, and students.

Causes of Corruption in Education

If the education system is corrupted, the future of a nation will also be unfairly determined against its citizens (Heyneman, 2004). Corruption in education can occur anywhere, anytime, and at all levels, including political, administrative, and classroom levels (Meier, 2004). Below are some major causes of corruption in education.

Low Incomes/Salaries

One of the key challenges in the education sector is the inability to pay teachers and school directors decent salaries and incentives. Due to their socioeconomic conditions, teachers tend to find ways to make more money from students by charging paper fees or running extra classes (Brehm, 2016). Hallak and Poisson (2005) mentioned that corrupt behavior occurred due to poverty and low

salaries earned by public officials and civil servants; therefore, the poorer a country is, the higher the level of corruption becomes. Corruption has often become a normal pattern of behavior or a norm for buying services. For example, taking extra classes and paying for exam papers may have become normal practices of buying services from teachers.

Corrupt Culture/Environment

The educational field shall be pure without corruption, but corruption may still exist because of cultural or social environments. According to DeBacker et al. (2012), cultural norms can be passed through from one person to another. It can be implied that when people are normalized with corruption in education, they settle in well with the corrupt behavior within the educational field. This is why corruption in education can continue to exist. As Prabowo (2014) stated:

[...] each time a potential offender is exposed to an environment where pressure/motivation, opportunity and rationalization to commit corruption are present, he or she will consciously or subconsciously assess all the perceived benefits and costs before deciding to commit or not to commit corruption. In doing so, he or she will assign a subjective value to each cost-benefit element for the purpose of weighing and comparing the perceived net-benefits. (p. 323)

In brief, the act of corrupted behavior can occur consciously and subconsciously after an individual gets used to seeing the same behavior of corruption. This also makes the decision to commit corruption more likely to happen.

Corrupt Collaboration

It is hard for individuals to commit corruption fully on their own. They usually have to do it secretly, but it is easier for corruption to take place if individuals can collaborate with others. Weisel and Shalvi (2015) argued that an adverse effect of cooperation was corrupt collaboration, for it led people to be involved in excessive dishonest behavior. Corruption is driven not only by greed but also by cooperative tendencies and aligned profits. In education, a school director may cooperate with teachers, for example, by giving extra scores to students

after taking bribes. Corrupt collaboration is not new and happens in many countries. According to Gong (2002), there was collective corruption in China, where a whole group of officers was involved in corruption, and they received benefits during the process. This corrupt collaboration has become a pattern in many sectors, and education is no exception.

Lack of Strict Law Enforcement

In many countries, corruption often occurs because of the lack of strict law enforcement. People are likely to commit corruption if there is an absence of severe punishment when they are found out. Jebamani (2017) noted that there were two institutional causes of corruption, including poor regulations and inefficient controls and slow judicial processes. This is the result of a lack of strict law enforcement. Corruption in education is not different from corruption in other sectors. With a heavy and swift punishment, the perpetrator would have to think twice before making a decision to commit the act of corruption.

Impacts of Corruption in Education

There are plenty of negative impacts of corruption in education. This chapter is limited to the discussion of the impacts of corruption in education in terms of educational quality and equality, human capital development, and socioeconomic growth.

Impacts on Education Quality and Equality

Sriyakul and Jermsittiparsert (2020) noted that education quality could be significantly affected by corruption. For instance, corruption in education may result in an increasing number of unqualified teachers because they may bribe officials in charge to enter the training center and get into the teaching profession. As a result, they may not be able to provide the best learning experience for students. Boly et al. (2020) similarly claimed that corruption reduced education quality, though it may increase the education quantity by raising the chances of achieving a degree. In the presence of corruption, good candidates may have difficulties getting a degree when they face a corrupt official. In contrast, weak candidates can still obtain a degree without putting

in much effort. Not only does corruption have negative consequences on education quality but it also leads to decreased access to schooling; thus, it has an adverse effect on the level of educational attainment of the working-age population, resulting in lower human capital accumulation (Dridi, 2014). Corruption in education can also cause inequality. According to Kirya (2019), corruption can have many negative influences on the education sector, one of which is worsening education inequality. In many developing countries, for example, children in rural areas do not have the same opportunity as those in urban areas when it comes to achieving quality education. Thus, if corruption exists, it will make the educational gap become larger. Education should be distributed equally to everyone regardless of their socioeconomic status. If corruption in education is rampant, it will be hard to implement a sustainable policy that gives everyone equal access to education.

Impacts on Human Capital Development

Research has shown that the labor force's productivity and earnings are determined by education (Marginson, 2017). While human capital is a significant factor in national development, corruption in education can create a negative impact on the stability of human capital development, and it may affect the quality of human capacity and productivity (Absalyamova et al., 2016). If corruption remains at a high level, any education reform will not be effective in achieving the sustainable development of human capital needed to drive economic growth. Investment in human capital can also be reduced by the level of corruption in education (Bryant & Javalgi, 2014). As a result, there will be less investment in human capital development, potentially causing economic returns to decline. In fact, without sufficient human capital, a nation has no ability to thrive for a better future.

Impacts on Socioeconomic Growth

Ertimi and Saeh (2013) argued that corruption, empirically and theoretically, can harm economic growth through several channels, such as trade and foreign direct investment. Wherever corruption exists, it is improbable that a nation can effectively develop from significant foreign direct investment. Thus, the pace of national development can also be affected. Heyneman et al. (2007) noted that

students attending a university with a high level of corruption would suffer from a decline in education outcomes, while highly educated people would not be able to have a high income. Corruption in education can also affect social trust, making the entire society appear unreliable (Richey, 2009). With a high level of corruption, a nation will find it challenging to attract foreign investors, considerably affecting sustainable economic growth.

Possible Solutions to Combat Corruption in Education

Corruption in education can have serious consequences for the development of a nation, so this issue needs to be taken into serious consideration. This section discusses three possible solutions to tackle corruption in education, including education policy reforms, enhanced regulations and law enforcement, and community involvement.

Education Policy Reforms

Corruption in education is neither the fault of the individual teachers nor the system itself (Brehm, 2016). Teachers, students, parents, and government officials are all conditioned to commit corruption in particular ways. Thus, to tackle corruption in education, education policy reforms need to be implemented. The reforms can be done to improve curriculum, transparency, and school leadership, among other important issues (Hang, 2018). For example, in Cambodia, the New Generation School (NGS) project is currently piloted by the Ministry of Education, Youth and Sport to promote teaching and learning quality, good governance, accountability, and autonomy in schools (see Houy, this volume). This reform potentially helps reduce corruption as well. Overall, in order to ensure a reduction in corruption in education, necessary policy reforms have to be implemented.

Enhanced Regulations and Law Enforcement

Hallak and Poisson (2005) advocated that to enhance transparency and accountability in education management, there should be a strong regulatory system that strengthens management capacities and encourages an enhanced management process. These approaches involve adapting relevant legal

frameworks, developing clear procedures, and adhering to codes of practice for professions in education. They also involve defining targeted measures, expanding institutional capacities, setting up control mechanisms against corruption, promoting ethical behavior, developing decentralized mechanisms, increasing access to information, and empowering communities to have more social control. All of these should be integrated to combat corruption in education. According to Meier (2004), one key approach to do away with corruption is to enforce strict regulations on teachers' and administrators' misconduct. The implementation of regulations is crucial, and some forms of misconduct that could be considered a criminal offense have to be judged by the criminal court system. In sum, enhanced regulations and strict law enforcement are needed to reduce corrupt activities in education.

Community Involvement

To eradicate corruption in education, all stakeholders, particularly students, parents, teachers, and government officials, have to be inculcated with the knowledge of what is right and what is wrong (Chimezie & Nweke, 2016). Therefore, moral education should be further promoted in order for everyone to remain truthful and kind. In doing so, an anti-corruption attitude should be gradually instilled. Community involvement also plays a vital role in eliminating corruption in education. As learning takes place everywhere, all individuals should serve as role models for others to put an end to corruption in education. There should also be community campaigns against corruption with the objective of promoting transparency, honest living, and fiscal discipline in the hearts of citizens (Egbefo, 2012). Honesty should be promoted and honored in the community, and all concerned stakeholders, such as government bodies, religious organizations, and other corporate businesses, need to fully participate in promoting these ethical practices.

Conclusion

Corruption in education should be seriously taken into account. It is a critical matter that could eventually result in a national collapse. Corruption negatively impacts all sectors, and without significant efforts to tackle it, a nation will find it difficult to realize sustainable socioeconomic development. Factors

conducive to corruption in education should be studied in depth based on each country's context in order to understand its nature and how to address it in an efficient way. Measures such as education policy reforms, enhanced regulations and law enforcement, and community involvement are all essential to tackle corruption in education. As socially responsible citizens, we must all uphold the principle of honesty and stay away from committing any corruption in any form.

In the context of Cambodia, concerned stakeholders in the education system, particularly MoEYS, need to encourage honest practices and ensure that all public sector employees adhere to rules and regulations. There should also be more advertisements printed or broadcasted to raise the awareness that corruption in education is a serious issue. The awareness-raising campaigns are crucial as they could bring together other important stakeholders, such as students, parents, teachers, and the community, to expose corrupt activities and help stop dishonest practices.

Moreover, financial resources and learning materials have to be allocated adequately and effectively to ensure that teachers can really provide the best learning experience to their students. As digital resources are still scarce in many schools, teachers should be supported and equipped with sufficient digital resources in order for them to work out how to reduce their expenses on teaching materials, such as photocopying exam papers and buying teaching materials. In addition, there should be strict punishment for those who commit corruption both inside and outside the school setting. If teachers or public officials commit corruption, they must be fired or expelled from their position. Last but not least, ethics have to be vigorously promoted to stop corruption in education and in other sectors.

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SEXUALITY EDUCATION: EFFECTIVENESS, BARRIERS, AND RECOMMENDATIONS

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Abstract

Sex education has been promoted in recent years in Cambodia. As a result, more Cambodian youth are able to make better decisions regarding sexual intercourse, pregnancy, abortion, sexually transmitted diseases, and relationships. However, the school curriculum in Cambodia does not provide sufficient emphasis on sex or sexuality education, including issues of homosexuality and masturbation. This situation seems distressing to many Cambodians who may not be fully aware of the various sexuality concepts that are often considered taboo. The lack of sexuality education and awareness has created barriers for many Cambodians to improve their sexual well-being. This chapter discusses issues around sexuality education in Cambodia by conceptualizing sexuality education, discussing its effectiveness and limitations, and suggesting key approaches to overcome the barriers to sexuality education.

Keywords: Sexuality education; perceptions; effectiveness; barriers; Cambodia

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Critical Issues in Cambodian Education: Insights from Youth,

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Introduction

The World Health Organization (WHO) reported that more than two million young people are living with HIV, while youth aged between 15 and 25 account for one-third of all new HIV infections around the world (Leung et al., 2019). The Federal Centre for Health Education (BZgA), the United Nations Population Fund (UNFPA), and WHO ([BZgA, UNFPA, & WHO], 2016) also suggested that sexuality education plays a crucial role in reducing HIV infection rates as it facilitates more effective precautions against the virus. Studies conducted in several European countries have shown that the long-term (and more sustaining) national sexuality education programs can reduce teenage pregnancies and abortions and decrease the rates of HIV infections and sexually transmitted infections (STIs) among youth (BZgA et al., 2016).

In Cambodia, the first HIV-infected person was found in a blood donor in 1991. Thereafter, the HIV and AIDS epidemic has spread rapidly to all layers of society, causing Cambodia to experience the highest HIV and AIDS epidemic in the Southeast Asian region (Saphonn et al., 2004). After experiencing social and political upheavals for decades, the health infrastructure in Cambodia is weak. The social and cultural norms have exacerbated the situation, posing major concerns to young people in accessing information or sexuality education, especially regarding reproductive health and sex life.

To contribute to an understanding of sex or sexuality education in Cambodia, this chapter examines sexuality education in Cambodia. It begins by elaborating on the concept of sexuality education and then discussing its effectiveness and importance to Cambodia. The chapter also discusses barriers to sexuality education and provides key recommendations to promote sexuality education in Cambodia.

Defining Sexuality Education

According to a report by the Legislative Council Secretariat (2018), people use the terms 'sex education' and 'sexuality education' interchangeably. However, sex education refers to physical aspects of human sexuality. For example, in a sex education lesson, teachers may introduce the risks of STIs to their students.

Sex education also provides knowledge of how to use a condom when people have sexual intercourse. Sexuality education, on the other hand, focuses on a broader scope of human sexuality, which emphasizes the psychological and social aspects. For instance, sexuality education focuses more on the topic of Lesbian, Gay, Bisexual, Transgender, Queer, Intersex, Asexual (LGBTQIA+), social aspects, identity, and value regarding homosexuality. In this chapter, however, both terms are used interchangeably.

After the International Conference on Population and Development provided the initial guidance on sexuality education in 1994, there have been various definitions of sexuality. Some argue that sexuality is a fundamental aspect of human life with several dimensions and cannot be understood without reference to gender, human rights, and the empowerment of children, adolescents, and young people (Sek & Kong, 2016).

The National Guidelines Task Force (2004, p. 13) defines sexuality education as “a lifelong process of acquiring information and forming attitudes, beliefs, and values about such important topics as identity, relationships, and intimacy.”

According to the UNFPA (n.d.), sexuality education refers to:

a rights-based and gender-transformative approach, whether in school or out of school. It provides age-appropriate information consistent with the evolving capacities of young people. It includes scientifically accurate information about human development, anatomy, and reproductive health, as well as information about contraception, childbirth and sexually transmitted infections (STIs), including HIV. (para. 4-5)

According to a policy brief by BZgA et al. (2016), sexuality education “aims to develop the ability of children and young people to make conscious, satisfying, healthy and respectful choices regarding relationships, sexuality and emotional and physical health. Sexuality education does not encourage children and young people to have sex” (p. 1).

To put it precisely, sexuality education refers to a lifelong process of acquiring information, which is consistent with gender-focused, rights-based, and age-

appropriate approaches to sexuality education regarding behaviors, values, and health about sexual identity, intimacy, and relationships.

The Effectiveness of Sexuality Education

As pronounced in Article 17 of the United Nations Convention on the Rights of the Child (UN General Assembly, 1989), both young people and children acquire the legitimate rights to acquire information vital to their health and well-being. Noting public concern about the accelerating rape, sexual exploitation, sexual abuse, and discrimination against one's sexual orientation, a variety of sexuality education programs have been provided through school curricula in many countries.

Since sexuality education relates to gender equality, self-determination, the acceptance of diversity, and the sexual and reproductive human rights approach, it functionally contributes to empowering individuals and communities based on scientifically accurate information (WHO Regional Office for Europe & BZgA, 2010). A study by Mueller et al. (2008), which explored the association between sex education and youth engagement, showed that over 40% of youth aged between 15-19 years old who had received sex education admitted that they avoided having sex with partners after they realized the adverse effects of having sexual intercourse with different partners. Evans et al. (2020) also noted that comprehensive sex education is associated with higher communication between partners, which reduces sexual risks and concerns. Moreover, as Cook and Wynn's (2020) research illustrated, learning about sex rationality and safe sex enables people to make better decisions when it comes to sex. For example, it was found that 95% of them had used birth control while having sexual intercourse for the first time.

Similarly, in the context of Cambodia, Sok et al. (2020) found that community-based sex education programs for HIV prevention and treatment were helpful for people, especially the transgender groups. Another study by Nelas et al. (2013) on 56 teenagers aged 15 who were involved in sexual relationships showed that 35.7% of them had had sexual intercourse in their relationship that lasted between six months and one year. It was also reported that 44.4% of them used birth control pills, and 55.6% used condoms. In brief, the overall picture is

that everyone who receives sex education is more likely to make better decisions about sex, suggesting the effectiveness of sexuality education.

Nonetheless, there are some criticisms and demands for improvement in sexuality education programs. For example, some adolescents in America reported their dissatisfaction with the sex education program that they received and called for immediate change (Broadbear & Broadbear, 2012; Gubrium & Shafer, 2014). In or outside school, many adolescents were found to desire vigorous discussions about sexual pleasure, sexual organs and functions, sexual roles, and sexual coercion (Arrington-Sanders et al., 2015; Kimmel et al., 2013; Pound et al., 2016). Therefore, sex education is the topic of interest for many young people, suggesting that sufficient discussion and education about sex and related matters should be provided to young people.

Sexuality Education Programs in Cambodia

As Cambodia's social and moral norms have been so tough for young people to fully access appropriate information about sexuality education and advice for their sexual and reproductive health, sex education has been regarded as taboo and barely discussed openly among Cambodian people. According to a study by Barron (2013), sexual health education has been a part of the school curriculum in Cambodia since 1998 under the health education programs to prevent HIV and AIDs infections. The curriculum of sex education in high school, however, does not cover all parts of the characteristic of effective sex education set by the United Nations Educational, Scientific and Cultural Organization because the focus is only on male and female reproductive anatomy, the prevention from sexually transmitted diseases (STDs), and sexual abuse and harassment (Nhem, 2020). To have effective sexuality education, more than these topics need to be covered across different subjects. To address this issue, the Ministry of Education, Youth and Sport (MoEYS) has noted that a more holistic health education curriculum will be rolled out starting from 2022 (Khan & Hean, 2020). The new curriculum/program will provide up-to-date scientific information about mental and sexual health issues, while the lesson content will be more comprehensive than what is currently covered in the existing biology subject (Khan & Hean, 2020).

Meanwhile, despite the support from development partners such as UNFPA, Cambodia's teenage pregnancy is still a major health concern, as 12% of girls aged between 15 and 19 are becoming mothers (UNFPA Cambodia, 2015). Since 2013, UNFPA has supported MoEYS to develop the Comprehensive Sexuality Education Program, known as the Life Skills Education Programme: Youth and Sexual and Reproductive Health. The program is designed for primary and secondary school students. It covers a variety of topics, such as puberty and reproduction, risks and protective behaviors regarding STIs and HIV infections, gender-based violence, gender equality, love and relationships, pregnancy, and family life (UNFPA Cambodia, 2016). Moreover, the Deputy Director of MoEYS's Department of Health Studies was recently quoted saying that from 2020 Cambodian children would receive lessons on the lesbian, gay, bisexual, transgender (LGBT+) issues covering sexual orientations and gender identities in addition to the existing sex education in schools (Blomberg, 2019).

Barriers to Sexuality Education

Despite the fact that sexuality education is crucial for people, especially teenagers, as it helps them to be well aware of the negative effects of HIV or STD infections and unwanted pregnancy, many challenges remain, including a lack of consensus on school curriculum content (Yarber & McCabe, 1984). Sex education topics, in general, revolve around reproduction and general diseases while less than half touches on the issue of homosexuality and masturbation (Guyen & Isler, 2015).

Besides, debates over the appropriate age and extent for youngsters to receive sexuality education are controversial. Paton et al. (2020) explored the extent to which laws on sex education affect teenage pregnancy rates. Astonishingly, they found that laws mandating sex education in schools were associated with higher rates of teenage fertility, and changes in national laws relevant to sexual health failed to explain the gradual declines in teenage pregnancy rates in developing countries.

In Cambodia, sex education is strictly health-related and limited in terms of availability and content. Many sex education projects have been offered by peers and adults for adolescents aged 13-14 years old, and it seems that peer

leaders do a greater job in establishing conservative norms and attitudes related to sexual behavior than adult educators (Gubrium & Shafer, 2014). Moreover, in both Cambodia and elsewhere, sexual education is quite limited due to a lack of factual information (Mellanby et al., 2001). Currently, sex education is expired, unhelpful, and insufficient (Astle et al., 2021). Sometimes the reason may be that school-based sex education is a constraint and not neutral because teachers are uncomfortable teaching or talking about sex since it is considered a taboo subject (Ingham & Mayhew, 2006; Mturi & Hennink, 2005).

Another barrier concerns culture and secularism which, most of the time, disrupt or hinder sexuality education. Sexuality education in Cambodia and other Asian countries, for example, is highly challenged by cultural taboos that have been perpetually framed by conservatives (Irvine, 2004; Mayo, 2004; Yaacob et al., 2020). Moreover, sexual topics are barely discussed in Asian families because of the generation gap, parental limitations (limited knowledge), cultural restrictions, and inconvenience (Sridawruang et al., 2010). All in all, sexuality education is a topic that many people are uncomfortable talking about; as a result, it is avoided by many (Gill & Hough, 2007).

Recommendations

Sexuality education faces moral and cultural sensitivity from different groups, including parents, religious communities, and other stakeholders. This poses mountainous challenges for sex educators and sex education delivery. In this regard, it is worth considering the following ways forward and key recommendations in order to promote sexuality education more widely in Cambodia.

Internet, Culture, and Sexuality Education

It would be wise to reconnect the correlation between popular perceptions about sex and the issues of socio-cultural norms, gender identity, personhood, moral literacy, and dignity to rejuvenate the vigor of sex education values and importance. The availability of the quality of adolescent-targeted sex information online may be lacking, but it is easier to access online sex education than physical sex education (Simon & Daneback, 2013). As adolescents engage

in a lot of sexual information online, internet-based interventions can increase their safe sex behavior and sexual health knowledge. A study by Pingel et al. (2013) about gay, bisexual, and questioning men (YGBQM) found that most of the interview participants (n = 30) recommended the modern and innovative establishment of a sexual health website tailored for youth like them. Internet-based sex education should first assess individuals in terms of sex information, motivation, and behavioral skills deficits in order to utilize the right resources to address their needs and goals (Barak & Fisher, 2001).

Sexuality Education, Expectations, and Confidentiality

Sexuality education policies, first and foremost, must be up-to-date, workable, and available for possible inspection. People who wish to join the sexuality training must be respected and given the right of confidentiality to seek consultation, advice, treatment, and support. The policies are, therefore, better if they seek to safeguard clear values and set out clear expectations in an equitable manner. The idea of good sex education is evidence-based, needs-driven, and subject to evaluation and confidentiality (Schaalma et al., 2004). Confidential consultation can motivate both men and women to gather up the courage and seek sexual health information. It has been found that adolescents, teenagers, and adults all looked for clinic locations that ensure confidential consultation when they sought sexual advice (English & Ford, 2018).

Stakeholder Involvement

Thus far, concerted efforts have been made to achieve adequate sexual health dissemination and morality in individuals; however, much more needs to be done to ensure the effectiveness and coverage of sexuality education. It is also important to maintain continuing collaboration and leadership among all stakeholders. Moreover, sex education is bound to be effective if it involves government policies formulated by different ministries (e.g., Ministry of Health and Ministry of Women's Affairs) and the advocacy of civil societies, non-governmental organizations, and social influencers. In addition, teachers and parents should be considered as the trusted sources for adolescents and teenagers to go to when they need consultation about sexual relationships or sexual activities (Warwick et al., 2004). More importantly, the implementation

of state policies and local policies as well as involvement from the community are crucial as they will nourish the confidence of young people in sex education and wash away their negligence.

Conclusion

Many schools, institutions, and communities have welcomed the practice of sex education in Cambodia. Over the years, sex education programs and their availability are increasing; however, sex education in general faces potential challenges due to issues related to school curriculum and content, public opinions, and conservative cultural/religious perceptions. Some have complained about how outdated sex education is, while others have found it to be opposed to their beliefs or religious practices. All of these call for the need to rethink how sex education is offered. In the Cambodian context, sex education should evolve into the online form to increase accessibility for youth since most of them own digital devices and are used to accessing information online.

Finally, this chapter insists that all health staff, physiotherapists, ancillary staff, parents, and school teachers should be aware of the sexuality education policies and goals. They should also make extra efforts to contribute to the implementation of these policies. Undoubtedly, it is essential to reckon developmentally appropriate and holistic approaches to create an inclusive, relevant, engaging, empowering, and transformative environment for learners and educators.

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HOW CAN CAMBODIAN YOUTH PREPARE FOR INDUSTRY 4.0?

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Abstract

Industry 4.0 is going to change different aspects of life in every society through the advancement of technology that facilitates business and industry development. Within this context, it is vital that developing countries take advantage of this excellent opportunity to foster their socioeconomic development. However, as one of the developing countries, Cambodia encounters many challenges in catching up with the development of technology in Industry 4.0 due to the lack of necessary skills and technological adaptation among youth. This chapter discusses how Cambodian youth can prepare themselves for Industry 4.0. It begins by examining the evolution of technologies from Industry 1.0 to Industry 4.0. It then discusses the importance of Industry 4.0 for Cambodia and the role of Cambodian youth in Industry 4.0. It concludes with a discussion of various skills that Cambodian youth need to prepare for Industry 4.0 and some recommendations for relevant stakeholders.

Keywords: Industry 4.0; Cambodian youth; skills; Cambodia

Introduction

The Fourth Industrial Revolution (commonly known as Industry 4.0) is the revolution of technological advancement with the discovery of new technologies and innovations, including artificial intelligence (AI) and robotics, which offer a new way of life in terms of governance, society, and economic structures (Tan, 2019). These developments have caused many changes, from jobs usually performed by humans to jobs that can be performed by machines (Sviatko, 2020). These changes have also presented both economic transformation and opportunities for a developing country like Cambodia. However, Cambodia is still encountering several development issues. According to a recent World Bank report, Cambodia is facing some barriers to its development process in terms of accessibility to health and education, while the poverty rate is still high as 4.5 million people are living in poverty conditions (World Bank, 2021). With regard to these issues, there is a need for further reforms, which include institutional building and human resources development. To address the current development challenges, Cambodia needs to enhance its economic diversification, strengthen entrepreneurship, enlarge the application of technology, and bring up new skills to serve the job market. Furthermore, it is imperative to reform public institutions to be more competent, accountable, and responsive to the public and private sectors (World Bank, 2021).

Needless to say, Cambodian youth is the primary catalyst to drive these reforms and technological transformations. However, the knowledge and skills associated with Industry 4.0 among Cambodian youth are still limited, especially in the area of digital literacy (United Nations Development Programme [UNDP], 2020b). Furthermore, there is a severe lack of science, technology, engineering, and mathematics (STEM) professionals, advanced cyber security, effective data protection capability and data privacy measurements, and limited internet access, among others, which are the pressing challenges for Cambodia to adopt Industry 4.0 (Nortajuddin, 2020). In response to these challenges, the government, civil society organizations, and the private sector are conducting distinctive learning platforms, programs, and training to raise the awareness of technology, STEM education, and relevant skills needed to respond to the rapid change of industrial development and

globalization. The government also prioritizes the development and transformation of the industrial revolution. For instance, Industry 4.0 has been integrated into the Rectangular Strategy for Growth, Employment, Equity and Efficiency Phase IV of the Royal Government of Cambodia (RGC) as one of the national medium-term development plans (UNDP, 2020a).

Based on secondary data, this chapter describes the evolution of industrial revolutions and then discusses the significance of Industry 4.0 for Cambodia. After that, it highlights the roles of Cambodian youth and the skills needed in Industry 4.0. This chapter concludes with recommendations for relevant stakeholders to strive for Industry 4.0.

What Is Industry 4.0?

In recent decades, the industrial revolution has emerged as a popular concept in development studies. The industrial revolution is divided into four phases (see Table 10.1). The First Industrial Revolution emerged from around 1760 to 1840 with the discovery of steam and engines, resulting in the establishment of railroads and mechanical production. In the late 19th century and the early 20th century, the Second Industrial Revolution emerged, marked by the initiation of electricity and assembly lines to boost mass production. Later, in the 1970s, there was the Third Industrial Revolution with the discovery of digital automation such as electronics, telecommunication, computer information technology, renewable energies, robotics, and manufacturing automation (Mian et al., 2020). Now the world is entering the Fourth Industrial Revolution marked by further advancement of smart technologies such as cyber-physical systems that enable communication processes between machines to machines and machines to humans via internet technologies (i.e., Internet of Things) (Maria et al., 2018).

Schwab (2016a) noted in his book *The Fourth Industrial Revolution* that there are many academic debates about when the First, Second, and Third Industrial Revolution started to develop in different parts of the world; nevertheless, Industry 4.0 emerged when there was a rapid transformation of the digital revolution. It continued from the development of the Third Industrial Revolution, which involved physical, digital, and biological aspects of

technology (Schwab, 2016b). In 2011, due to the high level of technology transformation in Germany, the term *Industry 4.0* emerged, focusing on the transformation of machine-dominant manufacturing to digital manufacturing (Puriwat & Tripopsakul, 2020). Industry 4.0 was also marked by the age of the Internet of Things (IoT), information and communication technology (ICT), and a cyber-physical system in the manufacturing sector (Nortajuddin, 2020). The advancement of these technologies significantly impacts social and economic sectors, especially the business models that are changing to become more network-oriented (University of the Future, 2017) (see Figure 10.1).

Table 10.1

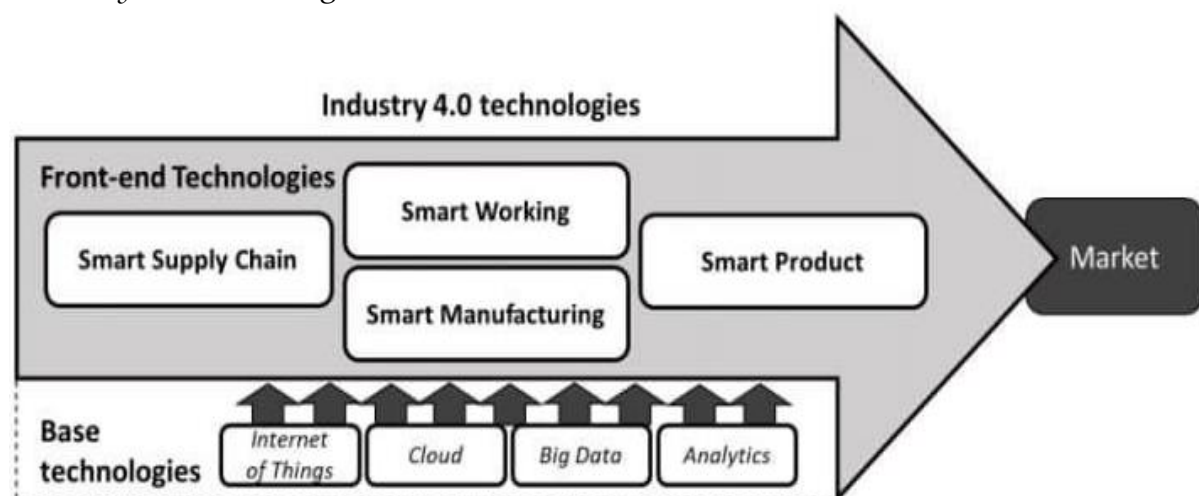
Industry 1.0 to 4.0 Comparison

Industrial Revolution	Duration	Technology
Industry 1.0	Late 18th Century	Mechanical production using water and steam power
Industry 2.0	Beginning of the 20th century	Electrical production line
Industry 3.0	Beginning of the 1970s	Digital automation
Industry 4.0	Present	Cyber-physical system

Source: Maria et al. (2018, p. 1)

Figure 10.1

Industry 4.0 Technologies



Source: Frank et al. (2019, p. 16)

The Significance of Industry 4.0 for Cambodia

Industry 4.0 is changing the way of life and has significant impacts on how people live, work, and study. It has facilitated the shift from labor-intensive to machine-based operations, which has led to reducing the cost of labor and improving the production chain. Furthermore, the Association of Southeast Asian Nations (ASEAN), as one of the most important manufacturing hubs in the world, is being influenced by Industry 4.0 with a monetary impact between USD 216 billion to USD 637 billion a year by 2021, as estimated by McKinsey & Company (Nortajuddin, 2020). In light of this, Cambodian Prime Minister Hun Sen said at the World Economic Forum in Hanoi in 2018 that Industry 4.0 was pivotal for Cambodia to be a dynamic player in the digital economy. He added that the Cambodian government had set the target for Cambodia to enter into a digital economy by 2023, become an upper-middle-income country by 2030, and develop into a high-income country by 2050 (Chan, 2018). Thus, it is crucial that Cambodia try to be ready and adapt to the development of Industry 4.0 for its vital enhancement in socioeconomic development to catch up with other ASEAN member states.

Industry 4.0 is significant for Cambodia in many ways. Firstly, with Industry 4.0, Cambodia will be able to transform itself into a knowledge-based economy, where knowledge and technology are vital to economic growth. Thus, there is a need for businesses and the private sector to strengthen knowledge, information, and specialized skills (Kefela, 2010). While about two-thirds of the Cambodian population are under the age of 30, they are more adaptable to technology than the previous generation. Therefore, this transformation will be beneficial for Cambodia's economic development and diversification. In particular, the development of automated machines will assist the garment industry, agricultural sector, and machinery industry in their production (Nhil, 2021). In other words, Industry 4.0 presents positive impacts on the manufacturing sector in Cambodia through the utilization of modern technologies to promote productivity, resource efficiency, and supply chain. Therefore, to assist Cambodia in the transition to a knowledge-based economy, there is a need to enhance technology adoption and adaptation among Cambodian youth (Phu, 2020).

Secondly, Industry 4.0 will also shape the future of the education sector in Cambodia. The education sector needs to be further reformed in the face of Industry 4.0, leading to Education 4.0 and digital education. Education 4.0 is “a desired approach to learning that aligns itself with the emerging fourth industrial revolution” (James, 2019, para. 7). It will help to reduce skill gaps and support technological adaptation among students to cope with the skills needed in the workplace of Industry 4.0 (Sviatko, 2020). Furthermore, as asserted by Dr. Hang Choun Naron, Cambodia’s Minister of Education, Youth, and Sport (MoEYS), Industry 4.0 will enable the application of digital technologies and automation; thus, the education system will need to change teaching approaches from memorization to analytical, experimental, and pragmatic learning methods to promote human capital in the area of technical knowledge and soft skills (Khmer Times, 2019). For instance, the Techo Startup Center, located inside the Royal University of Phnom Penh, was established to train Cambodian students and youth on skills needed for current and future jobs, especially in the area of technology and entrepreneurship (Chan, 2018). Industry 4.0 has also offered an excellent opportunity for Cambodia to foster the development of its education system toward digital education. In particular, MoEYS introduced the Policy on Higher Education Vision 2030 to enhance higher education and improve the educational curriculum on science subjects and ICT skills to serve the job market in the age of globalization and digitalization (Heng, 2021).

The Role of Cambodian Youth in Industry 4.0

Cambodian youth play a vital role in boosting Cambodia’s development, especially regarding its transition to the digital economy by 2025, prompted by Industry 4.0 (Ean, 2018). The United Nations acknowledges that youth are the cornerstone of a country. Youth engagement is key to positive outcomes such as social changes, effective citizenry, and influence on critical perspectives (Ean, 2018). According to the World Factbook (2021), in 2020, Cambodia had 17.28% of its population aged 15-24 and 41.51% aged 25-54. These groups of young Cambodians are the driving force for promoting the country’s economy, especially in the context of Industry 4.0.

Moreover, youth are the catalyst for economic growth as they can assist Cambodia in navigating Industry 4.0. They are the hope of the development of a technocratic society that is full of experts and technocrats to serve in the research and development sector, knowledge workers to foster social development, and technocratic leaders to provide an effective governmental system in terms of the quality of education, better health care services, and social security to promote economic growth and productivity (Vann & Heng, 2020). Technocratic leaders are crucial to Cambodia in tackling complex issues, such as nepotism, corruption, and favoritism, which influence the country's development. As Chourn and Heng (2020) argued, Cambodian youth can potentially respond to the technological transition, which facilitates the country's innovation capability.

However, according to a survey by UNDP (2020) involving 1,285 Cambodians who were high school students, undergraduate students, teachers, and lecturers, it was found that Cambodian youth faced challenges when it came to digital literacy. They were at the level of low to average based on educational levels. Moreover, they could only work in sectors requiring intermediate office productivity, but they were not qualified enough to work in information-heavy sectors. Similarly, the Asian Development Bank (ADB) highlighted in its 2019 report that there was a skill gap among Cambodian youth in industrial sectors due to the mismatch of skills. Those are the reasons that Cambodia needs to promote soft, technical, and vocational skills (Kanagaraj, 2019).

Skills Needed for Industry 4.0

Cambodia was given a score of 8.60 out of 25 by the CISCO Digital Readiness Index, while the global average was 11.93 (Jagannathan & Geronimo, 2021), suggesting that Cambodia's digital readiness is still below the average. Thus, more emphasis on the development of digital skills and knowledge is needed for Cambodia to strive in the context of Industry 4.0.

According to the Global Business Coalition for Education (2018), there are four categories of skills needed to assist youth in preparing for future jobs. The first one is workforce readiness, meaning that youth should be aware of how to search for jobs. In addition, they need to have the ability to secure continuous

employment and to have good performance in the workplace. Secondly, it is human skills, particularly soft skills or essential human skills. These skills refer to the ability to obtain great creativity, being good at problem-solving, communication, emotional intelligence, and critical thinking. Youth also have to be resilient, adaptable, courageous, and efficient in their job performance in various environments. These are the essential skills in the workplace. Thirdly, they need technical skills that involve the knowledge and capabilities to conduct specialized tasks that are vital to meet the industry demands. Fourthly, youth need entrepreneurship skills that allow them to initiate new business ideas and manage their own business. All of the four categories of skills can be achieved through life-long learning, a process of absorbing new knowledge and skills in various environments, whether in professional or personal careers (Deloitte, 2018).

However, as Industry 4.0 will impact different aspects of work, from routine physical tasks to higher-order tasks, there will also be skills shortages in the manufacturing and tourism sectors. Therefore, Cambodian youth need to be equipped with digital skills, STEM (science, technology, engineering, and mathematics) skills, and soft skills (Nov, 2020; Rath, 2020; UNDP, 2020a; Velde et al., 2020).

Firstly, digital skills are paramount in the context of the increasingly digitalized world that requires youth to adapt to technologies that will be widely used in companies, industries, and government structures as outlined in the Cambodia Digital Economy and Society Policy Framework 2021-2035 (RGC, 2021). Digital skills which include data analysis and data-based decisions are needed for business and manufacturing industries. These skills also emphasize ICT literacy learning that can encourage innovation and productivity (Nhil, 2021).

Secondly, STEM skills are crucial as they are a set of skills that youth need in order to prepare for the change in the job market (Nov, 2020). It responds to the kinds of jobs that need human operations and interactions, including first-line supervisors of mechanics, installers, repairers, transportation managers, and machine trainers. STEM education has been integrated into educational curricula in Cambodia as part of the implementation of the Master Plan for Information and Communication Technology in Education 2009-2013 (MoEYS,

2010). Examples of this are seen in the implementation of the New Generation School project that promotes STEM education to equip students with the knowledge and skills required for the labor market in the future (Rath, 2020).

Thirdly, despite the rapid development of technology, soft skills or human skills are still essential and in high demand. Soft skills can be considered employability skills because they can be used flexibly in various kinds of jobs. Soft skills include basic skills (hands-on ability), conceptual thinking (arrangement of information), communication skills (people awareness), people-related skills (interpersonal skills, team building, and interactions), and personal skills (self-esteem and self-regulation) (Cleary et al., 2006, as cited in Robles, 2012). More specifically, as mentioned in Khoun (2020), the list of vital soft skills includes complex problem-solving skills, critical thinking skills, creativity and innovation, people management skills, coordination skills, emotional intelligence, judgment and decision-making skills, service orientation skills, the ability to negotiate, and cognitive flexibility. For Cambodia, soft skills that focus on social and emotional intelligence as well as higher cognitive skills are essential to strengthen workforce productivity (Velde et al., 2020). According to Velde et al. (2020), there are various skills needed to prepare Cambodian youth for Industry 4.0 (see Table 10.2).

Table 10.2

Suggestions to Provide Skills for the Digital Future: Technical, Cognitive, and Soft Skills

Studies/digital skills	Technical	Cognitive	Soft
Preparing Cambodia's Workforce for a Digital Economy (Heng, 2019)	Technical skills, including ICT skills: 'those abilities needed to carry out one's job... ICT skills refer to the effective application of ICT systems'	Higher-order cognitive skills: 'the ability to understand complex ideas, deal with complex information processing, adapt effectively	Interpersonal skills: 'a broad range of malleable skills, behaviors, attitudes and personality traits that enable individuals to navigate interpersonal and

		to the various forms of reasoning, to overcome obstacles by critical thought'	social situations effectively'
Job-ready digital skills for decent jobs (ILO and ITU) (UNCTAD)	Basic digital skills (related to the use of technologies)	Advanced digital skills (coding and other algorithmic knowledge)	Soft skills (such as communication and leadership); digital entrepreneurship (online market research and using financial platforms)
Work-related skills (WEF) (UNCTAD)	Abilities (physical) Cross-functional skills (technical skills)	Abilities (cognitive); basic skills (content and processing skills); cross functional skills (complex problem-solving)	Cross-functional skills (social systems, resource management)
Future of work (OECD) (UNCTAD)	Technical and professional skills (specific and often industry-specific skills such as installation and operation of robots)	Generic ICT skills (skills needed to understand, use and adapt technologies; life-learning ability to adapt to technology changes)	Complementary ICT soft skills (creativity, communication skills, critical and logical thinking, teamwork, digital entrepreneurship)
Digital Skills Toolkit (ITU) (UNCTAD)	Basic, intermediate, advanced: foundational	Basic, intermediate, advanced: competencies;	Basic, intermediate, advanced: character qualities

	skills; emerging and specialized skills (computational thinking and coding, data literacy, mobile literacy)	emerging and specialized skills (computational thinking and coding, data literacy, mobile literacy)	
The Digital Economy in Southeast Asia: Strengthening the Foundation for Future Growth (DDP)	Basic digital/ICT skills: the ability to use digital technologies (e.g., send an email, find work-related information on the Internet, use digital apps and non-specialized software, awareness, and ability to stay safe in cyberspace)	Advanced and specialist skills: drive innovation, support digital infrastructure and the functioning of the digital ecosystem	Digital/ICT complementary skills: soft skills required to work in a technology-rich environment and address the expanding number of opportunities for ICT enabled collaborative work (e.g., communicate on social networks, brand products on e-commerce platforms, analyze data gathered from the web)

Source: Velde et al. (2020, p. 20)

Conclusion

Industry 4.0, which is characterized by new technology, such as AI, the Internet of Things, and robotics, will positively impact Cambodia's socioeconomic development if sufficiently prepared and embraced. Industry 4.0 can particularly help improve the education system and transform Cambodia into a knowledge-based economy. However, to ride the wave of Industry 4.0, Cambodian youth who are the main actors to assist Cambodia in achieving its

development vision need to possess the skills required to survive and succeed in Industry 4.0. They can develop into technocratic leaders who can enhance the government system to be more effective and efficient.

Thus far, the government and relevant stakeholders have initiated various action plans and programs which involve national strategies, institutions, and short-term programs to help youth prepare for the future job market in Industry 4.0 (May, 2021). However, to support youth to be further equipped in competitive career paths of Industry 4.0, the government and relevant stakeholders should invest in the research and development sector as well as training and education programs in order to support youth to develop their knowledge, skills, and innovation capacity. More importantly, higher education institutions should revise or adjust their learning curriculum to respond to Industry 4.0 and the advent of Education 4.0. This includes introducing teaching methods based on techno-pedagogy (i.e., technology-based teaching), changing assessments, and providing internship programs to bridge theory and practice. Youth themselves also need to be active in acquiring new knowledge and skills by conducting self-study and joining training programs to further strengthen self-development and acquire skills needed for Industry 4.0.

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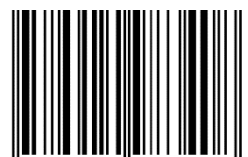
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