



A Diagnostic Study

CAMBODIAN YOUTH AND THE KNOWLEDGE SECTOR

Challenges, Opportunities, and Recommendations

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Disclaimer

This study was supported by the Australian Department of Foreign Affairs and Trade through The Asia Foundation's Ponlok Chomnes: Data and Dialogue for Development in Cambodia program. The views expressed in this study are the author's alone and are not necessarily the views of the Australian Government or The Asia Foundation.

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List of Abbreviations

AusAID	Australian Agency for International Development
ASEAN	Association of Southeast Asian Nations
AVI	ASEAN Vision Institute
BTEC	Battambang Teacher Education College
CDRI	Cambodia Development Resource Institute
CSOS	Civil Society Organisations
DFAT	Department of Foreign Affairs and Trade
ELT	English Language Teaching
GESI	Gender Equality and Social Inclusion
HEIS	Higher Education Institutions
HEIP	Higher Education Improvement Project
HEQCIP	Higher Education Quality and Capacity Improvement Project
JICA	International Cooperation Agency
MISTI	Ministry of Industry, Science, Technology & Innovation
MOEYS	Ministry of Education, Youth and Sport
NGOs	Non-Governmental Organisations
PTEC	Phnom Penh Teacher Education College
RUPP	Royal University of Phnom Penh
STEM	Science, Technology, Engineering, and Mathematics
WEF	World Economic Forum

Executive Summary

This research is part of a series of diagnostic studies supported by the Australian Department of Foreign Affairs and Trade (DFAT) through The Asia Foundation’s Ponlok Chomnes: Data and Dialogue for Development in Cambodia program. The program aims to strengthen the capacity of the Cambodian knowledge sector institutions to undertake quality research that informs public policy analysis and dialogue in Cambodia.

Aims and research questions

This report presents findings from one of the five studies commissioned by The Asia Foundation to map the landscape of the knowledge sector in Cambodia. The present study focuses on Cambodian youth’s engagement in the knowledge sector and intends to answer three research questions:

1. What are the opportunities and challenges of Cambodian youth’s engagement in the knowledge sector?
2. How supportive is the current environment for Cambodian youth’s engagement in the knowledge sector?
3. How can we promote Cambodian youth’s engagement in the knowledge sector?

Methodology

This study employs a mixed-method design to investigate the challenges and opportunities, as well as recommendations, to promote Cambodian youth’s engagement in the knowledge sector. The study defines the knowledge sector as “the institutional landscape of government, private sector, and civil society organizations that provide research and analysis to support the development of public policy.” It is guided by a conceptual framework that considers youth to be knowledge producers, knowledge users, and knowledge intermediaries, although youth’s primary roles tend to be knowledge users. In this study, it is also posited that youth’s capacities and opportunities to engage in the knowledge sector are influenced by the interactions between other knowledge producers, knowledge users, and knowledge intermediaries, such as universities, research institutes, think tanks, government institutions, and development partners, as well as the broader environment in which these interactions take place.

The study consists of two phases of data collection. The first phase involved 16 semi-structured interviews with youth or university students and other key informants (6 were females) from universities, non-governmental organisations (NGOs), think tanks, and/or government agencies. These interviewees had various backgrounds, with four of them being university students/graduates, five university lecturers/leaders, two government officials, one NGO staff, and four think tank staff/leaders.

The second phase involved an online survey developed based on findings from the interviews that was administered to 456 youth (52.2% were females), aged 18-35. The study also benefited from a consultation workshop conducted after the completion of Phase 1 data collection to gather additional input from concerned stakeholders. The data analysis was facilitated by qualitative data analysis software NVivo 12 and Microsoft Excel, and all efforts were made to observe ethics regulations throughout the research process.

Findings from the interviews

Challenges

Based on the interviews with the 16 key informants, the study found three main types of challenges affecting Cambodian youth's engagement in the knowledge sector, including 1) limited knowledge about research, publication, and English language skills; 2) a less supportive environment for research; and 3) other personal and professional challenges. The first challenges were linked with youth's lack of prior research training/research background, lack of practical/real research practice, and poor reading habits. The second challenges were primarily related to the limited research capacity building opportunities for youth (e.g., lack of training opportunities, limited opportunities for research and publication, lack of information about research support) and discouraging environment (e.g., limited access to primary and secondary data, discouragement from others, limited efforts or initiatives from other stakeholders, limited research facilities, lack of research role models). The third category of challenges were linked with youth's time constraints, financial constraints, and attitudinal constraints or negative mindset toward research. These challenges mean that the current environment is not supportive for Cambodian youth to actively engage in the knowledge sector.

Opportunities

The study also discovered four categories of opportunities for Cambodian youth's engagement in the knowledge sector, including 1) new research-supporting programs/initiatives; 2) new platforms for research and publication; 3) greater focus on research and publication; and 4) other opportunities. Specifically, the first category of opportunities included new research programs or initiatives such as young researcher programs, research seminars, research training and internship opportunities, and research fellowship opportunities. The second type of opportunities included new platforms for research and publication such as newly established research forums and conferences, academic journals, and research networks. The third category of opportunities for research were linked with the introduction or implementation of institutional research vision, research policies, and research requirements. In the fourth category, the opportunities lay in the increase of lecturers or teacher trainers with overseas degrees, greater interest in research, and continued support from development partners.

Recommendations

The study also found a set of recommendations to promote Cambodian youth's engagement in the knowledge sector, including 1) providing research support; 2) providing research and publication opportunities; 3) creating a supportive environment for research; and 4) having a greater focus on research and publication. To provide research support, the focus should be on offering financial support and research capacity building support. Efforts should also be made to provide more research and publication opportunities such as research internship programs, research seminars/workshops, and publication opportunities for youth. In addition, it is important to create a supportive environment for research by nurturing a conducive research environment, promoting stakeholder collaboration, and promoting academic freedom. Finally, there is a need to have a greater focus on research and publication through the establishment and implementation of institutional research policies, introduction of curriculum and assessment reforms to promote research, and improvement in higher education enrolment and management.

Findings from the survey

Based on the survey with youth aged 18-35, who were mostly university students (71.7%), studied for/received a bachelor's degree (75.4%), and lived in the provinces (66.7%), this study found that the majority of Cambodian youth had experience conducting research, with 83.1% of them choosing "Yes" and 16.9% choosing "No" when responding to a question about whether they had conducted research. Almost half of the 456 survey respondents had conducted mixed-method research while 24.2% had engaged in research based on secondary data and around 12% had conducted qualitative or quantitative research.

Challenges

The study noted the 10 most important challenges to Cambodian youth's engagement in the knowledge sector. These challenges, in order of importance, included 1) lack of prior research training; 2) lack of practical research practice; 3) lack of research training opportunities; 4) poor reading habits (leading to lack of ideas, knowledge, etc.); 5) lack of time; 6) difficult access to both primary and secondary data; 7) limited attention paid to research in high school and higher education; 8) lack of research collaboration opportunities; 9) lack of information about research support/guidance; and 10) less conducive environment for research. Among these 10 major challenges, three key challenges were most frequently selected by the respondents. They included: 1) lack of prior research training; 2) lack of practical research practice; and 3) lack of research training opportunities.

Opportunities

This study also found that many Cambodian youth knew about research-related programs available to them. Specifically, the results showed that Cambodian youth knew about training/mentoring opportunities (44.1%), research seminar series (37.1%), young researcher programs (36%), and internship programs provided by media outlets (32.2%). They were also aware of other research-related programs, albeit to a lesser extent, such as fellowship programs (25.4%), opinion piece writing opportunities (24.1%), and public lectures (18.9%). A small number of respondents (2.41%) did not know of any research-related programs. Regarding research-related activities, it was found that Cambodian youth were aware of 1) the national policies/projects on research introduced by the Ministry of Education, Youth and Sport and the Ministry of Industry, Science, Technology & Innovation (37.9%); 2) new platforms for research and publication (32%); 3) institutional vision to promote research (30.9%); and 4) the new research forums and conferences (30.9%). They also knew about other research-related activities, although to a lesser extent, such as the establishment or introduction of new academic journals (27.6%), research requirements at some Cambodian higher education institutions (21.9%), and new research networks (18.6%). As for other research-related opportunities, it was found that Cambodian youth who participated in this study agreed that there were more lecturers and teacher trainers with overseas qualifications (50.9%), more interest in research and publication (47.4%), and continued support for research from development partners and donor agencies (38.8%). A small number of them (3%) did not know about any new research-related opportunities.

Recommendations

The survey results were used to develop the recommendations to promote Cambodian youth's engagement in the knowledge sector. Overall, five recommendations were rated most highly (i.e., received the highest percentage of "Strongly agree") by the respondents. They included: 1) incentives for research and publication; 2) research capacity building programs/continuous professional development (for teaching staff); 3) providing research and publication opportunities; 4) research internship/fellowship programs, and 5) promotion of student-teacher relations. Other recommendations that were considered to be key recommendations by the respondents included 1) incentives for research and publication (79.39%); b) research capacity building programs/continuous professional development (78.95%); c) providing research and publication opportunities (78.07%); and d) more research activities/opportunities for youth to engage in research (78.07%), among other recommendations. The respondents also provided other recommendations in their responses to an open-ended question that included the following highlights:

- More opportunities for research, particularly for postgraduate students
- Introduce research into primary school curriculum
- Require university students to publish before graduation

- Ensure that there are qualified research supervisors who can help students, particularly those at the postgraduate levels, to complete their research
- Increase scholarship opportunities for research students and teachers
- Teach undergraduate students about the benefits of research
- Introduce research to students beginning in the first year in universities
- Provide incentives for researchers
- Conduct more research seminars and conferences that target high school teachers
- Recruit more qualified teachers

Conclusion and recommendations

This research report has examined Cambodian youth's engagement in the knowledge sector, focusing on the challenges, opportunities, and recommendations to promote their research engagement. The study has identified a number of challenges and opportunities as well as recommendations that should be considered to promote Cambodian youth's engagement in the knowledge sector. In addition to the recommendations discussed above, this study makes four more recommendations that aim to increase Cambodian youth's capacities and opportunities to engage in the knowledge sector, as well as to enhance their roles as knowledge users, producers, and intermediaries.

Provide research capacity building opportunities

It is important to ensure Cambodian youth, especially university students, have the necessary knowledge and skills to engage in research activities. Without adequate research knowledge and skills, it is unrealistic to expect youth to contribute to the knowledge sector. This can be done at multiple levels, including the national, community, and institutional levels. More research capacity building opportunities should, therefore, be made available and accessible to youth to allow them to develop their research knowledge and skills so that they can increase their research engagement activities.

Provide opportunities for practical research experience

Youth also need opportunities to put their knowledge about research into practice. Thus, more research internship programs should be offered by relevant stakeholders, particularly educational institutions, research institutes, think tanks, and NGOs. In such research-focused programs, youth should be given opportunities to conduct research and be able to receive personalized support in the form of mentorship. This is to enable them to have first-hand experience in conducting research and to have the opportunity to develop their research knowledge and skills through individualized support and mentorship.

Provide publication support

It is also crucial to provide youth with sufficient support and opportunities to develop their writing and publication skills. This recommendation focuses on providing youth with first-hand experience in conducting research and writing for publication. To achieve this goal, training or mentorship programs that aim to develop youth's writing and publication skills are much needed to help them build their confidence and strengthen their interest in writing and publication. This type of support can begin by focusing on writing short or commentary articles and can progress to engaging in more advanced forms of writing such as research reports and journal articles. When Cambodian youth are given ample opportunities to develop their writing skills, they will be in a good position to develop themselves into knowledge producers who can contribute to developing the knowledge sector in Cambodia.

Create a support network for youth and young researchers

To develop a conducive environment for Cambodian youth to actively engage in the knowledge sector, a lot needs to be done, requiring great efforts, strong commitment, clear vision, and considerable time. In this regard, a final recommendation is to create a support network for youth and young researchers. Such a support network is essential as it helps to create a platform for youth and young researchers to meet and discuss issues relevant to their research interest and career goals. The support network, if well supported and well-managed, will provide a supportive environment for youth to develop themselves and fulfil their aspiration to contribute to Cambodia's knowledge sector. In addition, effective support networks will provide opportunities for youth to meet like-minded people, learn from one another, build networks, take advantage of collaboration opportunities, and find moral and technical support. Therefore, it is essential that concerned stakeholders should work closely together to find innovative ways to establish a platform where Cambodian youth and young researchers can seek different forms of support when needed. The availability of effective support networks will contribute to nurturing an environment in which youth are empowered to enhance their roles as knowledge users, producers, and intermediaries in the knowledge sector in Cambodia.

Cambodia is relatively a young country in Southeast Asia. Cambodian youth aged under 30 made up 65% of the country's population of 16.7 million in 2020 (World Bank, 2021). With its young population, Cambodia has the potential to leapfrog to catch up with its neighbors such as Thailand and Vietnam and other countries in the region and the wider Indo-Pacific. However, research has consistently shown that Cambodia is grappling with various issues, including transparency (Transparency International, 2021), limited education quality and skill mismatches (Peou, 2017), limited research involvement among academic staff (Eam, 2015; Heng et al., 2022a, 2022b), and limited youth civic engagement (Len & Young, 2021).

According to the World Economic Forum, Cambodia's overall competitiveness in 2019 was ranked 106th out of 141 countries (World Economic Forum [WEF], 2019). The country's innovation capacity, ranked at 102 out of 141, lags behind that of many countries in the region. For example, the innovation capacity of Thailand and Vietnam was 40th and 67th out of 141 countries, respectively (WEF, 2019). Considering these figures, it would be hard for Cambodia to advance its research and innovation capability, transform itself into an upper-middle-income economy, and develop into a knowledge-based society - goals that Cambodia has tried to achieve.

The ease of finding skilled employees for the workforce in Cambodia was ranked 123 out of 141 countries, while the overall skills of the current workforce stood at 111th globally (WEF, 2019). Although access to higher education has improved, the rate of higher education enrollment remains limited. Cambodia's higher education enrollment was 15% in 2019, lower than that of Malaysia (43%), Thailand (49%), and Vietnam (29%) (World Bank, 2022). In addition, many university students in Cambodia are dominantly enrolled in social science subjects. For example, according to the latest Education Congress report of the Ministry of Education, Youth and Sport ([MoEYS], 2022), 42% of undergraduate students enrolled in business-related subjects such as accounting, banking and finance, and management, while those enrolled in information technology, engineering, and basic science made up only 10%, 8%, and 5%, respectively (MoEYS, 2022).

As Cambodia aims to become an upper-middle-income country by 2030 and a high-income economy by 2050, in addition to transforming itself into a knowledge-based society (Heng, 2022a), it is essential to focus on improving the quality of training and education and encouraging young Cambodians to actively engage in using and producing knowledge to improve the knowledge sector in Cambodia. The term 'knowledge sector' has been defined as "the institutional landscape of government, private sector, and civil society organizations that provide research and analysis to support the development of public policy" (AusAID, 2012, p. iii). In this sense, all stakeholders in society have important roles to play to promote the production, dissemination, and use of knowledge to drive socioeconomic development.

According to Pak et al. (2019), young Cambodians are the drivers of knowledge production in the country. As the authors described:

“An important component of the knowledge sector in Cambodia is characterized by young Cambodians who have studied overseas and now form a pool of professionals, practitioners, and entrepreneurs, including those associated with private universities, who are committed to knowledge production in the form of research and analysis and want that research and analysis to inform policy decisions.” (p. ix, emphasis added)

In recognition of the role of young Cambodians in contributing to knowledge production and socioeconomic development, this study aims to explore how Cambodian young people or youth (aged 18-35) engage in the knowledge sector in Cambodia. The present study builds on previous studies (see Pak, 2021; Pak et al., 2019), commissioned by The Asia Foundation’s Ponlok Chomnes: Data and Dialogue for Development in Cambodia program that “aims to strengthen the quality of knowledge production in Cambodia through providing support for Policy Research Institutes (PRI) and research organizations” and “hopes to contribute to increase quality research in Cambodia, strengthen the networking and collaboration of research institutions in the country and in the region (mainly the ASEAN countries and Australia) as well as reinforce the positive policy dialogue mechanism in Cambodia” (Policy Pulse, n.d.).

1.2. Research objectives

This study aims to achieve three research objectives as follows:

1. Explore the current situation, opportunities, and challenges of Cambodian youth’s engagement in the knowledge sector
2. Examine to extent to which the current environment is supportive of Cambodian youth’s engagement in the knowledge sector
3. Propose recommendations on how to promote Cambodian youth’s engagement in the knowledge sector

1.3. Research questions

To achieve the above research objectives, the present study seeks to answer the following research questions:

1. What are the opportunities and challenges of Cambodian youth’s engagement in the knowledge sector?
2. How supportive is the current environment for Cambodian youth’s engagement in the knowledge sector?
3. How can we promote Cambodian youth’s engagement in the knowledge sector?

Little research has specifically focused on the topic of the knowledge sector in Cambodia, although studies examining research development in the country have grown in number (for an overview of the development of academic research in Cambodia, see Heng & Sol, 2021). In recent years, a number of studies have explored the issues concerning professional development for university lecturers (Ros & Oleksiyenko, 2018), research engagement or involvement of academics (Eam, 2015; Heng, 2022b; Heng et al., 2022b), academics' research conceptions (Heng et al., 2022a), academic life (Chhaing, 2022; Maxwell et al., 2015), academic identity (Eam, 2022; Ros et al., 2020), research productivity (Heng, 2021b; Ros & Heng, 2022), academic promotion (Un et al., 2017), and academic research capacity (Cambodian Institute for Cooperation and Peace, 2016; Kwok et al., 2010). Overall, these studies have pointed to various issues and challenges impeding the development of research in Cambodia. As summarized by Heng et al. (2022a), key challenges facing Cambodian higher education included: low research engagement of academics, a shortage of academics with PhD degrees, limited education quality leading to skills gaps, limited involvement from concerned stakeholders to improve higher education, policy disconnect across different levels, inequitable access to higher education, and fragmentation of higher education governance.

Un and Sok (2018) provided an overview of the higher education system in Cambodia. Despite rapid improvement in terms of student enrollment and the number of higher education institutions (HEIs), the authors noted that Cambodian higher education remain constrained by several challenges related to an oversupply of graduates in business-related majors, fragmented higher education governance, limited institutional autonomy, weak funding systems, use of traditional teaching methods, and out-of-date curriculum. Heng (2021a) also discussed key challenges to Cambodian higher education, particularly the challenges limiting the research capacity of Cambodian universities and academics. He called for a reform to Cambodian higher education by focusing on three areas: 1) establishing clear national and institutional research policies; 2) providing sufficient institutional support for research including “research incentives, research time and space, and research training and mentoring opportunities;” and 3) categorizing universities into research-intensive and teaching-intensive tracks.

According to Heng (2020) and Heng and Sol (2021), there is new hope for research development in Cambodia. For instance, the Cambodian government, through MoEYS, has introduced a number of initiatives that aim to promote research activities and quality in Cambodian higher education (Heng, 2020). These included two higher education improvement projects, namely the Higher Education Quality and Capacity Improvement Project (HEQCIP) and the Higher Education Improvement Project (HEIP). These two projects, valued at US \$115.5 million in total, aim to promote capacity building, teaching, and research in higher education. There are also other recent positive developments in the higher education research landscape in Cambodia, including the introduction of research grants, called the Research Creativity and Innovation Fund, which are open for national competition, and the announcement of

a professorial ranking system that will grant qualified Cambodian academics titles such as Assistant Professor, Associate Professor, and Professor (Heng, 2020).

Few studies have discussed the topic of knowledge production and the knowledge sector in Cambodia. Peycam (2010, 2011) examined Ecole Française d'Extrême-Orient's (French School of Far Eastern Studies) history of academic knowledge production in Cambodia between 1863 and 2009. The author noted that much of the focus of knowledge production was on Cambodia's ancient past, as many researchers and scholars, particularly French ones, were interested in Angkor and the Angkorian Golden Age. The focus of knowledge production then shifted to the "nationalization of knowledge through Buddhism" (Peycam, 2010, p. 161), described as "an indigenous movement seeking to anchor the rethinking of Buddhism in a self-consciously Khmer context began to assert itself, personified by the efforts of two monks, Venerables Chuon Nath and Huot Tat, who emerged as the true leaders of the 'modernist' movement" (Peycam, 2010, p. 163). Later there was an emergence of scholarship on Khmer Studies, with many French scholars writing about different aspects of Cambodian society.

Peycam (2011) also noted that "the first generation of scholarly-accredited Cambodian intellectuals" emerged during the years leading up to Cambodia's independence from France and the few decades following it, with some prominent Cambodian scholars, considered as "Cambodian precursors" (p. 18), contributing to knowledge production and institution building, thereby having a great influence on the following generations of Cambodian intellectuals. Some of these Cambodian precursors were Saveros Pou (a linguist, 1929–2020), Keng Vannsak (a philosopher and linguist, 1925–2008), and Vann Molyvann (an architect, 1926–2017). However, the development of the Cambodian intelligentsia was severely constrained by the destruction brought about by decades of civil war and the brutal Khmer Rouge regime.

As Peycam (2011) observed, Cambodia is now experiencing fast transformation economically and socioculturally "with pledged economic investments from abroad and a continuing flow of international aid" (p. 29). However, when it comes to education, modern Cambodia "continues to suffer from a weak state apparatus, a shortage of basic intellectual and institutional infrastructure, and a lack of a national strategy on the part of the authorities" (p. 29). Peycam (2011) added that:

Activities deemed economically "unprofitable" — like quality literary and academic publishing, public libraries, creative arts, and research and teaching in the humanities — are being marginalized, resulting in an increased dependency on outside funding. These sectors continue to suffer from a structural shortage of trained leaders and educators. (p. 29)

Despite this grim outlook, there is light at the end of the tunnel. New institutions or organizations, most of which focus on revving Cambodia’s cultural and creative resources, have flourished over the past few decades. Some of these organizations include Meta House (www.meta-house.com), Reyum Institute of Arts and Culture (www.reyum.org), Cambodian Living Arts (www.cambodianlivingarts.org), Phare Ponleu Selpak (www.phareps.org), Bophana Center (www.bophana.org), Khmer Arts Academy (www.khmerarts.org), Amrita Performing Arts (www.amritaperforming-arts.org), and more recently Silapak Trotchaek Pneik (www.facebook.com/STPCambodia), among others (Peycam, 2011).

Heng and Sol (2021) also discussed the recent progress in higher education research in Cambodia that potentially offers hope to the development of the knowledge sector in the country. They emphasized the recent initiatives or projects (e.g., HEQCIP, HEIP) to promote research in Cambodian higher education, the establishment of some national or institutional research forums or conferences (e.g., National Research Forum, Cambodian ELT Conference), and the launch of new Cambodia-based academic journals (e.g., Cambodia Education Review, Cambodia Journal of Public Health, Cambodian Journal of Educational Research). The authors noted that these new developments contributed to developing a research ecosystem in Cambodia.

Recent diagnostic studies, commissioned by The Asia Foundation’s Ponlok Chomnes program, deal specifically with the topic of the knowledge sector in Cambodia (see Pak, 2021; Pak et al., 2019). A study by Pak et al. (2019), entitled ‘The Knowledge Sector in Cambodia: Knowledge Producers: Situation, Challenges, and Programming Suggestions,’ appears to be one of the pioneering studies on Cambodia’s knowledge sector. The study had three aims as follows:

1. Review emerging national development issues and identify priority sectors that also align with gender equality and social inclusion (GESI) principles;
2. Define the knowledge sector and take stock of the organizations that generate knowledge and evidence to directly or indirectly influence policy-making processes;
3. Review GESI within the broader national development agenda and in the knowledge sector.

Drawing on a review of policy documents and key informant interviews, Pak et al. (2019) found that the Cambodian government’s Rectangular Strategy Phase 4 that focuses on four areas, including “human resource development; economic diversification; private sector development and employment; and sustainable development,” will be the “key to advancing the knowledge sector” in Cambodia (p. viii). They also found that several policy areas, including “jobs; skills and migration; foreign policy including regional economic integration; social protection; social vulnerability in urban areas; public service delivery and innovation; and agriculture,” could enhance the knowledge production capacity in Cambodia (p. ix). In addition, as mentioned in the introduction of this research report, it was found that young Cambodians, particularly those who had studied overseas, are the key drivers of the knowledge sector in Cambodia (Pak et al., 2019).

The study also found that most think tanks or research institutes in Cambodia engaged in standard research and knowledge production processes from inception to publication and dissemination. However, there was limited connection between research institutes or think tanks and policymakers or decision-makers who were involved in the policy planning and evaluation process. Informed by these findings, Pak et al. (2019) put forward three key suggestions:

1. Strengthen links between researchers and policy-makers; strengthen capacity of knowledge producers; and inform the broader public on specific emerging issues, especially those affecting people's everyday lives.
2. Strengthen existing institutions rather than creating new research organizations; engage a wide range of stakeholders to help develop research agendas in select policy areas; promote collaboration amongst research organizations in Cambodia; and connect research institutions with regional research networks and communities of practice.
3. Support better access to existing datasets, research, and analysis; provide technical assistance on the production and dissemination of research products; provide technical support for establishing rigorous peer review mechanisms within and between research organizations; support the capability of national institutions to understand the importance and use of disaggregated data; and support the production of high-quality Khmer language research products. (pp. ix-x)

Another diagnostic study by Pak (2021), entitled 'A Diagnostic Study on the Policy Process and Use of Data: The Case of Cambodia and Insights from ASEAN,' also provided insights into the knowledge sector in Cambodia, particularly in terms of the public policy process, data governance and data use, engagement of non-state actors in data use, opportunities for data access, partnership with concerned stakeholders at the regional level, and engagement with the private sector when it came to data use. Drawing on a review of related literature, key informant interviews, and a consultation workshop, Pak (2021, p. v) showed that the use of data to inform policies had increased, while the policy process was influenced by "political interest, cross-ministerial coordination, and human factors (e.g., leadership, young technocrats, trust)". The study also found challenges related to data sharing due to a lack of clear data intermediaries and challenges to data uptake because of a lack of trust between the government and civil society organizations (CSOs). In addition, policymakers tended to downplay findings from qualitative research and quantitative research with a small sample size.

In light of the findings, Pak (2021, pp. vii-viii) made several recommendations for the Ponlok Chomnes program to improve its efforts to strengthen the capacity of the knowledge sector and inform public policy analysis and dialogue in Cambodia. Key recommendations included:

- Encourage research on key development issues such as post-COVID-19 recovery
- Build trust and partnerships among key stakeholders such as the government, CSOs and researchers
- Facilitate data collection, sharing, and use by serving as a data hub

- Advocate for more data sharing from the government
- Support and promote young researchers by providing training and mentoring programs
- Initiate new and forward-looking research topics such as the use of big data
- Establish and promote partnerships between local and regional research institutions

Heng (2021b) and Ros and Heng (2022), utilizing a bibliometric analysis of the Scopus database¹, examined the research productivity of Cambodia and Cambodian universities, respectively. It was found that, over the past decade (2010-2019), Cambodia produced a total of 3,521 publications that were indexed in Scopus (Heng, 2021b). This placed Cambodia 8th among the 10 member states of the Association of South-east Asian Nations (ASEAN), only marginally outperforming Myanmar and Laos, while lagging way behind Thailand and Vietnam (see Figure 1).

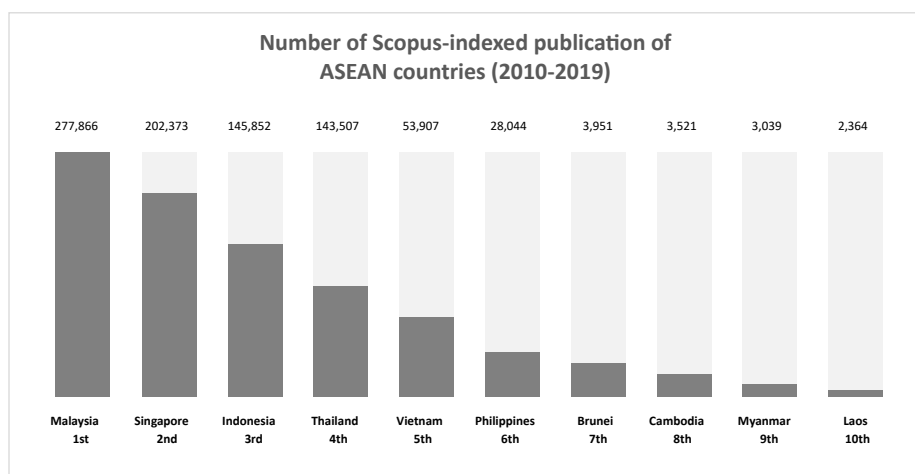


Figure 1. Number of Scopus-indexed publications of ASEAN countries between 2010 and 2019 (Heng, 2021b)

Another study revealed a gradual increase in the number of Scopus-indexed publications emanating from Cambodia over the past two decades between 1999 and 2019 (Ros & Heng, 2022). The total rate of increase over the last 20 years was 16.74%, with the annual rate of increase being 1.1%. Specifically, Cambodia produced a total of 4,511 documents (about 80% were journal articles) over the last 20 years. Most of these publications, however, were from non-higher education institutions, such as the Pasteur Institute in Cambodia, Ministry of Health of Cambodia, and Angkor Hospital for Children. Cambodian HEIs only contributed to around 20% of the total number of publications, revealing the limited research capacity and productivity of Cambodian universities and HEIs, as previously discussed in Section 2.

¹Launched in 2004, Scopus is the world's largest abstract and citation database of peer-reviewed literature. It has over 25,000 titles from more than 5,000 publishers.

The study also showed that out of the 128 HEIs in Cambodia when the bibliometric analysis was conducted, only 28 had their names in the Scopus database. These 28 HEIs altogether produced about 900 Scopus-indexed publications over the last two decades. However, only four public HEIs were key producers of Scopus-indexed publications, contributing around 76% to the total publications by Cambodian HEIs. These four HEIs were the Royal University of Phnom Penh (contributed 26.5% of the total publications by HEIs), Institute of Technology of Cambodia (19%), University of Health Sciences (17%), and Royal University of Agriculture (13.7%). The authors concluded that “publications by Cambodian HEIs have gradually increased; however, the progress has been slow and may probably not be sustainable as it is confined to only a few public universities and fields that have generally been supported by international funding sponsors” (Ros & Heng, 2022, p. 49).

According to AusAID (2012), the knowledge sector refers to:

“The overall institutional landscape of government, private sector, and civil society organisations that provide knowledge to support the development of public policy. It includes think tanks, university institutes, specialized agencies, certain types of private sector contractors, and a range of non-governmental organisations.” (pp. 1-2)

For the knowledge sector to develop and flourish, high-quality knowledge needs to be generated and used on a regular basis. Four elements are needed for a functioning knowledge sector that facilitates effective public policy-making processes:

1. The research organisations that produce knowledge and evidence which influence policies
2. The policy-makers who demand and use evidence in formulating policies
3. The intermediary functions and bodies that communicate between policymakers and research organisations
4. The enabling environment where policies govern how the research organisations and policymakers interact and how the research systems operate (AusAID, 2012, p. 9, emphasis original)

The World Bank identified four pillars or conditions for a functioning knowledge economy – “an economy where knowledge is acquired, created, disseminated and used effectively to enhance economic development” (Chen & Dahlman, 2006, p. 4). These four pillars included:

- An economic incentive and institutional regime that provides good economic policies and institutions that permit efficient mobilization and allocation of resources and stimulate creativity and incentives for the efficient creation, dissemination, and use of existing knowledge.
- Educated and skilled workers who can continuously upgrade and adapt their skills to efficiently create and use knowledge.
- An effective innovation system of firms, research centers, universities, consultants, and other organizations that can keep up with the knowledge revolution and tap into the growing stock of global knowledge and assimilate and adapt it to local needs.
- A modern and adequate information infrastructure that can facilitate the effective communication, dissemination, and processing of information and knowledge. (p. 4, emphasis original)

Drawing on the report by AusAID, Pak et al. (2019) viewed the knowledge sector in Cambodia to consist of four elements: 1) knowledge producers, 2) knowledge users, 3) intermediaries, and 4) regulations. These are explained as follows:

1. Knowledge producers – the government, development partners, technical advisors, NGOs, (research) institutes, and researchers
2. Knowledge users – the government, development partners, NGOs, universities, and the public
3. Intermediaries – development partners, NGOs, (research) institutes, and researchers
4. Regulations – norms or environments that determine how the knowledge producers and users as well as intermediaries interact with one another.

Writing about academic professional identities in Cambodia, another researcher noted that there are different types of institutions in the Cambodian knowledge sector. These included: “HEIs, academies, national institutes, non-governmental research institutes, STI (science, technology and innovation) oriented institutions, vocational or skill training institutions, general schools, and institutions preserving indigenous (religious or cultural) knowledge” (Eam, 2022, p. 109).

Drawing on these works, the present study proposes a conceptual framework (see Figure 2) to examine Cambodian youth’s engagement in the knowledge sector, paying particular attention to the current situation, opportunities, and challenges of such engagement.

As can be seen in Figure 2, youth can be knowledge producers, users, and intermediaries, although their roles are mainly knowledge users given their limited knowledge, experience, and skills in the knowledge sector. Their engagement in the knowledge sector depends on how other knowledge producers, users, and intermediaries support such engagement. This engagement is in turn influenced by the environment (economic, social, political, educational, cultural) in which the knowledge producers, users, and intermediaries interact with one another. Thus, Cambodian youth’s engagement in the knowledge sector relies on their capacities and opportunities to produce, use, and disseminate knowledge, and how other stakeholders (knowledge producers, users, intermediaries) and the environment facilitate such capacities and opportunities.

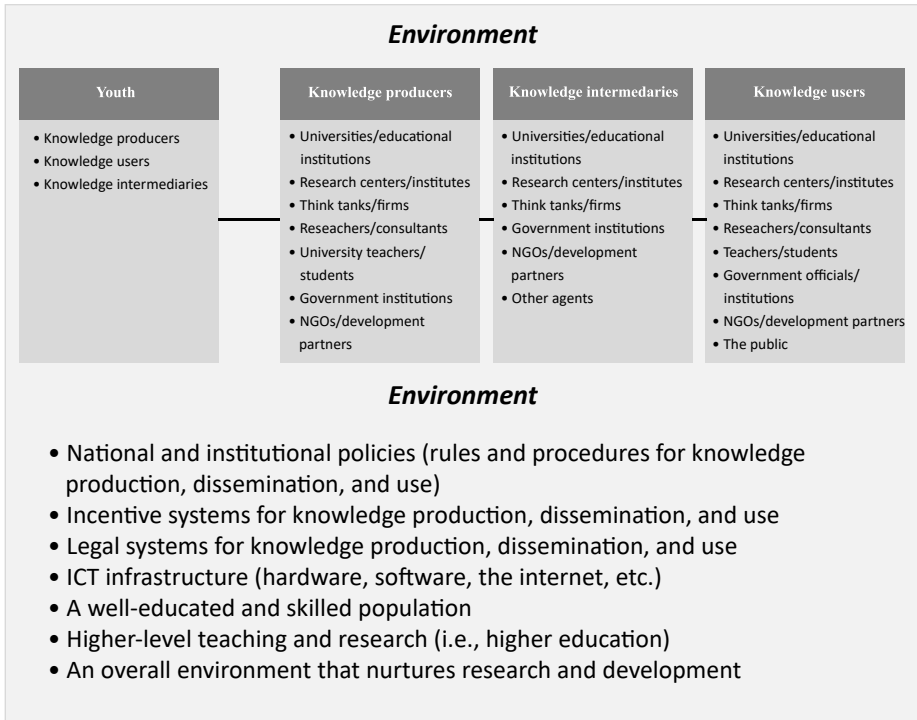


Figure 2. Conceptual framework guiding the study

5.

Research methodology

5.1. Research design

This study employed an exploratory sequential mixed methods design (Creswell, 2003). There were two phases of data collection in the study: 1) interviews with key informants and 2) questionnaire surveys. These two phases of data collection are described below.

Phase 1: The researcher conducted 16 interviews with youth or university students and other key informants from universities, NGOs, think tanks, and/or government agencies. The profile of the interview participants is shown in Table 1 (Section 6.1).

Phase 2: Based on the findings from the interviews, a questionnaire survey was developed. The survey was used to gauge Cambodian university students or youth's perspectives on the three research aims: 1) exploring the current situation, opportunities, and challenges of Cambodian youth's engagement in the knowledge sector; 2) examining the extent to which the current environment is supportive of Cambodian youth's engagement in the knowledge sector; and 3) proposing recommendations on how to promote Cambodian youth's engagement in the knowledge sector. The target youth participants for the survey were those aged 18-35. They were current university students and other youth who may or may not have studied at university. Overall, there were 456 participants (52.2% were females) who filled in the survey. Table 2 shows the demographic information of the survey participants (Section 7.1).

5.2. Research setting and participants

This study consisted of two phases of data collection, involving key informants who participated in the semi-structured interviews and survey respondents who filled an online survey. The participants for the interviews, however, were limited to those living in Phnom Penh, Cambodia's capital city. This was due to reasons of convenience and the concentration of all targeted key informants in the city. As for the survey participants, they were selected from across Cambodia to gather perspectives from youth with a range of backgrounds and experiences. As mentioned in the previous section, the key informants were university students and leaders/staff selected from Cambodian universities, NGOs, think tanks, and/or government agencies. The survey participants were all youth aged 18-35 who were either current university students or non-university students (see Table 2 for their demographic information).

5.3. Data collection

As mentioned above, there were two phases of data collection in this study. Phase 1 involved semi-structured interviews with key informants, while Phase 2, informed by the findings of Phase 1, involved questionnaire surveys.

Phase 1: Semi-structured interviews with key informants were conducted. The interviews were mainly conducted online, with only three interviews being conducted face-to-face. Each potential key informant was approached and invited to participate in the interview. The invitation was sent through Messenger, Telegram, emails, or by telephone. A combination of sampling strategies, called mixed purposeful sampling (Johnson & Christensen, 2012), were employed to facilitate the selection of the participants for the study. These sampling strategies included a combination of snowball sampling, intensity sampling, convenience sampling, and maximum variation sampling. All interviews were recorded with the participants' prior consent.

It is worth noting that after the completion of Phase 1, the findings from the interviews were presented in a consultation workshop organised by The Asia Foundation in early September 2022 to gather additional inputs and insights from concerned stakeholders, such as government officials, researchers, and staff/leaders from HEIs, NGO, think tanks, research institutes, and youth networks. The various comments received during the consultation workshop were taken into account to guide the development of the questionnaire for Phase 2 data collection. For example, youth's age range which was initially conceptualised as between 18 and 30 was changed to 18-35, following feedback from participants of the consultation workshop and the age range of youth agreed by ASEAN member states (ASEAN Secretariat, 2017).

Phase 2: A questionnaire was developed based on the findings from the interviews and the inputs received during the consultation workshop. The questionnaire was administered online using Google Forms. A link to the survey questionnaire was sent to potential participants who were youth aged 18-35. The survey was posted and shared through Facebook, Messenger, Telegram, and by email. The researcher continued to accept responses for one month throughout October 2022. During the period, the researcher contacted focal persons in a number of universities across the country to seek their support in sharing the survey link and/or informing potential university students and other young Cambodians about the survey.

5.4. Data analysis

The data analysis process consisted of two phases: qualitative and quantitative data analysis.

Phase 1: To analyse qualitative data, thematic analysis suggested by Braun and Clarke (2006) was used. The coding and analysis of qualitative data were facilitated by qualitative data analysis software NVivo 12 and Microsoft Excel. In analysing the qualitative data, the researcher transcribed and translated all the recorded interviews from Khmer to English. The researcher also read the transcripts of the interviews many times to identify key themes or conceptual categories.

Phases 2: Data gathered from the survey were input into Microsoft Excel for data cleaning and analysis. The quantitative data analysis focused mainly on frequency and percentages. In presenting the results from the survey, various forms of visuals such as graphs, charts, and tables were used.

5.5. Credibility and reliability

To enhance the credibility and reliability of this research, several suggestions made by Heale and Twycross (2015) as well as Houghton et al. (2013) were considered. In particular, the researcher followed various strategies to ensure research rigour, including improvement in the content validity and internal consistency of the questionnaire survey, and the use of member checking, data triangulation, and reflexivity in the qualitative phase of the study.

5.6. Ethical considerations

Efforts were made to adhere to the universal regulations of data protection, such as storing the data securely and utilising it for the research purpose only. Participation in the interviews and surveys was voluntary. No personal information that would lead to the identification of the participants was or will be published or shared to a third party. All participants were informed about the purpose of the study and the voluntary and anonymous nature of their participation. They were encouraged to share or provide honest and accurate information and answers to the questions in the interview or survey. Overall, every effort was made to observe ethical considerations during each stage of data collection, data analysis, and data presentation.

6.

Findings from the interviews

6.1. Profiles of the interview participants

Table 1. Profiles of the interview participants (n = 16)

No.	Participants	Gender	Type of participants	Type of institutions	Degree
1	P1	F	University student	Public	Bachelor's student
2	P2	M	University student	Public	Bachelor's student
3	P3	F	University student	Public	Bachelor's student
4	P4	F	University graduate	Private	Bachelor
5	P5	M	Director	Public	PhD
6	P6	M	Dean	Private	PhD
7	P7	M	University lecturer	Public	PhD candidate
8	P8	M	University lecturer	Public	Master
9	P9	F	University lecturer	Public	Master
10	P10	M	Government official	MoEYS	PhD
11	P11	F	Government official	MoEYS	PhD
12	P12	F	NGO staff	NGO	Bachelor
13	P13	M	Think tank leader	Private	Master
14	P14	M	Think tank leader	Private	Bachelor
15	P15	M	Think tank leader	Private	PhD candidate
16	P16	M	Think tank staff	Private	Bachelor

As seen in Table 1, there were 16 participants who took part in the semi-structured interviews. Among them, six participants (37.5%) were females. They had different backgrounds as four of them were university students or recent graduates, three were university lecturers, one was an institutional director, and one was a faculty dean. Two other participants were government officials working at MoEYS. Another

participant was an NGO staff member and four interviewees were think tank leaders/staff. These interview participants worked in the public, private, and NGO sectors. Four of them were bachelor's degree holders, two had a master's degree, and four held a PhD. The rest of the participants were pursuing their bachelor's degree (three participants) or PhD (two participants).

6.2. Challenges to Cambodian youth's engagement in the knowledge sector

The analysis of data gathered through semi-structured interviews with the 16 participants who were university students, lecturers, deans, government officials, NGO staff, and think tank staff/leaders showed three main types of challenges affecting Cambodian youth's engagement in the knowledge sector. These included 1) limited knowledge about research, publication, and English language skills; 2) less supportive environment for research; and 3) other personal and professional challenges.

6.2.1 Limited knowledge about research, publication, and English language skills

Table 2. Limited knowledge about research, publication, and English language skills

Limited knowledge about research, publication, and English language skills	
Youth	<ul style="list-style-type: none"> • Lack of prior research training/research background • Lack of practical /real research practice • Poor reading habits (leading to lack of ideas, knowledge, etc.)
Lecturers, supervisors, or universities	<ul style="list-style-type: none"> • Lectures/teacher trainers/supervisors' limited research knowledge lack of focus on research • Poor quality of research supervision • University leaders' lack of research knowledge and vision • Research officers' limited knowledge about research • Universities' limited research capacity • Universities' lack of interest in promoting research (private universities)
Education system	<ul style="list-style-type: none"> • Limited focus on research in general and higher education

As seen in Table 2, one of the main challenges that prevented Cambodian youth from engaging in research and the knowledge sector was related to the issue of limited knowledge on the part of youth themselves and other stakeholders about research, publication, and English language skills. There are many factors contributing to this issue. As the participants noted, the lack of prior research training and real research

practice was a key factor. Youths' poor reading habits were also raised by many participants. The following quotes from two participants illustrate this point:

The main problem is that many students do not receive training about research. They do not have experience in conducting research. (P1)

There is a lack of reading habits from youth. Therefore, they are not critical enough when writing. They just touch the surface of the issues. (P15)

The participants also attributed Cambodian youth's limited knowledge about research and publication to another important issue related to the lack of research knowledge of university lecturers, teacher trainers, and research supervisors. For example, P7 said that "Even some lecturers don't know about research. They don't have publications. Supervisors and committee members have never published, so how can they supervise their students to do research?" Another participant made a similar comment. He said:

Even lecturers have limited knowledge about research. When lecturers have limited capacity for research, students also have limited opportunities to improve their research knowledge. (P15)

In addition, the participants pointed to the limited role of university leaders and research officers in promoting research, emphasizing their lack of research knowledge and vision as well as the limited research capacity of many, if not most, Cambodian universities. As P10 observed, "Another challenge is leadership at each university. Some university leaders might not know about research." Another participant said:

Those who are in charge of the research office do not have sufficient knowledge about research. When they don't know much about research and publication, they don't know how to improve research and make it better. (P9)

Regarding the issue of limited knowledge about research and publication, the participants also mentioned general problems linked to the whole education system in Cambodia. Some of them attributed Cambodian youth's current level of research knowledge to the limited focus on research in general and higher education. Others made comments on the quality of research supervision, perceived to be poor or limited. A few participants went on to reveal that some private universities in Cambodia did not have much interest in promoting research. They simply allowed students to take an exit exam to graduate from their respective programs and generated some money in the process. These problems are illustrated in the following quotes:

We need to reform the education system. The whole education system is not synchronised (i.e., disconnected). (P3)

Many public universities try to promote research. Some private universities do not want to promote research. They just want to get money from the students who don't do research. (P7)

Table 3. Lack of a supportive environment for research

Lack of a supportive environment for research
<p>Limited research capacity building opportunities</p> <ul style="list-style-type: none"> • Lack of research training opportunities • Limited opportunities for research and publication • Lack of information about research support/guidance <p>Discouraging environment for research</p> <ul style="list-style-type: none"> • Limited access to both primary and secondary data • Discouragement from others/criticism/downplaying • Limited academic freedom/possibility of being denied opportunities • Lack of efforts, commitment, initiatives among concerned stakeholders • Limited facilities for research • Lack of research collaboration opportunities • Lack of role models and good systems for research

The participants also pointed out a number of challenges to Cambodian youth's engagement with research that could be categorized into two groups: (a) limited research capacity building opportunities and (b) discouraging environment for research (see Table 3). These two categories of challenges constituted a lack of a supportive environment for research in the Cambodian context. In the first category, three challenges were highlighted by the participants. They included 1) lack of research training opportunities; 2) limited opportunities for research and publication; and 3) lack of information about research support or guidance. The following quotes show the challenges under this category:

I believe that youth are interested in research, but they do not have opportunities to engage in research. (P1)

Students need support or guidance, but it is hard to find support... I don't know where to find support or guidance. (P3)

In the second category, there were several challenges, including 1) limited access to both primary and secondary data; 2) discouragement in the form of criticism and downplaying of the findings; 3) limited academic freedom; 4) lack of efforts and commitment from concerned stakeholders; 5) limited research facilities; 6) lack of research collaboration opportunities; and 7) lack of research role models. All of these challenges can be grouped under a broader term, called discouraging environment for research. As the quotes below illustrate, each of these challenges serve as barriers to Cambodian youth's engagement with research and the use of data for policymaking.

The academic freedom is limited. There is too much political influence and it's hard to get permission for research due to bureaucracy. (P6)

The environment is not conducive for research. There is discouragement for research by youth as no one believes in what youth write because they are young. (P14)

6.2.3 Other personal and professional challenges

Table 4. Other personal and professional challenges

Other personal and professional challenges
Time constraints <ul style="list-style-type: none">• Lack of time• Heavy workloads (study or work)
Financial constraints <ul style="list-style-type: none">• Economic pressure/burden (employment-oriented)• Lack of incentives for research
Attitudinal constraints <ul style="list-style-type: none">• Negative mindset toward research and publication

The interview data also showed other challenges of personal and professional nature (see Table 4). For example, a number of participants pointed to issues around time constraints and heavy workloads (study, work, or both) as the main challenges to their engagement in research. The following extracts from the interviews show this point.

Time constraints are the main issue. Research is time-consuming and we are busy working to earn an income to support ourselves. (P13)

Lack of time to write is another challenge. We can't rely on writing to support our daily expenses. (P14)

Other challenges were related to financial constraints. They included the pressure or burden to earn an income to support themselves and their family. This economic pressure means that many young people were not able to commit to research and publication activities because they needed to invest the time and energy that they had in generating income. Engaging in research would mean reducing time for income-generating activities, thereby many, if not most, young people were discouraged from research. A few participants, for example, said:

There is economic pressure. We need to survive. So, youth are not so interested in research because they need to focus on survival. (P13)

There is a financial burden. We need to work to earn an income. Therefore, we don't have time to write. (P14)

Relatedly, there is a prevalent lack of incentives for research. Many participants raised this issue as a key barrier to research engagement and research development in the Cambodian context. Some said that even if they were highly committed to research, it was impossible for them to focus only on research as there were no incentives for them. If there were incentives identified, the incentives were too little to substitute for their monthly income they could get from more traditional occupations. As a result, research was not prioritized or was considered as the last priority. The following quotes highlight the economic pressure and lack of incentives for research, preventing many young Cambodian people from engaging in research and contributing to the knowledge sector.

There are limited financial benefits for researchers. There is also limited funding for research, and there are no incentives for research. (P6)

There are limited resources and funds for research. Researchers have no value. There is no distinction between those who do research and those who don't. (P8)

There is also another important issue that was mentioned by a few participants. This issue was related to people's mindset toward research. This challenge could be termed attitudinal constraints, referring to the negative attitude of some Cambodian people toward research and publication. As the participants noted, some Cambodian people, including youth, viewed research rather negatively. It was pointed out that some people would consider research as something not very useful or think that research wasted time and money. This negative attitude prevented many Cambodian youth from trying to explore the benefits or impacts of research on personal, professional, community, and social development. As one participant put it:

Many students have a mindset that they cannot do research, so they cannot do it... They feel that they get nothing from research. After graduation, they might not do research because there is no requirement for it. (P9)

Overall, there are several challenges that discourage or even prevent Cambodian youth from engaging in research and using data for policymaking. Key challenges can be categorized into three main themes, including 1) limited knowledge about research, publication, and English language skills; 2) lack of a supportive environment for research; and 3) other personal and professional challenges. Considering the challenges, it can be argued that the current environment is far from supportive for Cambodian youth to actively engage in the knowledge sector.

6.3. Opportunities for Cambodian youth's engagement in the knowledge sector

The analysis of the data from the semi-structured interviews indicated four categories of opportunities for Cambodian youth's engagement in the knowledge sector. They included 1) new research-supporting programs/initiatives; 2) new platforms for research and publication; 3) greater focus on research and publication; and 4) other opportunities. These four categories of opportunities are discussed in this section.

6.3.1 Other personal and professional challenges

Table 5. New research-supporting programs/initiatives

New research supporting programs/initiatives	Providers of the programs/initiatives
Young researcher programs	Future Forum
Research seminars/ Research seminar series	Cambodia Development Resource Institute Cambodian Education Forum
Public lectures	University of Cambodia Battambang Teacher Education College
Research training/mentoring opportunities	Cambodian Education Forum
Opinion writing opportunities	Politikoffee
Research internship programs	Various media outlets Cambodian Education Forum
Research fellowship/ teaching fellowship programs	Center for Khmer Studies Teach for Cambodia

The participants mentioned that in recent years there has been an increase in programs or initiatives that created opportunities for Cambodian youth or young people to engage in research and the use of data for policymaking. These research-supporting programs or initiatives, as shown in Table 5, included young researcher programs, research seminars, public lectures, research training/mentoring opportunities, opinion writing opportunities, research internship programs, and research fellowship programs.

6.3.2 New platforms for research and publication

Table 6. New platforms for research and publication

New platforms for research and publication	Institutions supporting the platforms
Research forums or conferences	
National Research Forum	Department of Scientific Research (MoEYS)
Cambodian ELT Conference	Department of English (Institute of Foreign Languages, RUPP)
Cambodia International Conference on Mentoring Educators	New Generation Pedagogical Research Center (National Institute of Education)

Academic journals	
Cambodian Journal of Educational Research	Cambodian Education Forum
Cambodian Journal of Humanities and Social Sciences	Institute of Humanities and Social Sciences (Royal Academy of Cambodia)
Insight: Cambodia Journal of Basic and Applied Research	Royal University of Phnom Penh
Cambodian Journal of STEM and Education Research	Department of Scientific Research (MoEYS)
Cambodia Education Review	Department of Policy (MoEYS)
Research networks	
SheThinks Network	Ponlok Chomnes Program, The Asia Foundation
Community of Practice	Department of English (Institute of Foreign Languages, RUPP)

The participants also mentioned that there was an increase in new platforms that allowed Cambodian students, teachers, and researchers to engage in research and publication activities. As shown in Table 6, the newly established platforms for research and publication that were mentioned by the participants fell under three categories: 1) research forums or conferences (e.g., National Research Forum); 2) academic journals (e.g., Cambodian Journal of Educational Research); and 3) research networks (e.g., SheThinks Network).

6.3.3 Greater focus on research and publication

Table 7. Greater focus on research and publication

Greater focus on research and publication	Corresponding institutions
Introduction of institutional vision to promote research	Royal University of Phnom Penh The University of Cambodia National University of Management National Institute of Education
Implementation of national policies or projects that promote research	Ministry of Education, Youth and Sport Ministry of Industry, Science, Technology and Innovation
Introduction of research requirements for students	Battambang Teacher Education College Phnom Penh Teacher Education College National Institute of Education Department of International Studies (RUPP)

Another category of opportunities for Cambodian youth to engage in research is linked with a greater emphasis placed on research and publication in recent years. Most of the participants were aware of the new developments in favor of research

such as 1) the introduction of institutional vision to promote research; 2) the implementation of national policies or projects that promote research; and 3) the introduction of research requirements for university students. These new developments indicated a greater focus on research and publication in Cambodia, particularly in the higher education context. A summary of the greater focus on research and publication alongside the corresponding institutions is provided in Table 7.

6.3.4 Other opportunities

Table 8. Other opportunities for youth’s engagement in the knowledge sector

Other opportunities
More lecturers and teacher trainers with better qualifications (from overseas)
More interest in research and publication
Support for research from development partners and donor agencies (e.g., Sida, JICA, DFAT, the World Bank, The Asia Foundation, etc.)

The participants also mentioned other opportunities for research and publication that they identified as linked to an increase in the number of Cambodian people, particularly lecturers and teacher trainers, who have graduated with degrees from overseas, as well as a growing interest in research and publication. In addition, they also pointed out the continuous support for research from the development partners and donor agencies such as Sida, JICA, DFAT, the World Bank, and The Asia Foundation. These opportunities for research and publication are shown in Table 8.

6.4. Recommendations for promoting Cambodian youth’s engagement in the knowledge sector

When asked to provide recommendations to promote Cambodian youth’s engagement in the knowledge sector, the participants made several suggestions that could be grouped into four categories. These include 1) providing research support; 2) providing research and publication opportunities; 3) creating a supportive environment for research; and 4) having a greater focus on research and publication. These recommendations are discussed below.

6.4.1 Providing research support

As seen in Table 9, the first category of recommendations centres around providing research support to encourage youth to engage in research and the knowledge sector. This involves providing financial support and research capacity building support. Regarding the financial support, the participants pointed out the need for the government to support NGOs, think tanks, research institutes, and other organisations so that they could provide research engagement opportunities for youth. The participants also emphasised the need to allocate funds and resources for research, as well

as the provision of incentives for research and publication. In addition, they highlighted the need to ensure the sustainability of research-related programs and the importance of providing encouragement or rewards (financial or non-financial) to promote research activities.

Table 9. Providing research support

Providing research support
<p>Financial support</p> <ul style="list-style-type: none"> • Government’s support for NGOs, think tanks, research institutes, etc. • Resource/funding allocation • Incentives for research and publication • Sustainability of research-related programs • Encouragement or rewards (financial or non-financial) <p>Capacity building support</p> <ul style="list-style-type: none"> • Research capacity building programs/continuous professional development(for teaching staff) • Support/mentorship for research and publication activities

In this category, the participants also emphasized the significance of providing capacity building support to both teaching staff and students, as well as the need to provide mentorship for research and publication activities. The capacity building support and mentorship for research are crucial because, without sufficient research knowledge, it would be impossible for youth to conduct research. Moreover, without a good level of research knowledge, school or university teachers would not be able to effectively teach their students about research. As a result, youth would continue to lack the necessary knowledge and skills about research, making it unrealistic, if not impossible, to expect them to actively engage in research.

6.4.2 Providing research and publication opportunities

Table 10. Providing research and publication opportunities

Providing research and publication opportunities
<ul style="list-style-type: none"> • Internship/fellowship programs • Research seminars/workshops/conferences/presentations • Research projects/initiatives • More research activities/opportunities for youth (e.g., research competition) • More research and publication activities to promote research interest

In the second category of recommendations, the participants stressed the importance of offering more research and publication opportunities to youth. As seen in Table 10, these suggestions include providing internship/fellowship programs; hosting research seminars, workshops, conferences, and/or presentations; introducing research projects/initiatives; making more research activities/opportunities available to youth; and conducting more research and publication activities to promote research interest among Cambodian youth.

6.4.3 Creating a supportive environment for research

Table 11. Creating a supportive environment for research

Creating a supportive environment for research
<p>Supportive environment</p> <ul style="list-style-type: none"> • Research support networks in and outside of university settings • Platforms for research dissemination and publication • Young talent programs
<p>Stakeholder collaboration</p> <ul style="list-style-type: none"> • Stakeholder collaboration/institutional collaboration/staff collaboration • Promotion of public-private partnership (university-industry-government)
<p>Academic freedom</p> <ul style="list-style-type: none"> • Academic freedom • Tolerance of discussions or publications on politically sensitive topics • Government’s openness to data collection, research findings, or new ideas

In the third category, as can be seen in Table 11, the recommendations are about creating a supportive environment for research. To develop such an environment, it is important to focus on three goals. First, it is essential to nurture a supportive environment for research by establishing research support networks inside and outside of university settings, establishing more platforms for research dissemination and publication, and offering more young talent programs to offer youth the opportunity to engage in research and the knowledge sector. Second, it is crucial to encourage stakeholder collaboration in order to increase opportunities for youth to engage in research. Achieving this goal involves promoting collaboration at the institutional and individual levels. Third, it is important to promote academic freedom. Although not many participants raised this issue, a few participants considered the lack of academic freedom to be a major issue preventing Cambodian people, including youth, from being actively involved in research and publication. To promote academic freedom, it is essential that the government tolerate discussions or publications on politically sensitive topics. In addition, the participants suggested that the government should be more open to data collection, research findings, and new ideas as they contribute to promoting a conducive environment for research and publication activities.

Table 12. Having a greater focus on research and publication

Having a greater focus on research and publication
<p>Institutional research policies</p> <ul style="list-style-type: none"> • Recruitment of new lecturers with research skills • Research requirement (e.g., 1 paper per year) • Student and staff exchange programs
<p>Curriculum and assessment reform</p> <ul style="list-style-type: none"> • Curriculum reform/improvement • Assessment improvement
<p>Higher education enrollment and management</p> <ul style="list-style-type: none"> • Improvement in higher education enrolment • Reduction in school dropout • Improvement in policy implementation • Improvement in management system • Promotion of student-teacher relations

In the fourth category of recommendations, the participants emphasized the need for a greater focus on research and publication (see Table 12). To achieve this goal, three important areas should be considered. First, clear institutional research policies need to be developed and implemented. Specifically, as the participants suggested, it is important that Cambodian universities or higher education institutions recruit lecturers who have strong research skills, including publication experience. In addition, institutional research requirements are needed to promote research and publication within the institutions. This can be done by requiring university teachers to publish, for example, at least one paper per year. There is also a need to offer or increase opportunities for student or staff exchange programs that focus on research and publication.

Second, there is a need to introduce curriculum and assessment reforms. The importance of curriculum and assessment that promote research cannot be overstated. Without a curriculum that includes research as a core unit, students will not be trained in a way that equips them with the necessary knowledge about research; as a result, they will not be able to confidently engage in research during their studies or after graduation. Likewise, if the course assessment does not focus on research activities, such as conducting a literature review, collecting and analysing data, interpreting and discussing the findings from the data analysis, and writing the conclusion and implications of the research findings, students will graduate without sufficient first-hand research knowledge and experience, leaving them unable to conduct research or engage in research activities. Therefore, a reform to the study curriculum and course assessment that places research as a centrepiece is required to promote a greater focus on research and publication that is needed to encourage research activities.

Third, the recommendations focus on improving higher education enrolment and management. This is vitally important because students who pursue higher education will become educated individuals who are likely to have the necessary knowledge and skills to take up research activities. To achieve this goal, attention should be given to the higher education enrolment while at the same time reducing the school dropout rate. As for the improvement of higher education management, it is essential to improve the effectiveness of the implementation of higher education policies, improve the higher education system management, and promote student-teacher relations.

Overall, the recommendations made by the participants fall under four main categories, including 1) providing research support (e.g., financial and technical support); 2) providing research and publication opportunities (e.g., introducing research internship programs, offering opportunities for research seminars and presentations, and creating more research and publication opportunities for young people); 3) creating a supportive environment for research (e.g., establishing more research networks and platforms for research and publication, promoting stakeholder collaboration, and promoting academic freedom and tolerance of discussions or publications on politically sensitive topics); and 4) having a greater focus on research and publication (e.g., recruiting new lecturers with research skills, introducing institutional research requirements, introducing curriculum and assessment reforms, improving higher education enrolment and management, and improving the implementation of higher education policies). All these recommendations should be considered by all relevant stakeholders to improve the overall environment for youth's engagement in the knowledge sector in Cambodia.

7.

Findings from the survey

7.1.

Demographic information of the survey participants

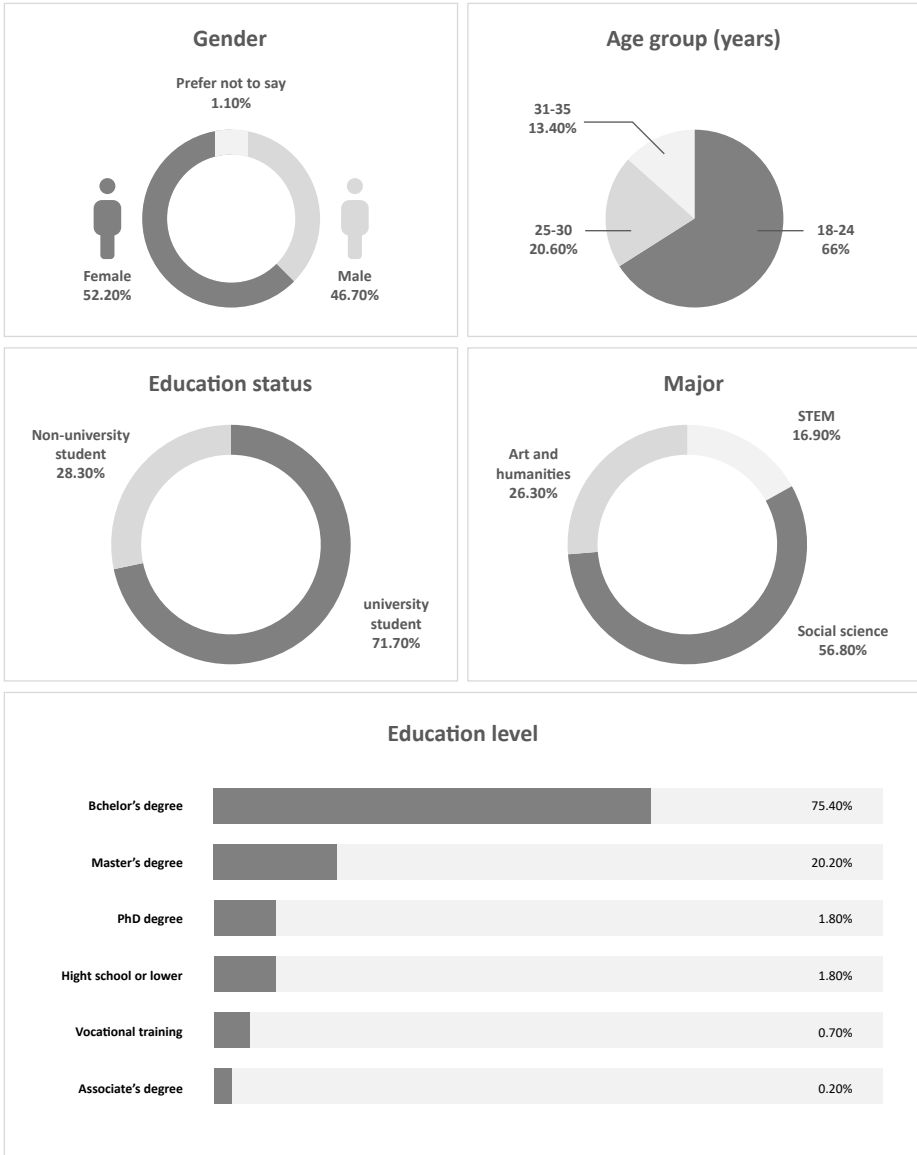


Figure 3. Demographic information of the survey participants (n = 456)

There were 456 responses to the online survey. Among these respondents, 46.7% were males, 52.2% were females, and a few participants (1.1%) chose not to reveal their gender, as shown in Figure 3. The participants were between the ages of 18 and 35, with the age group of 18-24 making up 66% of the total number of participants. This is followed by the 25-30 age group (20.6%) and the 31-35 age group (13.4%).

The participants were from various educational backgrounds, ranging from high school to PhD levels. However, as Figure 3 shows, about three-quarters (75.4%) of the respondents were at a bachelor's degree level, and 20.2% were at a master's degree level. Eight respondents were at a PhD level. Among the 456 participants, 71.7% were university students and 28.3% were non-university students.

Regarding their majors, more than half (56.8%) were studying or had studied social sciences (economics, law, political science, archaeology, history, psychology, geography, etc.); 26.3% arts and humanities (literature, philosophy, anthropology, linguistics, theatre, art history, music, cultural studies); and 16.9% in science, technology, engineering, and mathematics (STEM).

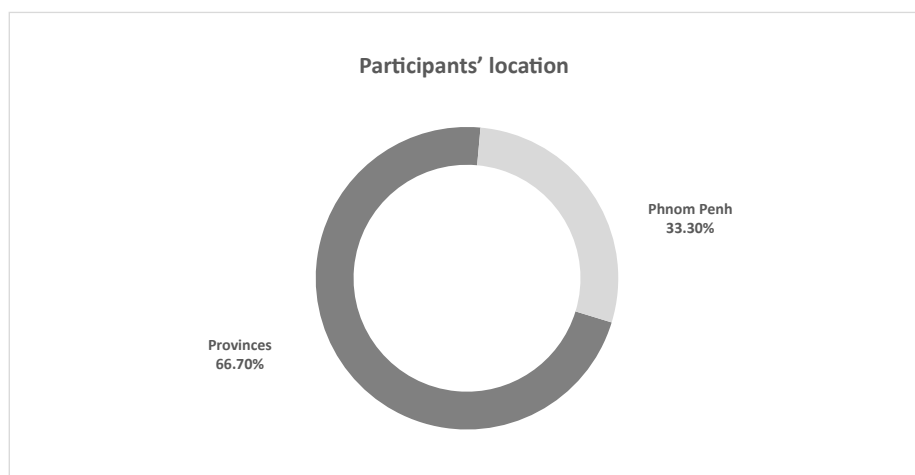


Figure 4. Location of the survey participants

Interestingly, as shown in Figure 4, two-thirds (66.7%) of the participants were based in the provinces while one-third (33.3%) lived in Phnom Penh. For those who lived in the provinces, they were from 19 different provinces across Cambodia. A list of all the 19 provinces in which the survey participants were based is provided in Appendix A.

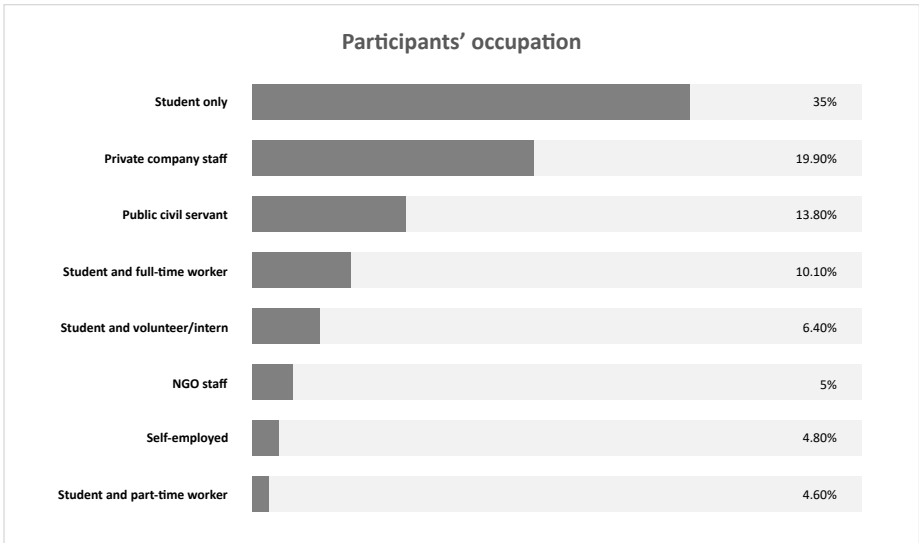


Figure 5. Participants' occupation

Figure 5 shows occupational information about the survey respondents. Overall, about one-third were students and did not currently have a job. About 20% were employed in private companies, and 13.8% were public civil servants. Others were students who worked full-time (10.1%), students who worked as volunteers/interns (6.4%), students who worked part-time (4.6%), and those working in NGOs (5%) or who were self-employed (4.8%).

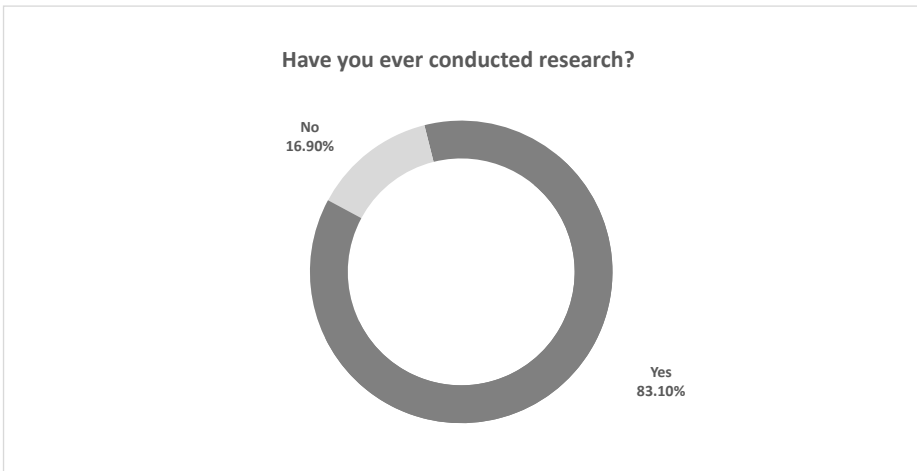


Figure 6. Participants' research experience

One of the questions in the survey asked the participants whether they have ever conducted research. As shown in Figure 6, around 83% of the respondents claimed that they had conducted research, while only 16.9% said they had not. This is an interesting finding showing that many Cambodian youth have research experience.

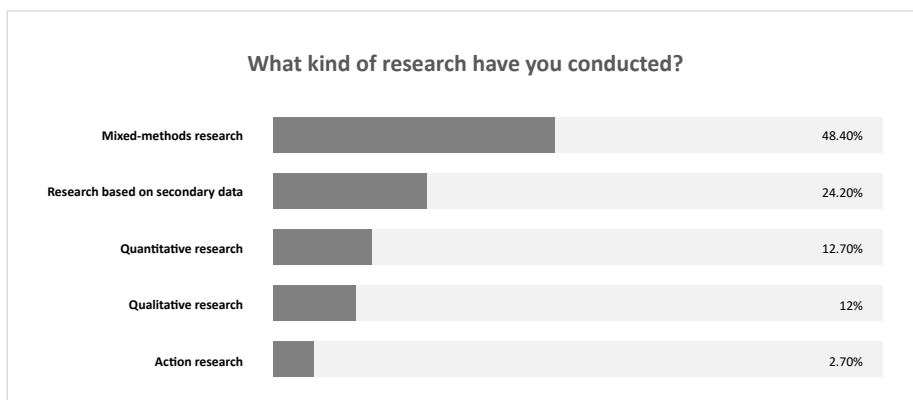


Figure 7. Types of research conducted by the participants

Another question in the questionnaire survey asked about the type of research that the participants have conducted. Overall, as Figure 7 shows, almost half of the participants had experience conducting mixed-methods research. Research based on secondary data was also popular as 24.2% of the participants claimed to have undertaken this type of research. This is followed by quantitative research (12.7%), qualitative research (12%), and action research (2.7%). It is interesting to learn that both quantitative and qualitative research has similar scores of around 12%.

7.2. Challenges to Cambodian youth's engagement in the knowledge sector

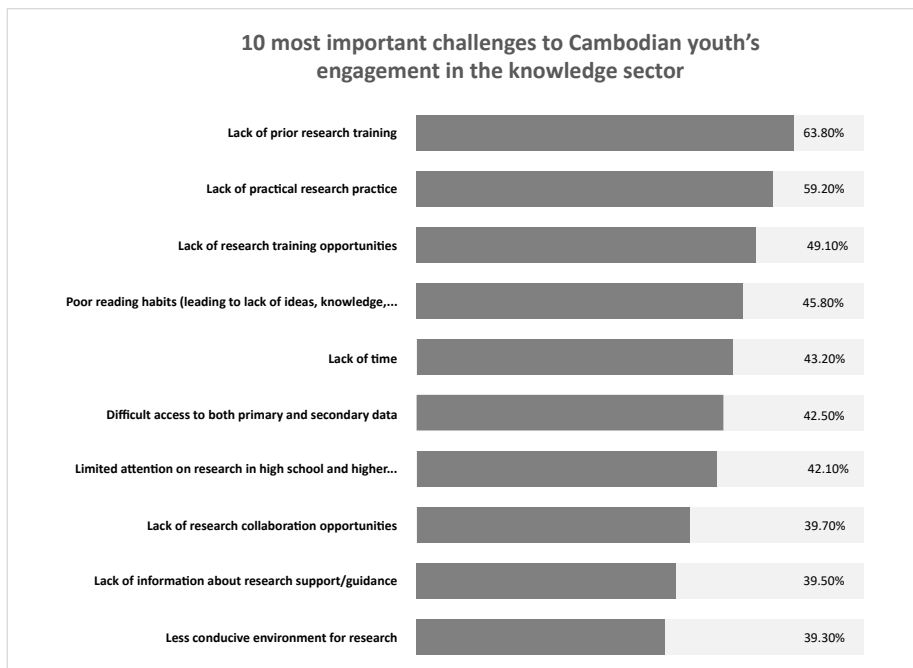


Figure 8. Ten most important challenges to Cambodian youth's engagement in the knowledge sector

The respondents to the survey were given a list of 24 challenges to Cambodian youth’s engagement in the knowledge sector (see Section 6.2). They were asked to select the 10 most important challenges preventing them from engaging in research. As shown in Figure 8, the 10 most pressing challenges, in order of importance, included 1) lack of prior research training; 2) lack of practical research practice; 3) lack of research training opportunities; 4) poor reading habits (leading to lack of ideas, knowledge, etc.); 5) lack of time; 6) difficult access to both primary and secondary data; 7) limited attention on research in high school and higher education; 8) lack of research collaboration opportunities; 9) lack of information about research support/guidance; and 10) less conducive environment for research. These results are interesting because there was a pattern among many participants in selecting three key challenges to their engagement in research. They included 1) lack of prior research training (63.8%), 2) lack of practical research practice (59.2%), and 3) lack of research training opportunities (49.1%).

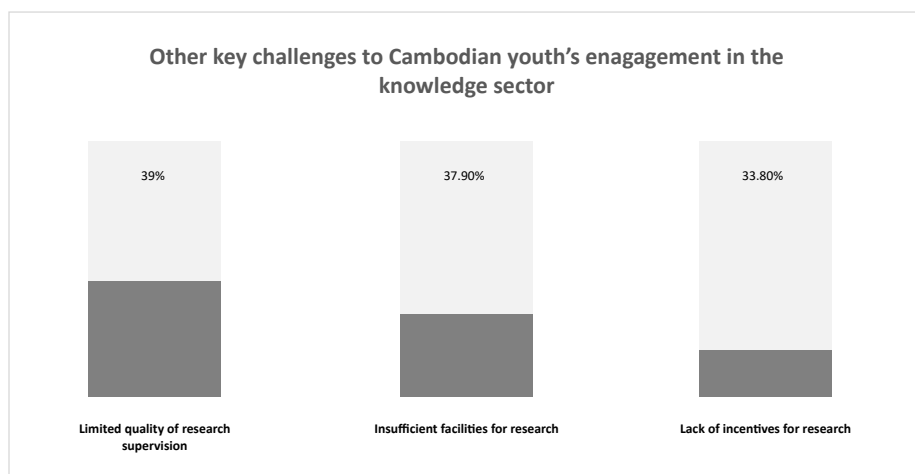


Figure 9. Other key challenges to Cambodian youth’s engagement in the knowledge sector

There were also three other challenges that were frequently selected by the respondents, although these were ranked lower and thus were believed to present less pressing challenges to youth compared to those shown in Figure 8. These three challenges, as can be seen in Figure 9, included limited quality of research supervision (39%), insufficient facilities for research (37.9%), and lack of incentives for research (33.8%).

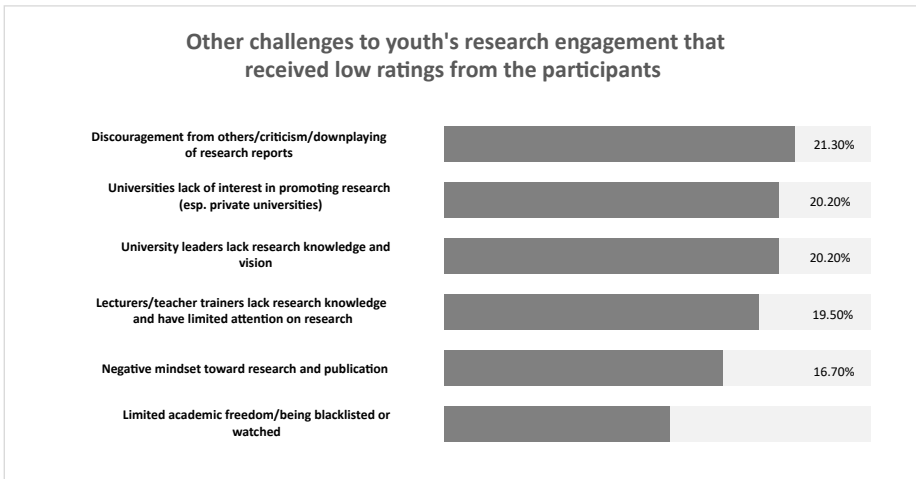


Figure 10. Other challenges to youth's research engagement that received low ratings from the participants

There were other challenges that were not rated highly by the respondents. As seen in Figure 10, these challenges included 1) discouragement from others/criticism/downplaying of research reports; 2) universities' lack of interest in promoting research (especially private universities); and 3) university leaders lack research knowledge and vision, among other challenges. What is interesting about these results is that the issue concerning limited academic freedom was not perceived by the participants as a major challenge to Cambodian youth's engagement in the knowledge sector. Only 11% of the 456 respondents selected "Limited academic freedom/possibility of being denied opportunities" as one of the most important challenges preventing them from engaging in research. This particular result is explained in Section 8.

7.3. Opportunities for Cambodian youth's engagement in the knowledge sector

The various opportunities identified via the interview data (see Section 6.3) were included in the survey questionnaire. The respondents were then asked to select which opportunities for research they were aware of. The results are presented in this section.

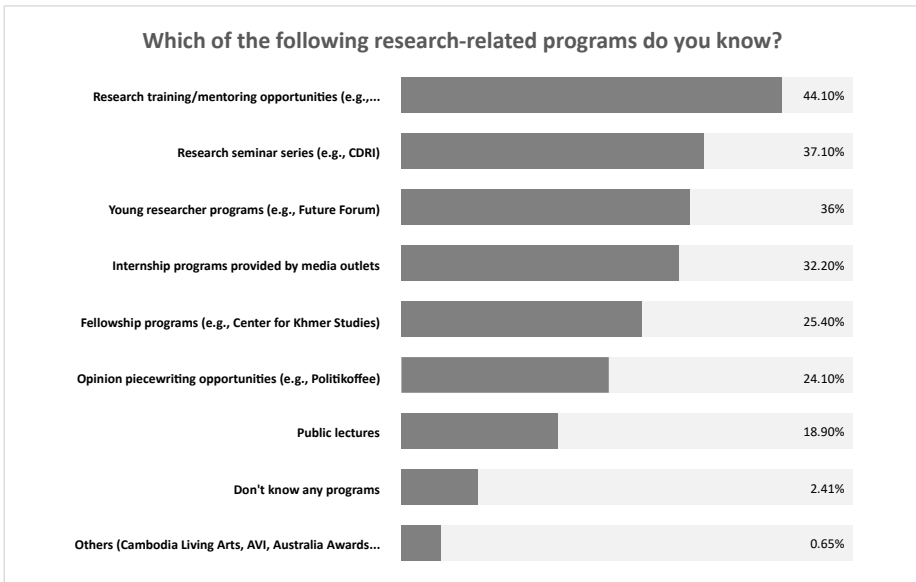


Figure 11. Which of the following research-related programs do you know?

As shown in Figure 11, the participants were asked to select all research-related programs that they knew about. The results showed that many participants knew about research training/mentoring opportunities (44.1%), research seminar series (37.1%), young researcher programs (36%), and internship programs provided by media outlets (32.2%). To a lesser extent, they were also aware of other research-related programs such as fellowship programs (25.4%), opinion piece writing opportunities (24.1%), and public lectures (18.9%). A small number of participants (2.41% or 11 participants) did not know of any research-related programs.

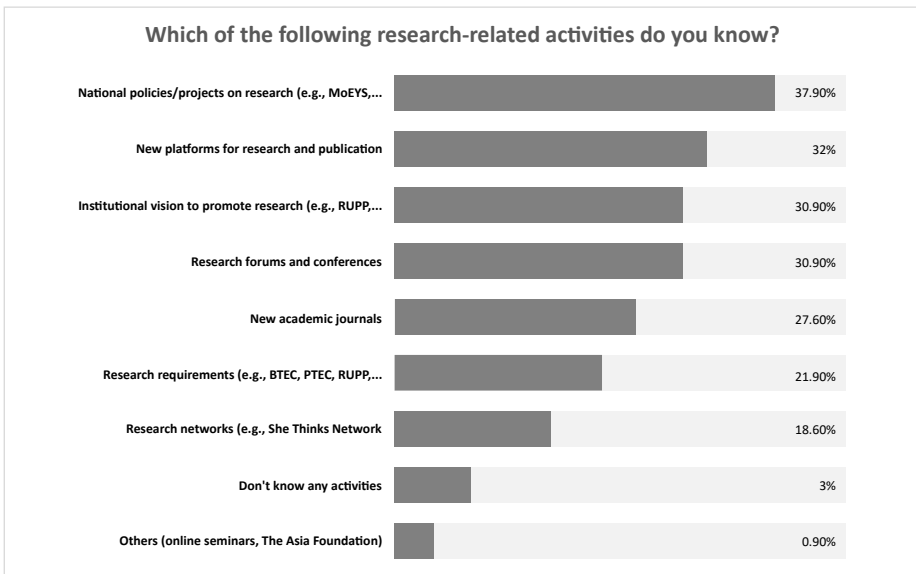


Figure 12. Which of the following research-related activities do you know?

The participants were also asked to select recent research-related activities that they know about. As shown in Figure 12, many of them (37.9%) were aware of the national policies/projects on research introduced by MoEYS and the Ministry of Industry, Science, Technology and Innovation (MISTI). They also knew about the new platforms for research and publication (32%), the institutional vision to promote research (30.9%), and the new research forums and conferences (30.9%). In addition, several participants were, albeit to a lesser extent, also aware of other research-related activities such as the establishment or introduction of new academic journals (27.6%), research requirements at some Cambodian higher education institutions (21.9%), and research networks (18.6%).

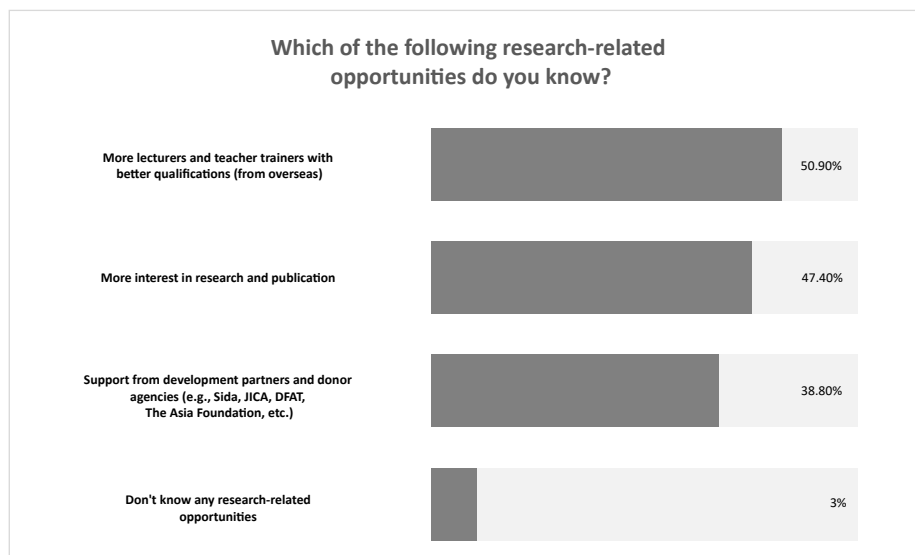


Figure 13. Which of the following research-related opportunities do you know?

Another question in the questionnaire asked the participants to select among three research-related opportunities identified during the interviews. They were also requested to write other research opportunities that they knew about. As Figure 13 shows, half of the participants knew that there were more lecturers and teacher trainers with better qualifications (from overseas). Almost half (47.4%) believed that there was more interest in research and publication which could provide more opportunities for research, whereas 38.8% were aware of the support for research received from development partners and donor agencies such as Sida, JICA, DFAT, The Asia Foundation, etc. A small number of the participants (3%) revealed that they did not know of any research-related opportunities.

7.4. Recommendations for promoting Cambodian youth’s engagement in the knowledge sector

In the final part of the survey, the participants were given a list of 34 recommendations for promoting Cambodian youth’s engagement in the knowledge sector (discussed in Section 6.4).

They were asked to rate these recommendations on a five-point Likert scale, consisting of 1) Strongly disagree, 2) Disagree, 3) Neutral, 4) Agree, and 5) Strongly agree. In this section, the recommendations that received the highest percentage of “Agree” and/or “Strongly agree” are presented. A complete list of recommendations and their rating scores are provided in Appendix B.

Table 13. Recommendations that received the highest percentage of “Strongly agree”

Recommendations	Level of Agreement (%)				
	SD	D	N	A	SA
1. Incentives for research and publication	7.46	6.58	6.58	40.57	38.82
2. Research capacity building programs/continuous professional development(for teaching staff)	7.68	6.58	6.80	46.49	32.46
3. Providing research and publication opportunities	7.46	7.24	7.24	47.59	30.48
4. Research internship/fellowship programs	7.02	7.24	8.33	42.11	35.31
5. Promotion of studentteacher relations	8.11	4.82	11.18	43.64	32.24

Note. SD = Strongly disagree, D = Disagree, N = Neutral, A = Agree, and SA = Strongly agree

As seen in Table 13, five recommendations received the highest percentage (30% or higher) of “Strongly agree” as selected by the participants. These included 1) incentives for research and publication; 2) research capacity building programs/continuous professional development (for teaching staff); 3) providing research and publication opportunities; 4) research internship/fellowship programs; and 5) promotion of student-teacher relations. Among these recommendations, the need to provide incentives for research and publication, and research internship/fellowship programs received the highest selection rate for “Strongly agree”.

Table 14. Recommendations that received the highest combined percentage of “Agree” and “Strongly agree”

Recommendations	Level of Agreement (%)		
	SD/D	N	A/SA
1. Resource/funding allocation to support research	14.69	10.09	75.22
2. Incentives for research and publication	14.04	6.58	79.39
3. Research capacity building programs/continuous professional development (for teaching staff)	14.25	6.80	78.95

4. Support/mentorship for research and publication activities	14.47	8.55	76.97
5. Providing research and publication opportunities	14.69	7.24	78.07
6. Research internship/fellowship programs	14.25	8.33	77.41
7. Research seminars/workshops/conferences/presentations	14.04	9.43	76.54
8. Research projects/initiatives	13.38	10.53	76.10
9. More research activities/opportunities for youth to engage in research	13.38	8.55	78.07
10. More research and publication activities to promote research interest	13.82	9.21	76.97
11. Research support networks in and outside of university settings	15.35	7.89	76.75
12. Promotion of student-teacher relations	12.94	11.18	75.88
13. Youth's proactiveness	12.72	11.18	76.10

Note. SD/D = Strongly disagree/Disagree, N = Neutral, and A/SA = Agree/Strongly agree

When combining the percentage of “Agree” and “Strongly agree”, 13 recommendations received the highest combined percentage (75% or higher) of “Agree” and “Strongly agree”. As seen in Table 14, these recommendations included (a) Incentives for research and publication (79.39%), (b) Research capacity building programs/continuous professional development (78.95%), (c) Providing research and publication opportunities (78.07%), and (d) More research activities/opportunities for youth to engage in research (78.07%), among other recommendations.

Table 15. Recommendations that were not rated highly by the participants

Recommendations	Level of Agreement (%)		
	SD/D	N	A/SA
1. Government's support for NGOs, think tanks, research institutes, etc.	17.11	18.64	64.25
2. Tolerance of politically sensitive topics	18.64	23.90	57.46
3. Research requirement (e.g., 1 research paper per year)	16.67	17.76	65.57
4. Student and academic staff exchange programs	16.01	17.98	66.01
5. Reduction in school dropout	16.23	14.91	68.86

Note. SD/D = Strongly disagree/Disagree, N = Neutral, and A/SA = Agree/Strongly agree

While many recommendations received a good rating from the participants as their combined percentage of “Agree” and “Strongly agree” was 70% or higher (see Appendix B), there were five recommendations that were not rated highly by the participants. Specifically, as shown in Table 15, more participants either “Strongly disagreed” or “Disagreed” with the recommendations that focused on 1) Government’s support for NGOs, think tanks, research institutes, etc.; 2) tolerance of politically sensitive topics; 3) research requirement; 4) student and academic staff exchange programs; and 5) reduction in school dropout. This finding is interesting as the participants seemed to be less convinced by these recommendations which received a combined percentage of “Agree” and “Strongly agree” less than 70%. What is even more interesting is that they did not seem to consider “Tolerance of politically sensitive topics” as a key recommendation when it came to promoting youth’s research engagement, as is discussed further in the next section.

Finally, the survey has one open-ended question that invited the participants to provide other recommendations to promote Cambodian youth’s engagement in the knowledge sector. A total of 73 participants (16%) responded to this question. Overall, their responses focused on providing more research opportunities, introducing research to students early, requiring students to publish before graduation, and providing incentives for researchers, among other recommendations. Their responses are summarised as follows:

- More opportunities for research, particularly for postgraduate students
- Introduce research into primary school curriculum
- Require university students to publish before graduation
- Ensure that there are qualified research supervisors who can help students, particularly those at the postgraduate levels, to complete their research
- Increase scholarship opportunities for research students and teachers
- Teach undergraduate students about the benefits of research
- Introduce research to students since the first year in universities
- Provide incentives for researchers
- Conduct more research seminars and conferences that target high school teachers
- Recruit more qualified teachers.

This study has identified several challenges to Cambodian youth's engagement in the knowledge sector. The challenges identified in the interviews were mainly related to the lack of knowledge about research, publication, and English language skills; lack of a supportive environment for research; and other challenges of personal and professional nature. The results of the survey revealed 10 key challenges as shown in Figure 8. However, three key challenges were rated as most important by the survey participants. They included 1) lack of prior research training, 2) lack of practical research practice, and 3) lack of research training opportunities.

These findings show that one of the main challenges to Cambodian youth's engagement in the knowledge sector is their lack of knowledge about research as well as the lack of opportunities to improve their research knowledge and to conduct research. These findings corroborate those of previous studies which found that even university lecturers faced problems with having limited knowledge about research and publication (Keuk, 2015; Heng et al., 2022a, 2022b).

What is interesting about the findings of this study is that not many participants considered the issues related to limited academic freedom as a major challenge to Cambodian youth's research engagement. This finding appears to be different from previous research that showed that the lack of academic freedom was a major barrier to research development in Cambodia (Chet, 2009). This difference is intriguing, deserving further investigation to understand why many Cambodian youth tended to believe this way. One possible explanation for this particular finding may be due to the fact that many young Cambodians do not have a deep engagement with research and publication; therefore, they do not feel the pressure resulting from the limited academic freedom found by the previous research.

Regarding the opportunities for youth's engagement in the knowledge sector, the findings from the interviews have shown many opportunities that can be grouped into four broad categories: 1) new research-supporting programs, 2) new platforms for research and publication, 3) greater focus on research and publication, and 4) other opportunities such as the increasing interest in research and publication. The survey results revealed that many Cambodian youth were aware of new research training and mentoring opportunities as well as information about research seminars, research forums, research publication outlets, and other research-related activities and opportunities. However, their awareness of these research-related activities or opportunities was limited as less than half of them knew about all the opportunities presented to them in the survey.

Nonetheless, the findings regarding the new opportunities for research are consistent with recent research examining research development in Cambodia. For example, Heng (2020) and Heng and Sol (2021) found that there had been new developments in academic research in Cambodian higher education and in Cambodia at large, as evidenced by the introduction of several research-related policies and the implementation of major higher education projects such as HEQCIP and HEIP as well as the establishment of new research forums or conferences and new academic journals.

This study provides several recommendations to promote Cambodian youth's engagement in the knowledge sector. Key recommendations, as presented in Section 6.4, focus on providing research support, providing research and publication opportunities, creating a supportive environment for research, and having a greater focus on research and publication. The results of the survey showed that Cambodian youth agreed that it is important to provide incentives for research and publication, offer research internship/fellowship programs, and provide research capacity building opportunities, among other recommendations.

Other studies have put forward similar recommendations to promote the research engagement of Cambodian academics (see Heng, 2022b; Heng et al., 2022a, 2022b; Kwok et al., 2010). These recommendations are crucial and should be taken into consideration by concerned stakeholders, particularly the government and educational or research-oriented institutions, to nurture a conducive environment for Cambodian youth and other research enthusiasts to actively engage in research and the knowledge sector.

As youth could be knowledge producers, knowledge users, and knowledge intermediaries (see Section 4), it is crucial that relevant stakeholders work together and make concerted efforts to empower youth by providing them with research engagement opportunities, including research training, internship, mentorship, and/or fellowships. The goal is to equip youth with the necessary knowledge and skills to conduct research and the opportunity to immerse themselves in research and publication activities.

This study has examined Cambodian youth's engagement in the knowledge sector, focusing on the challenges, opportunities, and recommendations to promote youth's research engagement. The study has found several challenges as well as some new opportunities for youth to engage in the knowledge sector as knowledge users, knowledge producers, and knowledge intermediaries. Considering the challenges, this study argues that the current environment is far from supportive for Cambodian youth to actively engage in the knowledge sector. Therefore, these challenges need to be addressed in order to allow more Cambodian youth to actively engage in research and knowledge production activities to contribute to advancing the knowledge sector in Cambodia. At the same time, more efforts by concerned stakeholders, particularly the government and educational institutions, are needed to ensure the sustainability of existing and new research opportunities so that more Cambodian youth can have ample opportunities to meaningfully engage in the knowledge sector actively.

The study also identified a set of recommendations that should be taken into account to nurture a conducive environment for Cambodian youth's greater engagement in the knowledge sector. The various recommendations can be classified into four categories that focus on providing research support, making research and publication opportunities more available and accessible, creating a favorable environment for research, and emphasising research and publication activities.

To promote Cambodian youth's engagement in the knowledge sector, the present study makes the following recommendations:

9.1. Providing research capacity building opportunities

It is important to ensure Cambodian youth, particularly university students, have the necessary knowledge and skills to engage in research activities. Without research knowledge and skills, it is unrealistic to expect youth to engage in research. This can be done at different levels, including the national, community, and institutional levels. More research capacity building opportunities should be made available and accessible to youth. This will allow them to develop their research knowledge and skills, a prerequisite for them to increase their research engagement activities.

9.2. Providing opportunities for practical research experience

Once youth are given the opportunity to develop their research knowledge and skills, they should also be given the opportunity to put their knowledge into practice. Thus, more research internship or mentorship programs should be offered by relevant stakeholders, particularly educational institutions, research institutes, think tanks, and NGOs. In such programs, youth should be given opportunities to conduct research and be able to receive personalised support in the form of mentorship while doing it. This is to enable them to have first-hand experience in conducting research and give them the opportunity to develop their research knowledge and skills through mentoring support.

9.3. Providing publication support

As more youth become interested in research and publication activities, including writing commentary articles, it is crucial to provide them with sufficient support to develop their writing and publication skills. This is linked with providing opportunities for youth to have first-hand experience in conducting research, but it needs to go further by supporting youth to write for publication. To this end, training or mentorship programs aimed at developing writing and publication skills are needed to enable youth to gain their confidence and develop their interest in writing and publishing. This can start from writing short or commentary articles and progress to engaging in more advanced forms of writing such as research reports and journal articles. Once Cambodian youth are given ample opportunities to develop their writing skills, they will be in a good position to develop themselves into knowledge producers who can contribute to developing the knowledge sector in Cambodia.

9.4. Creating a support network for youth and young researchers

To build a conducive environment for Cambodian youth to engage in the knowledge sector, a lot needs to be done, and it requires great efforts, strong commitment, clear vision, and considerable time. In this regard, one practical recommendation is to create a support network for youth and young researchers. Such a network is essential as it helps to create a platform for youth and young researchers to get together and discuss issues relevant to their research interest and career goals. The support network, if well-supported and well-managed, will help to develop more young researchers and provide a supportive environment for them to grow into more experienced researchers. Moreover, with effective support networks, Cambodian youth will have the opportunity to meet like-minded people, learn from each other, seek collaboration opportunities, and find moral and technical support. Thus, it is crucial that relevant stakeholders work collaboratively to find effective and innovative ways to establish a platform where youth and young researchers can seek moral, technical, and even financial support when needed. Such a platform or support network will contribute to building an environment in which Cambodian youth and young researchers can be actively involved in research activities, thereby promoting their engagement in the knowledge sector, and enhancing their roles as knowledge users, producers, and intermediaries.

The present study is not without limitations. First, the key informants were all from Phnom Penh city, so their views presented in this report may not reflect the views of other stakeholders located outside of the city. Second, three quarters of the survey respondents were those who identified their educational background to be at a bachelor's degree level. The findings of the present study, therefore, may not be generalisable to other Cambodian youth with different educational backgrounds. Third, the study did not critically investigate the research experience of the survey respondents. Specifically, it did not seek clarification or further information regarding the participants' claims about the kind of research they had conducted and their actual research experiences. Fourth, this study did not follow up with the survey respondents regarding the answers they provided in the questionnaire, leaving an information gap that needs to be filled by future research.

In light of these limitations, the present study offers the following suggestions for future research:

1. Conduct a study that includes key informants who are from provincial or rural areas to understand the realities of Cambodian youth in non-urban areas of Cambodia
2. Conduct a study, including quantitative information, with Cambodian youth who do not have a university education to understand the challenges and opportunities for them when it comes to contributing to the knowledge sector
3. Conduct a qualitative study to gain an in-depth understanding of Cambodian youth's practical experience with research and publication activities
4. Conduct an explanatory sequential mixed methods study that employs in-depth interviews or focus group discussions to examine the challenges and opportunities that Cambodian youth have in their engagement in the knowledge sector
5. Conduct an action research study to examine the effectiveness of certain internship or mentorship programs designed to support Cambodian youth to increase their capacity to contribute to the knowledge sector in Cambodia.

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Appendices

Appendix A. A list of the 19 provinces in which the survey participants were based

No.	The 19 provinces in which the survey participants were based
1	Banteay Meanchey
2	Battambang
3	Kampong Cham
4	Kampong Chhnang
5	Kampong Speu
6	Kampong Thom
7	Kampot
8	Kandal
9	Kratie
10	Oddar Meanchey
11	Pailin
12	Preah Vihear
13	Prey Veng
14	Pursat
15	Ratanakiri
16	Siem Reap
17	Svay Rieng
18	Takeo
19	Tbong Khmum

Appendix B. A list of recommendations and their rating scores

Recommendations for promoting Cambodian youth's engagement in the knowledge sector	To what extent do you agree or disagree with the following recommendations? (%)				
	SD	D	N	A	SA
1. Government's support for NGOs, think tanks, research institutes, etc.	8.11	8.99	18.64	45.18	19.08
2. Resource/funding allocation to support research	7.46	7.24	10.09	49.34	25.88
3. Incentives for research and publication	7.46	6.58	6.58	40.57	38.82
4. Ensure sustainability of research-related programs	7.02	6.80	11.84	49.34	25.00
5. Provide encouragement or rewards	8.33	5.70	8.77	45.61	25.00
6. Research capacity building programs/continuous professional development(for teaching staff)	7.68	6.58	6.80	46.49	32.46
7. Support/mentorship for research and publication activities	8.55	5.92	8.55	47.81	29.17
8. Providing research and publication opportunities	7.46	7.24	7.24	47.59	30.48
9. Research internship/fellowship programs	7.02	7.24	8.33	42.11	35.31
10. Research seminars/workshops/conferences /presentations	7.89	6.14	9.43	48.46	28.07
11. Research projects/initiatives	7.89	5.48	10.53	50.00	26.10
12. More research activities/opportunities for youth to engage in research	7.68	5.70	8.55	48.25	29.82
13. More research and publication activities to promote research interest	8.33	5.48	9.21	50.66	26.32
14. Research support networks in and outside of university settings	7.89	7.46	7.89	49.34	27.41
15. Platforms for research dissemination and publication	8.77	5.70	11.84	52.19	21.49
16. Young talent programs for research	8.77	5.48	11.62	48.46	25.66
17. Stakeholder collaboration/ institutional collaboration/ staff collaboration	8.11	5.48	12.28	49.78	24.34
18. Promotion of public-private partnership (university-industry-government)	7.68	7.46	11.62	49.56	23.68
19. Improve academic freedom	7.46	6.36	14.91	48.46	22.81
20. Tolerance of politically sensitive topics	9.43	9.21	23.90	35.53	21.93

21. Government's openness to data collection, research findings or new ideas	8.11	7.46	12.50	43.64	28.29
22. Having a greater focus on research and publication	7.02	7.24	11.40	51.54	22.81
23. Institutional research policies	7.89	6.80	12.72	48.90	23.68
24. Recruitment of new lecturers with research skills	8.33	5.48	15.13	42.98	28.07
25. Research requirement (e.g., 1 research paper per year)	7.46	9.21	17.76	46.05	19.52
26. Student and academic staff exchange programs	8.77	7.24	17.98	41.67	24.34
27. Curriculum reform/improvement	7.02	6.58	14.04	45.18	27.19
28. Student assessment improvement	8.11	5.92	13.16	49.34	23.46
29. Improvement in higher education enrolment	7.46	7.68	13.60	50.22	21.05
30. Reduction in school dropout	8.99	7.24	14.91	44.74	24.12
31. Improvement in policy implementation	8.33	6.80	17.54	47.81	19.52
32. Improvement in management system	8.11	5.26	16.67	47.37	22.59
33. Promotion of studentteacher relations	8.11	4.82	11.18	43.64	32.24
34. Youth's proactiveness	8.11	4.61	11.18	47.81	28.29

Note. SD = Strongly disagree, D = Disagree, N = Neutral, A = Agree, and SA = Strongly agree



Ponlok Chomnes is a four-year initiative (2019-2023) to strengthen the capacity of the knowledge sector and inform public policy analysis and dialogue in Cambodia. In partnership with the Australian Department of Foreign Affairs and Trade, The Asia Foundation is strengthening organizational and technical capacity among Cambodian research institutions and creating an enabling environment for policy dialogue.

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