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CYBERGOVERNANCE IN CAMBODIA: CURRENT STATE AND FUTURE PRIORITIES

Introduction

This article discusses cybersecurity issues, cybercrime and cyber governance in Cambodia, by reviewing current policy and governance systems in place in Cambodia and other ASEAN countries and assessing the strategies and plans of ministries, research centres and big international companies.

Individuals, government agencies and organisations are increasingly dependent on complex technology ecosystems to communicate and interact with their peers, business partners and customers, share and access information, provide data for improved decision making and performance, and increase reach and profitability. Digital technology platforms have proved even more essential during the present COVID-19 outbreak. At the same time, cyberattacks are occurring with greater frequency and severity. Individuals, politicians, board members and executives are increasingly aware that technology-based innovations and initiatives open doors to cyber risks and pose ever greater governance challenges.

Cyber governance and cybersecurity are relatively new topics, at least in Cambodia. This study aims to raise awareness and spark meaningful dialogue by making research findings available to policymakers, government officials and business leaders for strategising, developing



and improving their cybersecurity framework (i.e. governance, technology, capacity and cooperation). It is expected that researchers and practitioners will expand on these findings and keep up with emerging technologies and the rapid pace of technological change in Cambodia.

Cybersecurity in Cambodia and globally

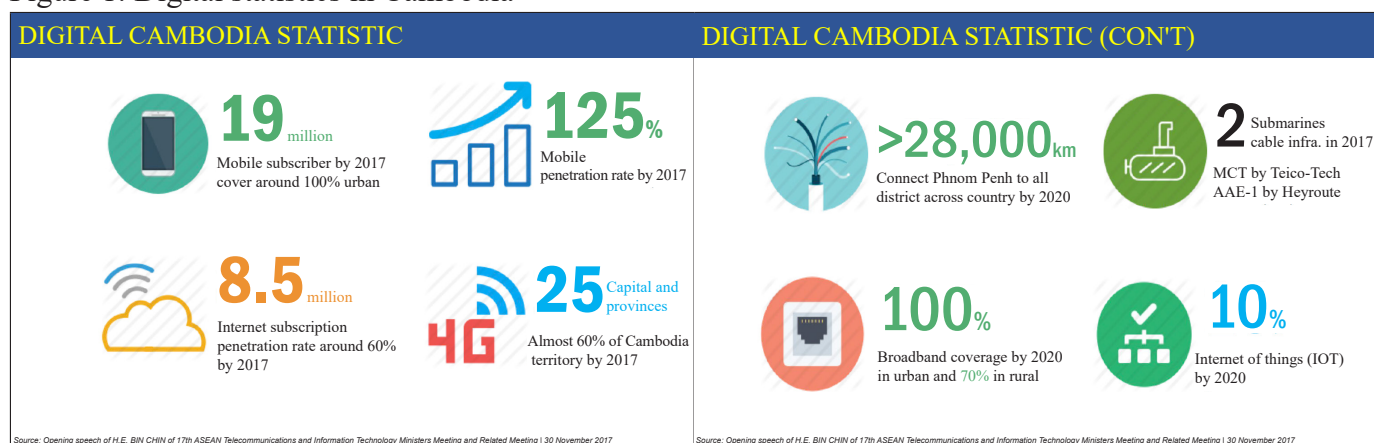
The Cambodian economy grew 7.5 percent in 2018 (World Bank 2019), making it the

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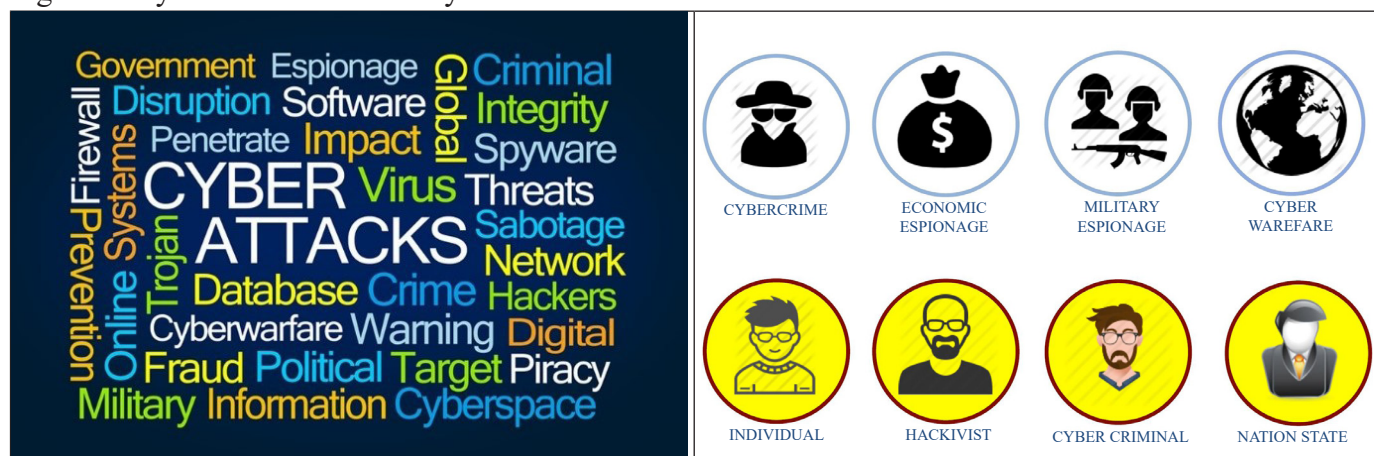
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Figure 1: Digital statistics in Cambodia



Source: Ou 2018 (with the author's permission)

Figure 2: Cyberattack vulnerability



Sources: Ou 2018 (with the author's permission)

fastest growing economy in the ASEAN region and one of the fastest growing economies in the world. Alongside impressive economic growth, government institutions, companies and organisations in Cambodia are rapidly expanding their use of technology, as shown in Figure 1. This increased digitalisation has been largely driven by the large young population – the nation's median age is currently 25.6 years.

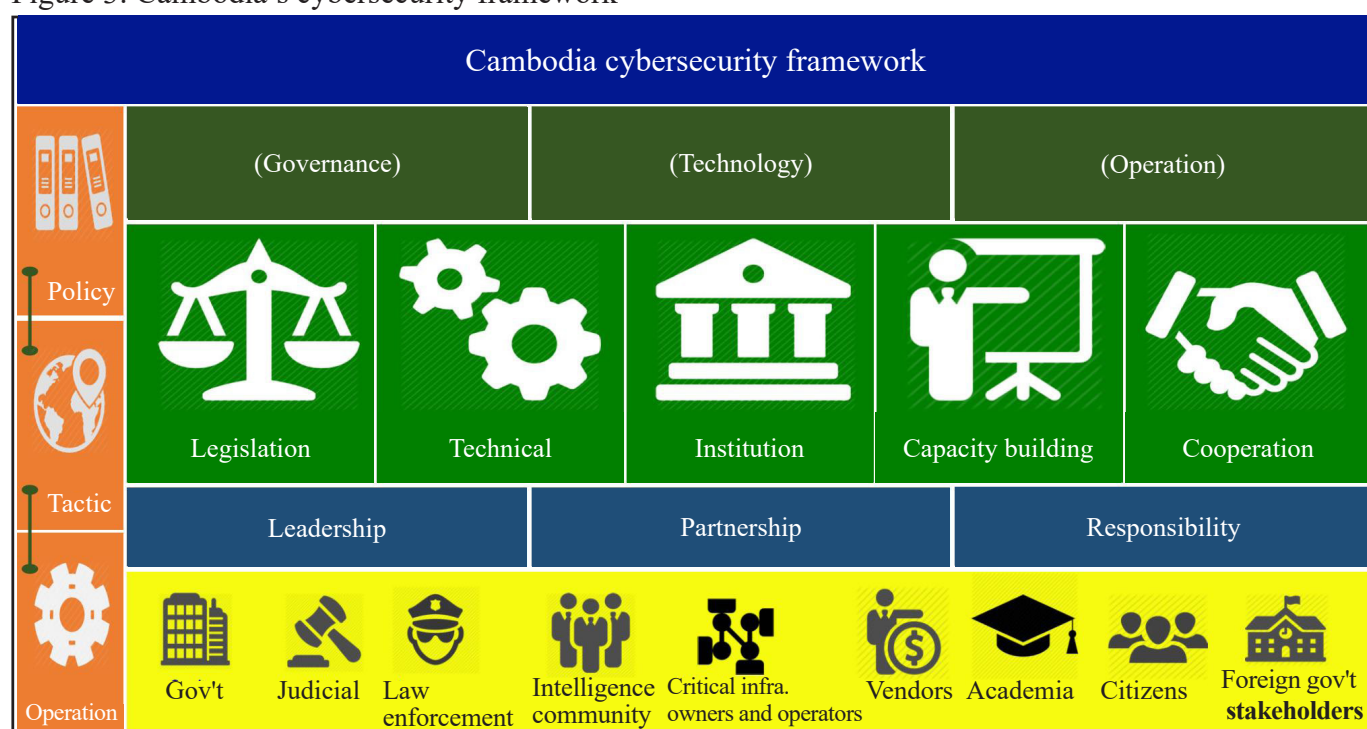
From 2017 to 2019, the number of social media users increased by 71 percent from 4.9 million to 8.4 million, almost half of Cambodia's current population (Kepios Analysis 2019). Although these statistics are promising for Cambodia as a whole, such rapid technological advancement could make the country more susceptible to cyberattack unless the cybersecurity framework is improved.

Cybercriminals are using more advanced and scalable tools to breach user privacy, and they are getting results.

Cybercriminals (individuals, hacktivists and/or state sponsored cybercriminals) target the weakest link, and it is common for large companies to fall prey to cyberattack through third-party partners, suppliers and vendors in their supply chain.

The need for a cybersecurity governance framework is being increasingly recognised as a key aspect of reducing cyber risk. Cyber security, including its governance, was rated the sixth of 10 global priorities for 2019, ahead of combating transnational terrorism and promoting global health, and is among the world's most pressing policy challenges (Council of Councils 2019).

Figure 3: Cambodia's cybersecurity framework



Source: Ou 2018 (with the author's permission)

Cambodia's cybersecurity framework

At least in theory, Cambodia's cybersecurity framework consists of governance (legislation, technical capacity, and leadership), technology (technical and institutional capacity) and operation (capacity building, cooperation and partnership), as well as many key actors, such as government agencies and departments, the judiciary, law enforcement agencies, the intelligence community, critical infrastructure owners and operators, vendors, academia, the citizenry, and foreign stakeholders.

As far as cyber governance is concerned, at the time of writing, a new version of Cambodia's 2014 Cybercrime Draft Law was being discussed within the Ministry of Interior. Many amendments are expected to be made to the original draft. Because the latest draft law is not yet available to the public, the following analysis draws on the unofficial 2014 draft document (Khmer and English).

The objectives of the 2014 Draft Cybercrime Law were to combat offences committed by computer systems (any device or suites of interconnected devices) and to ensure the safety of and protect all legitimate rights and interests of

legal and natural persons, and of Cambodia. The National Anti-Cybercrime Committee (NACC) was to be established, chaired by the prime minister, to devise strategies, action plans and related measures in cybersecurity and information systems for the government. The law was also to grant "judicial policy" power to the secretary general and deputy secretary-general of the NACC Secretariat to arrest and investigate action against suspects (Article 15).

Overall, the content of the draft law addresses standard cybercrime concerns such as illegal access, data espionage and intellectual property theft, and defines penalties for each offence. But there are issues, specifically concerning Article 28, that may restrict the right to freedom of expression. Paragraph 4 of Article 28, for instance, states that nonfactual publications about the government are considered an offence punishable by law. But, at the same time, it is at the discretion of the government to determine which publications are "nonfactual."

With the urgency and complexity of cybercrime, which affects all aspects of society, cybercrime regulation must be a collaborative effort between the public, private and academic sectors.

Key findings and recommendations

Four key gaps emerge from the analysis of Cambodia's cyber governance efforts and underlying motivations:

- government transparency
- human and technical resources
- regional collaboration
- tangible quantitative goals.

Recommendation 1: Cambodia is in the initial stages of establishing its own cybersecurity framework by addressing the above four main gaps, especially in transparency and due protection of human rights and national interests, developing a highly skilled workforce for a digital future, and forging strategic partnerships with other countries and international corporations. Although the fundamental obstacles of being a developing country will remain for some time, the use of international best practices including standards and frameworks can help Cambodia put well-functional and effective systems in place to protect its critical ICT facilities and users from cyberattacks.

Cambodia has set ambitious goals in its vision to become a fully developed country by 2050 (Seangly 2013), including investing heavily in building digital infrastructure, developing smart cities and embracing Industry 4.0 in manufacturing (ASEAN 2018). A large-scale cyberattack on these technologies before they are fully implemented and secured could severely hinder their efficacy and expansion, and therefore have direct negative consequences for Cambodia's economic growth.

Recommendation 2: Protecting critical infrastructure, such as public health, transport, telecommunications and utility systems, is the government's main responsibility and should be addressed by a unified front including the public, private and academic sectors.

Recommendation 3: Cybersecurity law and regulation must be enacted. A good example of diligently planned cybersecurity law is Singapore's

Cybersecurity Act 2018. The Act stipulates in fine detail exactly what is expected of organisations involved with critical infrastructure in Singapore, and defines clearly what the government can and cannot do in the protection of national security. Rather than stating vague offences and an unclear balance of power, Singapore's Cybersecurity Act focuses on ensuring cooperation and transparency between the private and public sectors.

Cambodia's cybersecurity law should focus on preventing and responding to technical cyberattacks targeting infrastructure, government and businesses given that the potential impacts of cybersecurity attacks on Cambodia's economy and critical infrastructure are far greater than on the offences and criminalisation of publications currently targeted in the 2014 Draft Cybercrime Law.

Recommendation 4: Building a systemic cybersecurity and governance program, as cybersecurity framework is complex, touches every industry and way of life, involves all levels of government, and can have a direct financial impact on the economy and society. The government should consider the following in building its cyber governance program: a national strategy to protect critical infrastructure, public-private sector collaboration, cybersecurity regulation, adoption of cybersecurity standards, regional information sharing, community awareness, and capacity building. Each of these activities represents a project that should be continuously monitored for progress and achievement of specific metrics by the NACC (a central cyber governance authority), comprising government, key businesses and other nongovernment stakeholders, whose sole responsibility is the resilience of Cambodia's digital systems.

There are many recognised cybersecurity standards and frameworks on which to build a cyber-governance program. The National Institute of Standards and Technology's Framework for Improving Critical Infrastructure Cybersecurity (NIST 2018) was developed in the United States

in response to rapid technological advancement and increasing cybersecurity threats. It is rapidly growing in popularity because of its risk-based approach and use of clear and comprehensible language. Cambodia should be inspired by it in its efforts to enhance the security and resilience of the nation's critical infrastructure and to maintain a cyber environment that encourages efficiency, innovation and economic prosperity while promoting safety, security, business confidentiality, privacy and civil liberties.

Recommendation 5: Building a cyber-governance program using a model such as the NIST Cybersecurity Framework would help provide a common language to communicate cyber risk across the different levels of government and industry sectors overseeing Cambodia's critical digital infrastructure. Moreover, current cybersecurity policies, training and solutions should define future goals, prioritise innovation, and track and communicate progress to stakeholders. This could be accomplished by breaking down cybersecurity and governance into related core areas for development:

1. Identifying assets to understand cyber risk
2. Protecting assets by implementing safeguards
3. Detecting cyber anomalies as they occur
4. Responding to cyber events when they are detected
5. Recovering from and mitigating cyber incidents after they occur.

Recommendation 6: International best practices should be adapted and used to systematically assess and monitor the current level of cybersecurity resilience so that gaps in preventative and mitigating measures can be identified. Once these gaps are found, they should be prioritised based on the degree of risk posed to Cambodia's digital infrastructure systems, including an analysis of the threats and likelihood of cyberattack. Once plausible risks/threats have been identified, solutions can be proposed to senior leaders for sponsorship and funding.

Recommendation 7: Cybersecurity is a topic that everyone must understand, and the ICT community and specialists should help simplify information and use less jargon and technical language which can be a barrier to clear communication and awareness raising.

Recommendation 8: Aligning specific, agreed-upon metrics between stakeholders to achieve cyber resilience goals from the outset can build greater confidence and support for those involved. It is the responsibility of the designated cyber governance body to ensure stakeholders take a proactive approach to meeting their targets and can adhere to compliance requirements and cybersecurity regulation to achieve their objectives.

Recommendation 9: Cybersecurity expertise can be developed through cooperation and exchange. ASEAN has made significant progress in developing regional cyber governance initiatives that Cambodia can tap into. Specifically, Cambodia should consider strong involvement with the ASEAN-Japan Cybersecurity Capacity Building Centre. One of the Centre's goals is to train ASEAN cybersecurity experts in cyber defence, computer forensics and malware analysis (JAIF 2018). These skills fit directly with the NIST Cybersecurity Framework's technical needs and will develop Cambodian cybersecurity professionals with specialised skillsets. Cambodia can also use this training program as a model to create its own cybersecurity courses in universities and professional education and training programs.

Recommendation 10: Cybersecurity certification can be developed for individuals and businesses that already have cybersecurity expertise and comply with industry standards set either by government or a regional private standards body. Many industries use self-regulation because standards bodies can adapt to emerging technologies quicker and protect consumers better than if they were to rely solely on government processes. For example, in the United States, the Payment Card

Industry Data Security Standards were created by a council of industry experts who obligate credit card companies (e.g. VISA and Mastercard) to adhere to security controls to reduce credit card fraud. Plus, these added security controls do not simply become an added cost for businesses either; they become a business driver and competitive advantage by promoting data security and privacy for their customers.

Conclusion

The numbers of connected users and devices in Cambodia are rapidly increasing, and the repercussions of inaction to build a national cybersecurity and governance framework is an unacceptable risk to Cambodia's citizens and economy. Efforts must start from the top, with the active involvement of all key agencies, businesses and citizenry for better coordinated and sustainable outcomes. To recognise cyberattack risks to critical infrastructure, the government should consider putting its officials and concerned business owners through cybersecurity awareness training to create a baseline understanding of threats in their respective fields before enacting cybersecurity or cybercrime regulation.

Once the government has set clear objectives of what it wants to achieve, government officials should organise a diverse committee of public and private institutions to develop cybersecurity regulation that focuses on protecting Cambodia's critical infrastructure while also acknowledging citizens' online privacy as a human right. These policies should also encourage Cambodian businesses to look to the government for resources to strengthen their cybersecurity programs. Cambodia has already set up a computer emergency response team, and the team should be provided the necessary human resources, funding and technical training to be the central contact for the government and private businesses to turn to for up-to-date information and briefings on cybersecurity threats and vulnerabilities.

Lastly, the government should consider conducting a NIST Cybersecurity Framework

assessment, starting with the sectors that have the largest impact, such as e-commerce and e-government. Citizens and businesses are quickly relying on these services for online banking, business-to-business transactions, utility payments, and so on. A phased cybersecurity assessment would allow for more accurate target completion dates and further collaboration between ministries.

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A Review of the Development and Implementation of Competency-Based Education and Training

Introduction

Outcome-based education, the forerunner of competency-based education and training (CBET), has a centuries-long history, dating back to craft guilds, apprenticeship and technical training programs (Nodine 2015). CBET itself, however, is a relatively young field, stemming from the reform of primary and vocational teacher training in the USA in the 1970s, when it was known as performance-based vocational teacher education (Deissinger and Hellwig 2005) and implemented in 23 states. CBET gradually spread internationally and was adapted to fit local contexts (Misbah, Gulikers and Mulder 2019).

In brief, CBET is an approach to outcomes-based vocational education and training that emphasises the competencies needed in the labour market and in so doing can make a substantial direct contribution to the economy (Biemans et al. 2004; Misbah, Gulikers and Mulder 2019). This has made CBET attractive to many governments, international organisations and academics around the world, especially those working in the areas of higher education and technical and vocational education and training (TVET).

This article reviews the development and implementation of CBET. A synthesis of various research studies on curriculum development and implementation is also provided to shed light on the historical roots of CBET-oriented frameworks that could be relevant and applicable in Cambodia.

Conceptualising competence and competency

In order to grasp what CBET involves, it is necessary to first define what is meant by “competence” and “competency”. Although these terms are often used interchangeably, they can also carry different meanings.

- *Competence* refers to a person’s overall capacity and is defined as a combination of knowledge, skills and attitudes that enable adequate performance in a given field or task.
- *Competency* refers to the specific and observable individual skills needed to perform well (Brownie, Thomas and Bahnisch 2012).

Some studies use only the term “competence” and some use only “competency”, and yet others use both terms without any clear distinction (e.g. Biemans et al. 2004; Braun and Mishra 2016; Chapman and O’Neill 2010). For the purpose of this paper, the term “competency” is used.

Competencies usually fall into two categories: discipline-specific, and generic or transferrable. The former are the core skills students are expected to acquire from a particular academic or vocational discipline, and the latter are more flexible and readily transferable from one discipline to another. For example, in an engineering program, the engineering skills are the discipline competencies, and the communication and problem-solving skills are the generic skills and abilities that can be applied to a range of different jobs. As a consequence of rapid professional changes facilitated by fast technological development, there have been huge changes in the labour market. To respond to labour market and employers’ needs and requirements, young academic and vocational graduates must be equipped with a broad set of skills and competencies, including both discipline-specific and generic competencies (Braun and Mishra 2016).

Characteristics of competency-based education and training

CBET is mainly used in vocational education and training (VET). It offers a variety of benefits, such as preparing students for the labour market and maintaining student motivation and full course attendance (Deissinger and Hellwig 2005). A main characteristic of CBET is the focus on competencies rather than on subject matter as in the traditional

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method of teaching and learning. Competencies are embedded in competency standards, which are usually carefully and thoroughly established by different groups of experts from academia, business and industry. In this approach, expected outcomes or competencies in the form of knowledge, skills, and attitudes are explicitly stated to ensure alignment of curricular content with endorsed competency standards (Deissinger and Hellwig 2005).

The target competencies of CBET are directly linked to labour market needs. CBET curricula comprise performance-based modules or units of competency, which enable vocational learners to gradually build up the competency directly relevant to the labour market needs. Another important aspect of CBET is the focus on practice-based experiential learning, in which students learn through real-world, simulation and workshop activities (Ordenez 2014). Students are assessed based on their ability to perform a task successfully. In CBET classes, students learn at their own pace in mixed-ability classes, allowing them to manage and shape their own learning pathway according to their own pace and interests, thereby ensuring opportunity for optimal learning.

Development of competency-based education and training

The development of a CBET program starts with the identification and selection of competencies and the formulation of competency standards (Deissinger and Hellwig 2005). The competency standards are core elements of CBET and are of critical importance for guiding the selection of materials and experiences for classroom teaching and learning, and later serve as performance evaluation criteria. There are three categories of competency standards (Harris et al. 1995 cited in Deissinger and Hellwig 2005):

- *Industry competencies* – those necessary for employees to perform their tasks successfully

within a certain industry.

- *Cross-industry competencies* – the competencies common to more than one industry.
- *Enterprise competencies* – those that are developed and implemented for a particular organisation or company; these are usually a specification of industry standards.

Two common and useful methods used to develop competency standards are DACUM (Developing a Curriculum) and functional analysis (Deissinger and

Hellwig 2005). DACUM involves systematically defining the tasks or competencies associated with certain types of jobs and occupations. Similarly to Taba's (1962) grassroots curriculum model, where objectives are selected based on analysis of the needs of students and teachers, in DACUM occupational analysis, experts in the job being analysed work with a technical advisor to

identify the main responsibilities of the job and the tasks constituting those duties (Gonczi, Hager and Oliver 1990).

Functional analysis, on the other hand, as for the Tyler (1949) curriculum development model, is performed by a recognised trade/industry body facilitated by a consultant. In functional analysis, the whole occupational sector is initially considered and then jobs are disaggregated by economic sector, then smaller units in the form of competencies are further disaggregated for each job (Gonczi, Hager and Oliver 1990).

After competency standards have been established, learning activities and assessments are determined before learning materials are selected. Curriculum management to keep track of curriculum implementation is equally important.

Implementation of competency-based training and education

The implementation of a new curriculum often faces resistance, usually arising from concerns about inadequate finance, weak ownership by

The competency standards are core elements of CBET and are of critical importance for guiding the selection of materials and experiences for classroom teaching and learning, and later serve as performance evaluation criteria.

those involved, lack of benefits, ineffective administrative support, increased administrative costs, and insecurity caused by sudden changes (Ornstein and Hunkins 2016). To encourage more cooperation, curriculum developers should point out the rewards the new curriculum will bring and the consequences of non-compliance, and indicate how the new curriculum is similar to, though better than, the old one. Enhancing the involvement of teachers and schools in the curriculum development process is also a way to improve cooperation in new curriculum implementation as this can increase a sense of responsibility and ownership.

The implementation of a CBET initiative is not different from the implementation of a general curriculum. CBET program developers, according to Harris et al. (1995 cited in Deissinger and Hellwig 2005), should ask themselves some reflective questions before designing and implementing CBET programs. These questions are related to their knowledge (how well do they know the subject matter and can they explain CBET?), skills (how well can they orient others to CBET, design a CBET program, provide support i.e. learning materials and resources and facilities, and develop procedures for managing CBET?) and attitudes (how enthusiastic, comfortable and open-minded are they towards the philosophy and practice of CBET?). Similar questions should also be asked with respect to CBET instructors: knowledge (how do instructors understand CBET?), skills (how well can they apply teaching practices to effectively deliver CBET?) and attitude (how do they feel about the philosophy and practice?).

Common implementation challenges

In reality, CBET practices in TVET institutions can face many challenges (Beimans et al. 2004). A great deal of care is required to accurately capture the various facets of occupational competencies and complexity of associated duties and tasks. Overreliance on competency standardisation also impinges on the accuracy of competency assessments because standardisation is established by TVET institutions and probably with little relevance to present labour market needs (a literature review would highlight historic needs only).

Matching learning in school with learning in the workplace and improving the approach to matching

education and training outcomes with labour market needs are two other key issues that must be addressed. To that end, stakeholders in learning activity design should undertake a careful analysis of these pressing challenges. Further, assessment instruments must be valid, reliable, flexible and fair, and traditional memory-based assessment should be abandoned or dramatically revised to capture the full range of skills and knowledge that students have acquired.

Another challenge stymying the adoption of CBET is the changing learning environment, particularly the changing roles and identities of teachers. In the traditional teaching approach, teacher-centred, lecture-style methods are commonly used, where students listen passively to the lecture with little teacher-student or student-student interaction; only the teacher has an active role. In the new teaching approach, the role of teachers changes from subject-matter experts who transfer knowledge to their students to guides and facilitators of students' learning, encouraging students to take responsibility for and actively engage in their own learning.

Finally, competency-based management needs to be a role model for teachers. At the same time, managers need to encourage an open organisational culture and cooperative mindset so that teachers can take ownership of the management of teaching and learning. The review of challenges encountered in the adoption of CBET should not discourage the implementation of CBET. Rather, the key message from being cognisant of these pitfalls is that managers and teachers of TVET institutions need to be careful when developing CBET curricula and teaching and learning activities, so that benefits can be optimised and disadvantages minimised.

Lessons learned from international experience with CBET

CBET has been practiced internationally and various experiences and results have been observed. A study by Misbah, Gulikers and Mulder (2019) in 11 Indonesian agricultural secondary vocational schools found that the implementation of CBET was successful in skill development and had a motivating effect on both students and teachers, but this skill development came at the cost of knowledge development.

Wang (2015) examined the perspectives of students on CBET from three North American higher education institutions. Students felt that CBET provided two main advantages: the improved labour market relevance of education built their confidence in planning and preparing for their career, and the flexible self-paced learning culture allowed them to master new information and skills properly. The second benefit, however, only applies to self-motivated students who set their own schedules. Inspiring student motivation for learning can be a major challenge for TVET programs in developing countries. In TVET programs (equivalent to grades 10,11 and 12 in upper secondary school) in Cambodia, most students are high school dropouts or have learning difficulties, so their motivation and self-management skills are likely to be limited. This makes it difficult for teachers to allow students flexibility in their learning, as without guidance and motivation from the teachers, there is a chance that they will not be able to shape and maximise their learning.

The lack of flexible and self-directed learning is highlighted in a study of TVET colleges (including TVET teachers, students, employed TVET graduates and job supervisors) in Ethiopia (Solomon 2016). The study found that CBET was not being fully implemented, with some colleges identified as “partially-competence-based” and others as “largely competence-based”. The study also revealed that there was a positive relationship between the competitiveness of a TVET program and graduate job performance.

Smith’s (2010) “Review of Twenty Years of Competency-Based Training in the Australian Vocational Education and Training System” also highlights the benefits of CBET in enhancing the employment of VET graduates through the improvement of practical, rather than theoretical, labour market relevant skills. Nevertheless, her research also revealed various challenges facing the delivery and assessment of CBET. One is the cost of the significant amount of time and resources needed to develop training packages. And another is lack of teacher capability to apply a pure CBET approach, which involves a high degree of student-centeredness, flexible and self-paced learning, and regular formative and summative assessments.

Conclusion

This review of the barriers to the effective implementation of CBET resonates with the key message in the literature about the challenges and important benefits of CBET. Managers and teachers of TVET institutions need to take extra care when developing CBET curricula and teaching and learning activities, so that maximum benefits can be derived and disadvantages minimised.

The teaching and learning methods that use student-centred and flexible and self-paced approaches can be problematic for developing countries, where teacher-centred approaches reliant on knowledge transmission, rote learning and repetition remain deeply entrenched.

Moreover, the implementation of CBET can be problematic if the new curriculum is not developed and introduced properly. School culture also plays a vitally important role in curriculum implementation, as do teachers, who are the direct implementers of the curriculum. Competency-based management therefore needs to be a role model for teachers. To that end, school managers need to encourage an open culture and cooperation so that teachers can take ownership of the management of teaching and learning.

Curriculum designed by the central body in charge of CBET might be contextualised by schools to accommodate their culture and personalised by individual or groups of teachers. This phenomenon needs to be taken into consideration by curriculum developers when they plan and implement a new curriculum or a major curriculum change.

Teachers need to feel rewarded for their work. Any sudden changes must be understood as necessary and beneficial to both teachers and students and eased by providing administrative, monetary and technical support for teachers.

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Economy Watch—External Environment

This section presents economic indicators of major world economies and economies in Southeast Asia in the third quarter of 2019.

Among the six selected ASEAN countries only Vietnam showed a year on year increase in real GDP growth, rising to 7.3 percent from 6.9 percent in the third quarter of 2018. Indonesia's economy remained stable with GDP growth of 5.0 percent in the second and third quarters, though down by 0.1 percentage point compared to the first quarter of 2019 and 0.2 percentage points compared to the third and fourth quarters of 2018. Malaysia's growth was lower by 0.3 percentage points compared to the fourth quarter of 2018, 0.1 percentage points compared to the first quarter of 2019 and 0.5 percentage points compared to the second quarter. Singapore's economy recovered 0.4 percentage points after GDP growth slowed to 0.1 percent in the previous quarter from 3.9 percent a year earlier, giving a negative year on year growth rate of 1.7 percentage points. Thailand's GDP growth was up 0.1 percentage points compared to the previous quarter reaching 2.4 percent following contractions in the first and second quarters of 2019 from 3.7 percent in the fourth quarter of 2018.

Looking at the four selected Asian countries, at 6.0 percent, China had the highest growth rate, though it was down 0.2 percentage points from the previous quarter. Hong Kong's growth was 2.9 percent, South Korea's 2.0 percent and Taiwan's 3.0 percent. Taking a longer-term view, however, China's real GDP growth has declined for eight consecutive quarters from 6.9 percent in 2017. Hong Kong's growth recovered to 2.9 percent, back to where it was in the third quarter of 2018, after contracting for three consecutive quarters. South Korea's growth contracted by 0.1 percentage points compared to the previous quarter after an uptick from the trough of 1.8 percent in the first quarter of 2019. Taiwan posted economic growth of 3.0 percent, its second highest rate since the 3.3 percent achieved in the second quarter of 2018.

Real GDP growth of the Euro-12 hovered between 1.1 percent and 1.2 percent in the last four

quarters, reflecting decelerations of 1.3 percentage points, 1.0 percentage points, and 0.4 percentage points respectively compared to the first, second and third quarters of 2018. Japan's real GDP growth climbed steadily to 1.7 percent from the trough of 0.0 percent in the third quarter of 2018. Real GDP growth in the US was sluggish, slowing to 2.1 percent, the lowest quarterly result since the first quarter of 2018 and a 1.1 percentage point drop compared to the peak in this seven-quarter period, and on a par with average GDP growth in 2013.

World inflation

There were no identical changes in inflation rates in the six selected ASEAN countries. Inflation rose in Cambodia, Indonesia and Malaysia, and went down in Singapore, Thailand and Vietnam. In Cambodia, inflation increased to 2.0 percent, just 0.2 percentage points up compared to the second quarter which had the lowest inflation rate throughout the seven-quarter period. Indonesia had the highest inflation rate in the last three quarters, rising to 3.4 percent in the third quarter of 2019, its highest inflation rate over the seven-quarter period since the first quarter of 2018. Inflation in Malaysia stood at 1.3 percent, a 0.7 percentage point increase on the rate of 0.6 percent in the second quarter, which had risen from 0.3 percent deflation in the first quarter. In Singapore, the inflation rate decreased to 0.5 percent from 0.8 percent in the second quarter, equal to the inflation rate in the first quarter of 2019 and the fourth quarter of 2018. Notably, among the selected ASEAN countries, Singapore had the lowest rate of inflation, closely followed by Thailand. Thailand's inflation rate decreased to 0.6 percent, a drop of 0.5 percentage points compared to the 1.1 percent in the second quarter of 2019, the highest rate in a four-quarter period. Inflation in Vietnam decreased to 2.2 percent, a drop of 0.5 percentage points compared to the second quarter and a decrease of 2.3 percentage points compared to the rate of 4.5 percent in the third quarter of 2018, the highest inflation rate in all selected countries in the seven-quarter period.

Compared to a quarter earlier, the inflation rate in China rose by 0.3 percentage points to 2.9 percent and that in Hong Kong by 0.7 percentage points

to 3.4 percent. This is the highest rate of inflation that Hong Kong has experienced since 2015, and also the highest rate among other selected Asian countries in the same period. In South Korea, the inflation rate has been on a steady downward trend since the third quarter of 2018, dropping to 0.1 percent in the third quarter of 2019, a 0.6 percentage point decrease on the previous quarter. This is the lowest inflation rate South Korea has experienced since 2013 and also the lowest among other selected Asian countries in the same period. Inflation in Taiwan has fluctuated in the last four quarters having remained stable at 1.6 percent for three consecutive quarters to the third quarter of 2018, and now stands at 0.4 percent, down from 0.8 percent in the preceding quarter.

Among the selected industrial countries, Japan has kept the lowest inflation rates since 2016. Inflation in Japan currently stands at 0.3 percent, down 0.4 percentage points from 0.7 percent in the preceding quarter. The Euro-12 and the US show similar inflation rate trends for the last seven quarters. Compared to the previous quarter, inflation in the Euro-12 dropped by 0.4 percentage points to 1.0 percent, the lowest inflation rate since 2017; and that in the US fell by 0.1 percentage point to 1.7 percent, the same as in the first quarter of 2019 and almost on a par with that in 2014.

Exchange rates

The Khmer riel depreciated further to KHR4,086.8/USD from KHR4,052.1/USD in the second quarter and KHR4,006.6/USD in the first quarter. The Singapore SD has remained stable at SGD1.4/USD since the third quarter of 2018, after depreciating from SGD1.3/USD in the first and second quarters of 2018. The Thai baht appreciated to THB30.7/USD having remained stable at THB31.6/USD for the previous two quarters. The Vietnamese dong depreciated to VND23,258.3/USD, continuing its downward trend from VND22,483.9/USD in the second quarter of 2018.

Commodity prices

Compared to the second quarter of 2019, the prices of palm oil and rice rose whereas those of maize, rubber, soybeans, crude oil, gasoline and diesel dropped. The price of palm oil went up 0.4 percent and of rice 2.3 percent, while the price of maize decreased by 3.3 percent, rubber 10.3 percent, soybeans 2.3 percent, crude oil 8.3 percent, gasoline 6.9 percent and diesel 4.3 percent. Year on year, the price of maize rose by 7.7 percent, rubber 1.8 percent and rice 3.5 percent, while the price of palm oil decreased by 6.8 percent, soybeans 13.0 percent, crude oil 19.5 percent, gasoline 15.0 percent and diesel 13.6 percent.

Table 1: Real GDP growth of selected trading partners, 2013–19 (percentage increase over previous year)

	2013	2014	2015	2016	2017	2018				2019		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
Selected ASEAN countries												
Cambodia	7.3	7.1	7.0	7.0	7.0	-	-	-	-	-	-	-
Indonesia	6.3	5.2	4.8	5.0	5.1	5.1	5.3	5.2	5.2	5.1	5.0	5.0
Malaysia	5.4	6.0	4.9	4.3	5.9	5.4	4.5	4.4	4.7	4.5	4.9	4.4
Singapore	1.3	3.0	2.0	2.0	3.8	4.4	3.9	2.2	2.2	1.3	0.1	0.5
Thailand	6.8	1.6	2.8	3.2	3.8	4.8	4.6	3.3	3.7	2.8	2.3	2.4
Vietnam	5.2	5.9	6.6	6.1	6.6	7.4	6.8	6.9	7.6	6.8	6.7	7.3
Selected other Asian countries												
China	7.8	7.3	7.0	6.7	6.9	6.8	6.7	6.5	6.4	6.4	6.2	6.0
Hong Kong	2.9	2.3	2.3	1.7	2.8	4.7	3.5	2.9	1.3	0.6	0.5	2.9
South Korea	2.1	3.4	2.6	2.6	3.0	2.8	2.9	3.2	3.2	1.8	2.1	2.0
Taiwan	1.2	3.5	0.6	1.2	2.8	3.0	3.3	2.3	1.8	1.7	2.4	3.0
Selected industrial countries												
Euro-12	-0.5	0.7	1.3	1.6	2.3	2.5	2.2	1.6	1.1	1.2	1.1	1.2
Japan	1.7	0.6	0.3	0.9	1.8	1.1	1.0	0	0.4	0.9	1.2	1.7
United States	2.1	2.4	2.3	1.6	2.3	2.8	2.9	3.0	3.1	3.2	2.3	2.1

Sources: International Monetary Fund; Economist; countries' statistics offices

Table 2: Inflation rates of selected trading partners, 2013–19 (percentage price increase over previous year – period averages)

	2013	2014	2015	2016	2017	2018				2019		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
Selected ASEAN countries												
Cambodia	3.0	3.9	1.2	3.0	2.9	2.2	2.7	2.5	2.4	1.9	1.8	2.0
Indonesia	7.0	6.4	6.4	3.5	3.8	3.3	3.2	3.1	3.2	2.6	3.1	3.4
Malaysia	2.1	3.2	2.1	2.1	3.9	1.8	1.3	0.4	0.3	-0.3	0.6	1.3
Singapore	2.3	1.0	-0.5	-0.8	0.6	0.2	0.4	0.7	0.5	0.5	0.8	0.5
Thailand	2.2	1.9	-0.9	0.2	0.7	0.6	1.3	1.5	0.8	0.7	1.1	0.6
Vietnam	6.6	4.8	0.6	2.7	3.4	2.8	3.8	4.5	3.4	2.6	2.7	2.2
Selected other Asian countries												
China	2.6	2.0	1.4	2.0	1.6	2.2	1.8	2.3	2.2	1.8	2.6	2.9
Hong Kong	4.0	4.4	3.1	2.5	1.7	2.4	2.1	2.3	2.6	2.2	2.7	3.4
South Korea	1.1	1.3	0.7	0.8	2.0	1.2	1.5	1.6	1.2	0.6	0.7	0.1
Taiwan	0.8	1.5	0.6	1.4	0.6	1.6	1.6	1.6	0.9	0.3	0.8	0.4
Selected industrial countries												
Euro-12	1.4	0.4	0.0	0.3	1.5	1.3	1.7	2.1	1.9	1.4	1.4	1.0
Japan	0.4	2.8	0.9	-0.1	0.6	1.3	0.6	1.1	0.9	0.3	0.7	0.3
United States	1.5	1.6	0.0	1.2	2.1	2.2	2.7	2.6	2.2	1.7	1.8	1.7

Sources: International Monetary Fund; Economist; National Institute of Statistics

Table 3: Exchange rates against the US dollar of selected trading partners, 2013–19 (period averages)

	2013	2014	2015	2016	2017	2018				2019		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
Selected ASEAN countries												
Cambodia (riel)	4027.2	4037.6	4060.4	4053.6	4047.0	4012.4	4047.0	4073.7	4046.7	4006.6	4052.1	4086.8
Indonesia (rupiah)	10419.2	11850.2	13394.8	13338.3	13379.8	13576.1	13944.6	14600.2	14789.7	14127.8	14246.8	14117.6
Malaysia (ringgit)	3.1	3.3	3.9	4.1	4.3	3.9	3.9	4.1	4.2	4.1	4.1	4.2
Singapore (Singapore dollar)	1.3	1.3	1.4	1.4	1.4	1.3	1.3	1.4	1.4	1.4	1.4	1.4
Thailand (baht)	30.7	32.5	34.2	35.3	33.9	31.6	31.9	33.0	32.8	31.6	31.6	30.7
Vietnam (dong)	20990.3	21138.2	21917.7	22507.5	22645.9	22749.5	22483.9	22675.7	22744.1	22902.9	23255.5	23258.3
Selected other Asian countries												
China (yuan)	6.1	6.2	6.3	6.6	6.8	6.4	6.4	6.8	6.9	6.7	6.8	7.0
Hong Kong (Hong Kong dollar)	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
South Korea (won)	1095.0	1053.6	1131.9	1161.0	1130.5	1072.0	1079.0	1120.9	1127.7	1125.0	1165.4	1193.4
Taiwan (New Taiwan dollar)	29.7	30.3	31.8	32.3	30.4	29.3	29.8	30.7	30.8	30.8	31.1	31.2
Selected industrial countries												
Euro-12 (euro)	0.8	0.8	0.9	0.9	0.9	0.8	0.8	0.9	0.9	0.9	0.9	0.9
Japan (yen)	97.6	105.9	121.0	108.8	112.1	108.4	109.1	111.4	112.8	110.1	109.9	107.3

Sources: International Monetary Fund; Economist; National Bank of Cambodia

Table 4: Selected commodity prices on world market, 2013–19 (period averages)

	2013	2014	2015	2016	2017	2018				2019		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
Maize (US No. 2) – USA (USD/tonne)	259.4	192.9	169.8	159.2	154.5	163.7	173.3	157.9	162.8	167.5	175.9	170.1
Palm oil – NW Europe (USD/tonne)	856.9	821.4	622.7	643.6	714.7	673.7	601.0	612.0	554.8	586.9	568.1	570.1
Rubber SMR 5 (USD/tonne)	2575.3	1755.6	1392.7	1416.1	1688.3	1504.0	1433.3	1365.2	1303.1	1436.6	1549.5	1389.7
Rice (Thai 100% B) – Bangkok (USD/tonne)	533.8	434.9	395.5	406.7	452.3	459.3	451.0	424.7	426.7	426.7	430.0	439.7
Soybeans (US No.1) – USA (USD/tonne)	538.4	491.8	390.4	405.7	400.6	418.3	435.6	390.6	368.9	353.3	347.8	339.7
Crude oil – OPEC spot (USD/barrel)	105.9	96.2	49.6	40.7	52.6	64.7	71.9	74.2	67.2	63.0	65.1	59.7
Gasoline US – Gulf Coast (cents/litre)	71.2	65.6	41.0	35.2	42.4	47.9	53.3	54.1	42.9	40.9	49.4	46.0
Diesel (low sulphur No.2) – US Gulf Coast (cents/litre)	78.4	71.5	41.7	34.8	42.9	51.0	55.6	56.6	52.2	49.5	51.1	48.9

Sources: Food and Agriculture Organisation; US Energy Information Administration

Economy Watch—Domestic Performance

Main economic activities

There were marked changes in the approvals of fixed assets throughout the last four quarters. In the third quarter of 2019, total investment approvals increased by 8.9 percent year on year to USD1,153.5 m. This figure, however, represents declines of 57.0 percent and 40.4 percent compared to the second and first quarters, respectively. By sector, approvals in services increased by 40.3 percent year on year, driven by a 10.8 percent increase in approvals for hotels and tourism to USD808.7 m. Again, the result for the third quarter marks substantial declines of 50.0 percent and 67.9 percent compared to the first and the second quarters, respectively. Investment approvals in industry stood at USD302.0 m, an increase of 3.1 percent compared to the first quarter, and 165.6 percent due to a 37.5 increase in garments compared to the second quarter, but a decrease of 26.0 percent year on year. Investment approvals in agriculture declined by 95.8 percent year on year, 89.0 percent compared to the first quarter and 96.1 percent compared to the second quarter.

Total international tourist arrivals expanded to 1,475,800 up 7.4 percent year on year and 1.0 percent compared to the second quarter, but down 21.4 percent compared to the first quarter. The largest percentage of tourist arrivals came from China, accounting for 38.8 percent, followed by arrivals from Vietnam (16.0 percent), Thailand (7.7 percent), Japan (3.3 percent), South Korea (3.2 percent), Malaysia (3.2 percent), the US (3.1 percent), France (2.2 percent) and the UK (2.0 percent). Notably, arrivals from China dropped steadily from around 683,400 in the first quarter to 609,100 in the second quarter and 572,500 in the third quarter.

Trade balance remained in deficit, standing at USD827.5 m in the third quarter, representing an increase of 408.3 percent year on year but a decrease of 57.6 percent from a peak of USD1,990.6 m in the second quarter when export value was USD3,379m and import value USD5,328.6 m. However,

export value steadily increased from USD3,135.4m in the fourth quarter of 2018 to USD4,263.9m in the third quarter of 2019, giving a year-on-year increase of 11.8 percent. Garment exports increased to USD3,143.8 m, up 9.5 percent from the same quarter last year. By export destination, compared to the previous quarter, garment exports to the US rose by 25.4 percent (to USD1,006.5m), the EU by 20.5 percent (USD965.4 m), Japan by 65.6 percent (USD291.2 m), the UK by 38.0 percent (USD272.9 m), ASEAN by 16.7 percent (USD48.2 m) and the rest of the world by 10.3 percent (USD559.7 m). Exports of electronics increased by 70.6 percent year on year and by 14.9 percent compared to the second quarter. Exports of automotive parts also increased, by 48.4 percent year on year and 24.7 percent compared to the previous quarter. Agriculture exports decreased by 1.2 percent compared to the same quarter last year but increased by 18.7 percent compared to the previous quarter as a result of rises in rubber, wood and rice exports.

Total imports amounted to USD5,091.4 m, up 28.0 percent year on year, but down 4.5 percent from USD5,328.6 m a quarter earlier. The year-on-year increase was driven by rises in imports of gasoline (by 36.3 percent to USD118.6 m), diesel (by 2.7 percent to USD166.4 m), construction materials (by 66.7 percent to USD271.2 m) and other imports (by 27.2 percent to USD4,535.2 m). The decline in imports compared to the previous quarter was due to drops of 33.5 percent in diesel imports and of 4.1 percent in other imports.

Public finance

Total government revenue in the third quarter increased by 36.3 percent year on year to KHR6,364.5 bn after a 9.5 percent decrease in the fourth quarter of 2018, but by just 0.1 percent compared with a quarter earlier. Current revenue increased by 36.4 percent year on year, by 13.8 percent compared to the fourth quarter of 2018 and by 24.5 percent compared to the first quarter of 2019, but decreased by 0.2 percent compared to the second quarter. Tax revenue and domestic tax followed a similar trend. Tax revenue reached a peak

of KHR5,663.5 bn in the second quarter and dipped to KHR5,415.1 bn in the third quarter. Domestic tax also contracted from a peak in the second quarter by 6.3 percent to KHR4,634.1 bn. Non-tax revenue rose by 45.3 percent year on year to KHR894.1 bn, by 64.8 percent compared to the first quarter and by 35.7 percent compared to the second quarter, but fell by 4.5 percent compared to the fourth quarter of 2018. Capital revenue increased by 23.9 percent year on year and by 58.3 percent compared to the preceding quarter.

Total expenditure rose from KHR4,150.4 bn in the first quarter to KHR4,997.6 bn in the second quarter and to KHR5,386.5 bn in the third quarter (an 8.1 percent year-on-year contraction). Capital expenditure decreased by 2.5 percent from the second quarter to KHR1,358.6 bn and by 31.3 percent compared to the third quarter last year. Current expenditure increased by 28.9 percent compared to the first quarter, by 11.7 percent compared to the second quarter and by 3.7 percent year on year.

Inflation and foreign exchange rates

The consumer price index decreased by 0.1 percentage points in the third quarter having remained stable at 1.9 percent in the two preceding quarters. Compared to a quarter earlier, the consumer price index for food and non-alcoholic beverages dropped by 0.5 percentage points and that for transportation recovered 2.3 percentage points of its decline.

Compared with the previous quarter, the riel depreciated 0.9 percent against the US dollar to KHR4,086.8 per dollar, 3.7 percent against the Thai baht to KH133.7 per baht and 1.1 percent against the Vietnamese dong to KHR17.7 per 100 dong.

The price of gold increased throughout the last five quarters from USD146.1 per chi in the third quarter of 2018 to USD175.7 per chi in the third quarter of 2019.

Diesel prices dropped to KHR3,499.7 per litre in the third quarter of 2019 from KHR3,595.4 per litre in the preceding quarter. Gasoline prices dropped to KHR3,629.3 per litre in the third quarter from KHR3,770.2 per litre in the second quarter.

Real average daily earnings of vulnerable workers

This section briefly describes the situation of vulnerable workers based on a survey in November 2019. Overall, waitresses earned the lowest daily income, closely followed by ricefield workers who earned less than KHR10,000 per day. Skilled construction workers had the highest daily earnings, followed by unskilled construction workers, porters, small vegetable sellers, garment workers, motorcycle taxi drivers, scavengers and cyclo drivers. Daily earnings for two types of vulnerable workers – small vegetable sellers and unskilled construction workers decreased compared to the same quarter of previous year, while other types of vulnerable workers' increased.

Among all vulnerable workers, skilled construction workers had the highest daily earnings of KHR27,225, followed by unskilled construction workers (KHR18,814), porters (KHR18,802), small vegetable sellers (KHR18,651), garment workers (KHR16,578), motorcycle workers (KHR14,904), scavengers (KHR13,099), cyclo drivers (KHR12,046), ricefield workers (KHR9,376) and waitresses (KHR8,724). Daily earnings compared to the same quarter last year had gone up for skilled construction workers (by 2.4 percent), porters (21.7 percent), garment workers (5.1 percent), scavengers (4.2 percent), cyclo drivers (14.7 percent) and ricefield workers (4.4 percent), but gone down for small vegetable workers (11.3 percent) and unskilled construction workers (0.5 percent).

Among the 360 workers surveyed for nine job types excluding garment workers, the vast majority migrated from provinces to work in Phnom Penh or Siem Reap. They came from Prey Veng (31.4 percent), Svay Rieng (24.4 percent), Takeo (13.1 percent), Kampong Speu (11.7 percent), Kandal (8.6 percent), Kampot (3.6 percent), Kampong Cham (2.8 percent), Koh Kong (0.6 percent), Phnom Penh (0.6 percent), Kratie (0.3 percent) and Banteay Meanchey (0.3 percent). Of the 360 workers, 71.9 percent were from a big family of 4-7 members, 88.6 percent were the main income earner in their family, and 67.2 percent migrated alone to the work in the city. In answer to the question, "can your income support your family?", 5.6 percent of them said "yes", 3.3 percent said "no" and 91.1 percent said "some". On average, their income was mainly spent on food (96.6 percent), accommodation (0.3 percent), transport (0.5 percent) and others (2.6 percent).

Table 1: Private investment projects approved, 2013–2019

	2013	2014	2015	2016	2017	2018				2019		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
		fixed assets (USD m)										
Agriculture	930.5	56.5	169.8	117.1	62.9	99.5	30.4	45.2	39.8	17.2	48.2	1.9
Industry	3256.9	1002.5	1014.7	1436.4	982.2	259.6	193.4	408.2	325.0	292.9	113.7	302.0
. <i>Garments</i>	324.1	393.5	225.2	380.7	211.1	53.2	31.4	49.9	52.8	73.9	34.4	47.3
Services	140.7	622.6	2734.4	1664.3	3858.6	110.2	2156.2	605.5	1479.8	1625.6	2518.2	849.7
. <i>Hotels and tourism</i>	106.0	446.9	98.6	1366.9	2759.6	75.2	106.6	68.3	1333.9	1618.8	2518.2	808.7
Total	4328.5	1583.9	3918.9	3217.7	4903.7	469.3	2380.0	1058.9	1844.7	1935.6	2680.1	1153.5
	percentage change from previous quarter											
Total	-	-	-	-	-	310.5	407.2	-55.5	74.2	4.9	38.5	-57.0
	percentage change from previous year											
Total	90.1	-63.4	147.4	-17.9	52.4	257.2	44.0	-64.8	1513.7	312.5	12.6	8.9

Note: Including expansion project approvals.

Source: Cambodian Investment Board

Table 2: Value of construction project approvals in Phnom Penh, 2009–15

	2009	2010	2011	2012	2013	2014				2015		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
	USD m											
Villas, houses and flats	213.9	220.1	405.1	547.3	658.9	133.6	84.0	33.1	20.4	122.3	-	637.6
Other	227.3	217.8	199.9	463.6	859.6	190.0	141.7	105.6	11.7	49.8	-	252.6
Total	441.2	489.8	605.0	1010.9	1518.5	323.6	225.7	138.7	32.1	172.0	-	897.4
	percentage change from previous quarter											
Total	-	-	-	-	-	34.3	-30.2	-38.5	-77.8	437.3	-	-
	percentage change from previous year											
Total	-60.5	11.0	23.5	67.1	28.1	8.0	-9.2	-64.2	-86.7	-46.8	-	-

Source: Department of Cadastre and Geography of Phnom Penh municipality

Table 3: Foreign visitor arrivals, 2013–2019

	2013	2014	2015	2016	2017	2018				2019		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
	thousands											
China	463.1	560.3	694.7	830.0	1210.8	505.9	425.8	509.0	583.7	683.4	609.1	572.5
Vietnam	854.1	905.8	987.8	959.7	835.4	186.8	199.9	197.7	215.9	186.9	214.8	235.7
Korea	435.0	424.4	395.3	357.2	345.0	126.1	48.5	483.9	78.8	95.7	43.6	47.4
Thailand	221.3	279.5	349.9	398.1	394.9	83.7	76.1	75.5	147.0	97.9	76.3	113.9
US	185.0	191.4	217.5	238.7	256.5	79.1	54.6	47.7	69.5	79.0	53.2	45.5
Japan	206.9	215.8	193.3	191.6	203.4	59.0	38.7	47.7	65.1	60.2	40.4	48.9
France	131.5	141.1	145.7	150.3	166.4	56.6	29.4	33.5	51.4	59.4	27.3	32.9
UK	123.9	133.3	154.3	159.5	171.2	51.2	33.7	33.0	44.5	59.4	29.7	28.5
Malaysia	130.7	144.4	149.4	152.8	179.3	44.8	41.0	49.4	65.8	48.7	43.2	46.5
By air	2017.7	2273.5	2476.0	2778.0	3312.7	1157.6	846.5	954.8	1137.9	1299.1	1054.8	1039.9
By land or water	2192.5	2229.3	2299.2	2331.4	2289.4	553.6	443.9	419.6	687.1	578.7	405.8	436.0
Total	4210.2	4502.8	4775.2	4980.4	5602.2	1711.3	1290.4	1374.4	1825.0	1877.9	1460.6	1475.8
	percentage change from previous quarter											
Total	-	-	-	-	-	1.3	-24.6	6.5	32.8	2.9	-22.2	1.0
	percentage change from previous year											
Total	17.5	7.0	6.1	4.3	12.5	129.3	-158.8	9.9	8.0	9.7	13.2	7.4

Source: Ministry of Tourism

Table 4: Exports and imports, 2013–2019*

	2013	2014	2015	2016	2017	2018				2019		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
		USD m										
Total exports	6982.4	8106.0	9256.4	10043.3	10772.9	2834.6	3000.2	3813.7	3135.4	3222.7	3379.0	4263.9
Garments	5386.1	5960.5	6827.0	7308.0	8020.3	2092.1	2240.6	2871.0	2302.3	2463.4	2526.3	3143.8
. To US	2075.2	1963.6	2009.4	1831.5	1923.8	538.4	573.9	743.5	627.4	739.8	802.9	1006.5
. To EU	1969.6	2403.7	2903.9	2928.7	2782.2	670.1	805.2	916.7	763.4	719.2	801.1	965.4
. To ASEAN	60.2	83.3	103.4	98.4	106.9	28.6	32.7	33.0	41.1	38.1	41.3	48.2
. To Japan	278.7	383.1	524.2	655.5	701.2	224.7	165.2	276.6	224.3	262.9	175.8	291.2
. To UK	-	-	-	439.8	904.0	219.5	203.9	382.5	201.1	211.5	197.7	272.9
. To rest of the world	1002.9	1126.8	1286.3	1354.2	1602.2	410.9	459.7	518.8	445.0	491.7	507.5	559.7
Electronics	-	-	-	-	380.0	76.2	90.9	83.4	78.3	71.9	123.8	142.3
Automotives	-	-	-	-	11.6	11.9	13.1	15.3	54.1	20.4	18.2	22.7
Agriculture	554.5	624.4	548.8	534.1	706.4	205.9	166.0	213.6	265.5	210.4	177.7	211.0
. Rubber	175.2	153.9	165.4	165.3	273.5	52.4	36.5	59.7	69.1	43.8	42.2	60.0
. Wood	73.6	132.0	46.3	47.2	100.5	30.0	34.0	42.0	36.3	22.2	35.2	42.4
. Fish	1.2	0.8	0.5	0.6	0.6	1.0	0.1	0.1	0.1	0.1	0.1	0.1
. Rice	262.3	248.5	315.3	300.8	255.1	106.7	71.8	88.7	146.4	122.4	72.2	84.5
. Other agriculture	42.4	89.1	21.3	20.2	76.7	15.8	23.6	23.2	13.6	21.9	28.1	24.1
Others	1088.2	1520.1	1880.2	2201.2	1654.7	448.6	489.6	630.4	435.2	456.6	532.9	744.0
Total imports	8639.4	10295.4	11494.5	15013.4	16815.4	4244.5	4496.0	3976.5	4187.6	4437.7	5328.6	5091.4
Gasoline	306.4	334.7	377.3	384.8	256.7	64.9	60.8	87.0	107.8	121.1	117.1	118.6
Diesel	569.1	602.3	607.8	709.1	472.9	102.0	116.9	162.0	213.2	228.2	250.2	166.4
Construction materials	80.8	117.6	164.4	253.2	304.3	100.7	138.7	162.7	162.5	170.8	231.4	271.2
Other	7682.6	9240.7	10345.1	13666.3	15781.6	3976.9	4179.7	3564.8	3704.2	3917.7	4729.9	4535.2
Trade balance	-1610.9	-2184.3	-2238.1	-4970.0	-5974.1	-1409.9	-1495.9	-162.8	-1052.3	-1215.0	-1990.6	-827.5
	Percentage change from previous quarter											
Total garment exports	-	-	-	-		4.6	7.1	28.1	-19.8	7.0	2.6	24.4
Total exports	-	-	-	-		0.3	5.8	27.1	-17.8	2.8	7.8	26.2
Total imports	-	-	-	-		24.0	5.9	-11.6	5.3	6.0	27.2	-4.5
	Percentage change from previous year											
Total garment exports	7.4	10.7	14.5	7.0	9.7	12.7	19.6	25.4	15.1	17.7	12.8	9.5
Total exports	14.3	16.1	14.2	8.5	7.9	23.7	14.2	23.1	11.0	13.7	12.6	11.8
Total imports	15.4	19.7	11.7	30.6	12.0	33.8	-24.0	-7.6	22.3	4.6	18.5	28.0

Note: * Import data include tax-exempt imports.

Sources: Department of Trade Preference Systems; MOC and Customs and Excise Department; MEF (website)

Table 5: National budget operations on cash basis, 2013–2019 (billion riels)

	2013	2014	2015	2016	2017	2018				2019		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
Total revenue	8255.2	10543.4	11879.9	14201.5	16582.0	4357.6	5080.6	4670.3	5634.6	5097.5	6357.1	6364.5
Current revenue	8233.2	10359.4	11759.0	14088.7	16481.4	4344.8	5035.2	4625.6	5543.5	5066.8	6322.2	6309.2
Tax revenue	7198.1	8995.2	10502.4	12196.5	14314.3	3984.9	4425.4	4010.2	4598.7	4524.3	5663.5	5415.1
Domestic tax	5728.1	7226.5	8591.7	10185.8	12338.7	3469.8	3850.4	3424.9	3903.2	3904.9	4944.9	4634.1
Taxes on international trade	1470.0	1822.7	1910.7	2010.7	1875.6	515.2	575.0	585.2	695.4	619.4	718.6	781.0
Non-tax revenue	1035.2	1310.3	1256.6	1892.2	2167.2	359.8	609.8	615.4	935.8	542.5	658.7	894.1
Property income	84.0	88.5	77.3	116.0	127.2	7.7	130.5	12.6	46.4	177.4	34.0	30.2
Sale of goods and services	750.3	871.2	1047.1	1248.3	1517.0	341.0	388.9	527.8	817.9	330.7	531.2	798.5
Other non-tax revenue	200.8	350.5	132.2	528.0	523.1	11.1	87.4	75.0	80.5	34.5	93.5	65.5
Capital revenue	73.4	184.0	121.0	113.4	100.5	12.9	45.4	44.7	91.1	30.7	35.0	55.4
Total expenditure	12535.7	13306.5	13849.5	13775.4	17251.0	3583.2	4706.2	5861.4	4876.3	4150.4	4997.6	5386.5
Capital expenditure	5567.5	5590.7	5290.3	3785.3	5207.2	812.9	1517.8	1978.3	1421.2	1025.0	1392.7	1358.6
Current expenditure	6968.3	7715.8	8544.6	9990.1	12043.7	2770.3	3188.5	3883.1	3455.1	3125.4	3604.9	4027.9
Wages	2997.3	3755.5	4271.9	5381.7	6647.4	1760.3	1911.1	2148.8	1738.3	1820.2	1911.1	2102.0
Subsidies and social assistance	1563.0	1627.0	1742.9	1774.9	2314.8	469.9	621.1	597.2	817.2	729.2	1061.9	855.5
Other current expenditure	2408.0	2333.4	2529.8	2833.5	5394.3	1010.0	1277.4	1734.4	1716.9	1305.2	1693.8	1925.8
Overall balance	-4280.6	-2763.1	-1969.6	426.1	-669.1	774.5	374.4	-1191.1	758.3	947.1	1359.6	978.0
Foreign financing	4326.2	3972.1	3729.4	1878.9	3358.1	401.6	1064.4	413.1	634.4	652.8	895.5	608.8
Domestic financing	824.4	-1428.7	-2034.9	-1858.7	-2454.1	101.7	90.5	-36.3	66.7	-44.4	-7.6	11.9

Source: MEF website

Table 6: Consumer price index, exchange rates and gold prices (period averages), 2013–2019

	2013	2014	2015	2016	2017	2018				2019		
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
	Consumer price index (percentage change from previous year)											
Phnom Penh - All Items	3.0	3.9	1.2	3.1	2.9	2.3	2.7	2.5	2.4	1.9	1.9	1.8
- Food and non-alcoholic beverages	3.9	4.9	4.0	5.6	3.4	1.9	2.9	2.5	2.5	2.1	2.1	1.6
- Transportation	-0.6	-1.0	-9.2	-6.9	4.1	3.1	3.9	3.3	1.4	-3.8	-3.8	-1.5
	Exchange rates, gold and oil prices (Phnom Penh market rates)											
Riels per US dollar	4037.3	4036.2	4060.4	4053.7	4047.5	4012.4	4047.0	4073.7	4046.7	4006.6	4052.1	4086.8
Riels per Thai baht	133.1	124.9	119.4	115.5	120.0	127.7	127.4	124.2	124.2	127.4	128.9	133.7
Riels per 100 Vietnamese dong	19.3	19.1	18.7	18.2	17.9	17.8	17.9	17.7	17.5	17.4	17.5	17.7
Gold (US dollars per chi)	175.9	152.3	140.6	151.2	151.5	160.3	157.6	146.1	147.3	156.6	157.1	175.7
Diesel (riels/litre)	5019.0	4852.1	3771.3	3004.0	3385.8	3679	3915.7	3784.3	3856.3	3413.9	3595.4	3499.7
Gasoline (riels/litre)	5264.2	5083.3	3951.7	3336.8	3716.0	3914	4120.3	4003.0	3893.0	3405.7	3770.2	3629.3

Sources: NIS; NBC; CDRI

Table 7: Monetary survey, 2013–2019 (end of period)

	2013	2014	2015	2016	2017	2018			2019			
						Q1	Q2	Q3	Q4	Q1	Q2	Q3
						Billion riels						
Net foreign assets	21260.1	26699.7	26665.5	31814.5	42575.3	46707.0	49421.9	52669.4	55214.3	58148.8	62699.5	67081.5
Net domestic assets	11508.3	15859.8	22157.6	25802.3	28743.5	28457.0	29926.1	31941.8	33228.9	33997.2	33548.0	34814.3
Net claims on government	-2794.9	-4359.1	-6428.8	-8148.5	-11066.5	-12381.1	-12887.7	-12996.4	-14803.7	-17381.0	-18747.4	-20263.2
Credit to private sector	27608.8	36244.6	46071	56458.8	66922.6	68686.5	72464.2	77925.6	82419.3	86574.4	91568.6	98320.3
Total liquidity	32768.4	42559.5	48823.1	57616.6	71318.9	75164.0	79348.0	84611.3	88443.2	92146.0	96247.6	101895.8
Money	4878.2	6308.4	6741.4	7273.0	9428.4	9578.5	9553.9	10146.0	10226.8	10782.0	11274.5	13465.9
Quasi-money	21260.1	26699.7	42081.7	50343.8	61890.4	65585.5	69794.1	74465.2	78216.4	81364.0	84973.0	88429.9
	Percentage change from previous year											
Total liquidity	14.6	29.9	14.7	18.0	23.8	24.1	21.6	21.3	24.0	22.6	21.3	20.4
Money	20.6	29.3	6.9	7.9	29.6	27.3	16.7	13.7	8.5	12.6	18.0	32.7
Quasi-money	13.6	30.0	16.1	19.6	22.9	23.7	22.3	22.4	26.4	24.1	21.7	18.8

Source: National Bank of Cambodia

Table 8: Real average daily earnings of vulnerable workers (base November 2019)

	Daily earnings (riels)									Percentage change from previous year		
	2017	2018				2019				2019		
		Feb	May	Aug	Nov	Feb	May	Aug	Nov	May	Aug	Nov
Cyclo drivers	10793	11042	11285	10267	10503	11764	10567	11114	12046	-6.4	8.2	14.7
Porters	14942	15123	14915	15889	15454	15882	17323	16560	18802	16.1	4.2	21.7
Small vegetable sellers	17015	18343	20999	20141	21018	18912	21472	19197	18651	2.3	-4.7	-11.3
Scavengers	11591	10664	13931	13288	12570	12941	12685	13123	13099	-8.9	-1.2	4.2
Waitresses*	22901	8226	8077	7945	8346	8299	8348	8564	8724	3.4	7.8	4.5
Ricefield workers	17341	8774	8486	8427	8984	8209	7909	9180	9376	-6.8	8.9	4.4
Garment workers	14231	15268	14605	15316	15631	16073	15166	16076	16578	3.8	5.0	5.1
Motorecycle taxi drivers	8093	14901	14429	15293	14637	14705	15104	14219	14904	4.7	-7.0	1.8
Unskilled construction workers	8055	18082	15771	17539	18900	19820	17987	18322	18814	14.0	4.5	-0.5
Skilled construction workers	14093	25578	25025	23276	26595	26265	24743	25235	27225	-1.1	8.4	2.4

Notes: * Waitresses' earnings do not include meals and accommodation provided by shop owners. Surveys on the revenue of waitresses, ricefield workers, garment workers, motorecycle taxi drivers and construction workers began in February 2000. November 2015 data are not available. **Not available.

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development partners to discuss future directions for research on higher education in Cambodia.

Book presenting ceremony and Belt and Road Initiative Symposium. The event was co-hosted by CDRI and the China Institute of International Studies and presided over by CDRI's executive director.

Digital Cambodia 2019 Conference and Exhibition. The conference brought together more than 100 speakers and participants from governments, IT industry, academic and research institutions, and the private sector from Cambodia, the region and beyond. CDRI's executive director moderated the session on Digital Manpower for the Digital Era. The three-day exhibition attracted more than 20,000 visitors.

Cambodia Outlook Conference 2019: Digital Transformation towards Industry 4.0. The keynote address was again presented by Prime Minister Hun Sen. At the end of his speech, the prime minister declared the indispensability of CDRI as a "bank of brains" for the country's development and affirmed that CDRI will retain its current premises in Tuol Kork. A highlight of the conference was the "participation" of a social humanoid robot.

Signing of a memorandum of understanding between CDRI and the Chinese Academy of Sciences (CAS). Based on mutual benefit, CDRI and CAS have agreed to a wide ranging new research partnership and exchange of technical tools and analysis techniques to undertake collaborative research in water resources management, water science, innovative irrigation technology, agriculture, sanitation, education, energy in local economic development, governance, and local climate change adaptation and mitigation. The initial focus of activities will be to find and secure internal and external sources of research funding.

1st Mekong-Lancang Cooperation Training Program on Project Management. The event was organised by the Ministry of Foreign Affairs and International Cooperation. CDRI researchers provided training to senior officials of Mekong-

Lancang partner countries on development project management and implementation.

Research**Agriculture**

Five projects are being implemented. The *Mid-Term Performance Evaluation of USAID/ CAMBODIA's Helping Address Rural Vulnerability and Ecosystem Stability (HARVEST II) Activity* funded by the United States Agency for International Development (USAID) in partnership with Mitchell Group Inc. (TMG) was completed with the submission of the final approved data and field report to TMG. The Sida-funded project *Mango Value Chain Analysis* has progressed well with survey tools and location now decided. However, data analysis and report writing for the Sida-funded project *On-farm Food Safety in Horticulture in Cambodia: The Case of Vegetable Farming* is still pending because team members have been busy with other projects. Fieldwork for *Research on the Economic Return to Investment in Education and Technical Vocational Education and Training (TVET) on Youth for Youth Employability and Entrepreneurship Development in Cambodia* funded by the United Nations Development Programme was completed and the draft report is now being prepared. The team leader for the project *Migration, Remittances and Child Schooling in Rural Cambodia*, funded by Partnership for Economic Policy (PEP), went on a three-week study visit to the University of Auvergne in France, where he finalised the study methodology with the project advisor.

In the second quarter, we hosted a number of research seminars on various topics such as *The Preah Vihear Temple Conflict: Heritage, Borders and Peace-Building Resistance*; *From Poverty to Prosperity*; *The Impacts of Interest Cap*; and *The Use of Poverty Software* at CDRI. We also participated in one training session, the 2019 PEP Annual Conference in Cape Town, South Africa, organised by PEP.

Similarly, in the third quarter, we organised various research seminars, including *The Ethical Issues in Conducting Research*; *Economic Outlook for Southeast Asia, China and India*; *Promoting Climate-Resilient Livelihoods in Rice-Based Communities in the Tonle Sap Region* (hosted by FAO); and *Entrepreneurships and Sustainable*

Development. We also attended the *Network for Agriculture and Rural Development Thinktanks in Mekong Subregion* launching workshop hosted by the Institute of Policy and Strategy for Agriculture and Rural Development in Hanoi, Vietnam.

Activities in the fourth quarter were less than the previous three. We participated in two research seminars, *Energy and Water in the Mekong*, and *National Farmer Forum* hosted by NGO forum.

Economics

The three-year project on *Job Prospects for Youth, Low-skilled and Women Workers in the Greater Mekong Subregion*, conducted under the Greater Mekong Subregion Research Network (GMS-Net), concluded with the publication of an edited volume and policy brief. The publications were disseminated to partner institutes and universities, to workshop and conference participants including those at the *Cambodia Outlook Conference 2019* held in March. We also made the publications available on the CDRI website. The project, supported by Canada's International Development Research Centre (IDRC), aimed to generate research evidence to inform policy solutions for the challenges facing low-skilled/low-educated youth and women workers in the subregion. Of the 20 proposals, the GMS-Net selected and funded eight highly promising research proposals from research institutes and thinktanks in the subregion.

We co-hosted a half-day workshop with the Overseas Development Institute on *Prospects for Cambodia's Economic Transformation: Scoping New Activities*, on 26 February. The aim was to explore three pressing research questions: What are the challenges facing economic transformation and job creation? What are the most promising sectors for policymakers to focus on? Which sectors and/or constraints are most worthy of further analysis by the Supporting Economic Transformation (SET) program during 2019? Our researchers also participated in national and international conferences and workshops, including: *Sustainable Development Goals* at the United Nations Development Programme's Regional Hub in Bangkok on 10 January; *Policy and Direction of Cambodia's Digital Economy*, organised by the Supreme National Economic Council and the World Bank, Phnom Penh on 12–13 March; *Skills*

for Industry, organised by the Zurich University of Teacher Education, in Laos on 11–15 March.

In the second quarter of the year, the ECO unit engaged in a variety of activities. These included workshops such as *The Belt and Road Initiative in Cambodia: Economic Diversification and Debt Management* by the United Nations in Cambodia, *The Financial Report* by the National Bank of Cambodia, and *Promoting an ICT-Enabled Environment for Women Entrepreneurs* by UNESCAP. There were also training workshops like the ones provided by Open Development Cambodia (ODC) at their office on *GIS Workshop: Fundamentals of QGIS*, and the CDRI-hosted workshop titled *Enumerator Training for phase I survey of Street Vendors, Youth Employment and Poverty Reduction (Sida component 2) project*.

In the third quarter we attended many training events both within the country and abroad, including: *Demography Lexicon Writing Series* by the Ministry of Planning and *Future and Foresight Learning* by ADB in Phnom Penh. The team attended three Policy Dialogues for the project on “*Agricultural Trade between China and MLC Countries: Value Chain Analysis*” in Phnom Penh, Vientiane, and Beijing, which were hosted by CDRI, the Economic Research Institute for Industry and Trade (ERIIT), and the Chinese Academy of Social Science (CASS) respectively. CDRI also hosted three training events attended by the team: *Enumerator training for phase I survey of Street Vendors, Youth Employment and Poverty Reduction (Sida component 2) project*; *Sharing Session on KoBo Toolbox*; and *Enumerator training for GIZ-SME Survey*. There was one publication, *Policy Brief on “Skills and Transformations in Cambodia Industry”*, published by The Zurich University of Teacher Education.

Education

For the *Apprenticeship Study*, funded by the Swiss Agency for Development and Cooperation, data on the costs and benefits of apprenticeship schemes was collected from 105 companies from early January to the end of March 2019. Data collection for *Mapping the Diversity of Higher Education Institutions in Cambodia*, which receives financial support from Australia's Department of Foreign Affairs and Trade, is due to end in March. The findings of these

two studies will be documented in a CDRI working paper to be published later in the year.

We organised a workshop on *Engagement in Higher Education Research* in Phnom Penh on 28 February, to present the preliminary findings from our research on higher education. The findings were grouped around five key themes: STEM education, internationalisation, research promotion, typology, and governance and financing. One hundred and ten education leaders, lecturers, administrators and students from 40 higher education institutions attended that workshop.

The Education Unit led a delegation on an exposure visit to Australia from 2-9 February to learn about Australia's development of higher education, particularly in Melbourne and Canberra. The delegation comprised representatives from the Ministry of Education, Royal University of Phnom Penh, Institute of Technology of Cambodia, University of Battambang, Chea Sim University of Kamchaymea, National Institute of Posts, Telecommunication and Information Communication Technology, G Gear Group Co., Ltd, and CDRI.

During the second quarter, CDRI signed an MoU with the Ministry of Labour and Vocational Training. We attended a number of training sessions, for example, on *Situation-Based Learning and Curriculum Development in VET* and *Introduction to planning an evaluation study* hosted by the Swiss Federal Institute for Vocational Education and Training, and a workshop titled *Entrepreneurship in TVET* by Shenzhen Polytechnic.

In the second half of the year, this unit hosted a *Qualitative Method* workshop conducted by Dr Un Kheang from 9-25 July and participated in CDRI's Public-Private Partnership forum: *Research Commercialization and Innovation* in Phnom Penh on 4 October.

During 2019, the Education Unit published a number of books, reports and working papers such as *The Political Economy of Primary Education Reform in Cambodia* published by Oxford; *Correlates of STEM major choice: a quantitative look at Cambodian university freshmen* published by Routledge; and *Finance in Public Higher Education in Cambodia* and *Working Paper: Governance in Public Higher Education in Cambodia* published by CDRI.

Environment

The project team for *Empowering Women on Climate Resilience in Cambodia* followed up the small grants provided to 10 local women's networks for implementing community-based climate change adaptation initiatives. The team also produced a journal article titled *Women's Adaptive Capacity for Climate Resilience in Cambodia's Four Agroecological Zones* for publication in the quarterly *Cambodia Development Review*.

For *Climate Change Adaptation and Disaster Risk Reduction*, a Sida-funded project, we finalised the draft research report and started to develop the research design for the second theme on Community-based Climate Change Adaptation. For *Human Response to Environmental Change in the Lower Mekong River Basin*, the project team transcribed the notes from six focus group discussions and processed the quantitative data from 30 individual interviews with migrant workers from flooded riparian villages in Phnom Penh. Another fieldwork for the project was conducted in Siem Reap province and involved six focus group discussions with local people and 12 key informant interviews with local authority figures and representatives from three provincial departments (Environment, Water Resources and Meteorology, and Agriculture, Forestry and Fisheries). To date, the project has contracted 22 local farmers to keep weekly records of the local weather and their agricultural activities.

Fieldwork for the multi-country project on *Contract Farming in the Mekong-Lancang Region* was undertaken in all participating countries. CDRI, in collaboration with the Department of Agro-Industry of the Ministry of Agriculture, Fishery, and Forestry (DAI-MAFF), conducted interviews with farmers, companies, NGOs, development partners, and senior government officials. The consultation workshop on 10 January in Phnom Penh, co-hosted by CDRI and DAI-MAFF and presided over by the minister of MAFF, brought together 150 representatives from government, development partners, NGOs and the private sector.

The research project *Impact of Climate Change Programs in Cambodia: Vulnerability, Poverty, and Gender* has made good progress. The project completed field reconnaissance activities in Kampong Cham and Kampong Thom provinces,

and organised the first steering committee meeting on 14 January and the inception meeting on 12 March 2019 in Phnom Penh.

In the second quarter, we attended two seminars, one in Hanoi about the *Second Technical Meeting of Enhancing Research Dialogue in Mekong Lancang Countries project*, and an inception workshop in Siem Reap on *Water diplomacy of Mekong Basin: Towards a shared Basin for Prosperity*.

In the third quarter, we participated in the *Conclusion Meeting of Empowering Women for Climate Change Resilience in Cambodia project* in Phnom Penh.

In the fourth quarter, we attended the following workshops: the Commune Workshop on *Research findings and reporting back to the communities* in Kampong Cham city; the National Workshop on *Impact of Climate Change Programs in Cambodia: Vulnerability, Poverty and Gender* in Phnom Penh; and the Steering Committee meeting in Phnom Penh.

Governance

In the first quarter, we worked on translating the working paper on *Cambodia's Young and Older Generation: Views on Generational Relations and Keys Social and Political issues* into Khmer. We also prepared for the dissemination workshop, scheduled to take place in early April, to share the youth survey results with subnational-level officials.

A researcher served as a reviewer for a draft chapter on *Women in Public Service and Leadership* for the Ministry of Women's Affairs' Report titled *Gender Assessment in Cambodia*. And a researcher presented a paper on *Cambodia's Millennial Voter Challenges* at the annual convention organised by the International Studies Association in Toronto, 27–30 March.

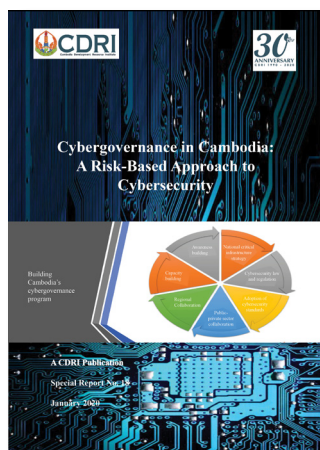
In the second quarter, we participated in several workshops and events, including the *Dissemination and Knowledge Sharing Workshop* hosted by CDRI at the Cambodia-Korea Cooperation Center on 5 April; the *Knowledge Sharing Workshop* on 26 April hosted by Union of Youth Federation of Cambodia; and the training session hosted by OECD Korea on *Capacity Building Program for Public Innovation of Cambodia* at the National Institute for International Education. From 20–22 May, we joined the 10th *Asian Conference on the Social Sciences (ACSS)* in Tokyo, Japan, organised by ACSS.

In the second half of 2019, the Governance Unit published a paper on “*Gender Analysis*”. We also attended a training session by the Education Unit on *Qualitative Methodology Training* in July. On 25 July, the Governance Unit conducted a training session for its team on *Research Training: Research Ethics*. Between August and October, we spent some two weeks engaging in the *Cyber Security Training*.

New release

Cybergovernance in Cambodia: A Risk-Based Approach to Cybersecurity

A CDRI publications



To understand cyber risk in Cambodia and equip policy leaders to oversee it, this paper assesses the successes and challenges of current cyber risk management efforts in Cambodia and throughout the Association of Southeast Asian Nations (ASEAN) region. The findings suggest that there is a large gap between the rapid implementation of new technologies in Cambodia and the capacity to govern consequent cyber threats. Policy action must be taken to protect the people and critical information infrastructure of Cambodia. The protection of Cambodia's critical information infrastructure cannot be left to one person or organisation alone as any cyberattack directly threatens Cambodia's vision for becoming a fully developed country by 2050, an ambitious goal Prime Minister Hun Sen has emboldened the country's policymakers, business leaders, academics and citizens to achieve. Thus, strengthening collaboration and developing cyber capacity across the ASEAN region are necessary to develop baseline skills and knowledge to implement cyber systems and processes. Currently, Cambodia does not have enough resources to tackle cybersecurity alone. Cambodia must not only train internal resources but also engage in collaborative efforts with other ASEAN member states and use regional and international frameworks, including ISO27001, the National Institute of Standards and Technology Cybersecurity Framework (NIST CSF), which have already been proved effective at enhancing, strengthening and improving cybersecurity framework.

CDRI Update

Major events

Consultation workshop for the multi-country study on contract farming in the Mekong region. The workshop was co-hosted by CDRI in collaboration with the Department of Agro-Industry of the Ministry of Agriculture, Forestry and Fisheries (DAI-MAFF) and presided over by the minister of agriculture. The five country teams presented their progress reports, raised emerging issues, and discussed the challenges and future prospects of contract farming in the region. Besides researchers, staff from DAI-MAFF also participated in the workshop.

Official launching of the Asian Vision Institute. CDRI's executive director attended the ceremony with 170 other participants from 18 countries including foreign diplomats, policymakers, representatives from international organisations, academics, researchers and students.

First Consultative Meeting with Think Tanks, sponsored by the ASEAN Secretariat and held by the ASEAN Socio-Cultural Community Department, was attended by researchers from thinktanks and research institutions based in the ASEAN region, and representatives from the ASEAN University Network, UNICEF and UN Women. Discussions highlighted the impact of the digital economy and technology use on employment structures in the

region; the importance of using new technologies to address data gaps, especially in times of disaster; and the need to bridge the digital divide between poorer and richer countries and between populations who have access to information and communication technology and those who do not.

Roundtable discussion on 'Prospects for Cambodia's Economic Transformation: Scoping New Activities' was organised by CDRI in partnership with the Supporting Economic Transformation (SET) program of the Overseas Development Institute and supported by Australia's Department of Foreign Affairs and Trade (DFAT). Representatives from government, development partners, the private sector, national research and development communities joined the discussion on the status of Cambodia's economy, the constraints on further economic transformation and measures to overcome them, and the promising sectors the SET program should focus on and analyse further.

Workshop on 'Engagement in Higher Education Research' was organised by CDRI to disseminate the findings of the DFAT-funded three-year research program on "Higher Education Policy Research and Influencing in Cambodia." The workshop brought together a wide range of participants from the government, private sector, research community, non-government organisations and international

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