



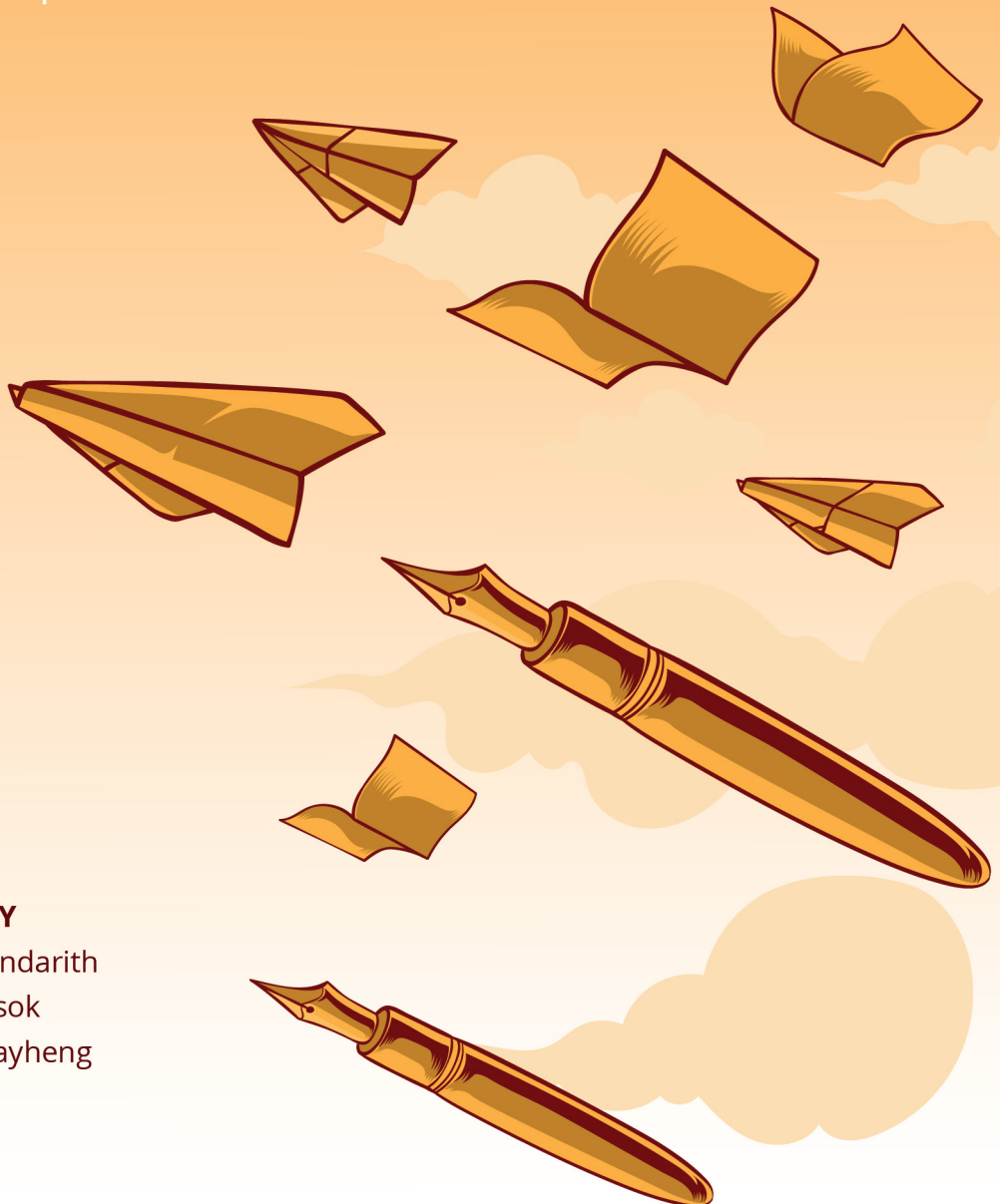
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INSTITUTE FOR INTERNATIONAL
STUDIES AND PUBLIC POLICY

**KONRAD
ADENAUER
STIFTUNG**

Policy Brief

Social Issues in Cambodia

ISSUE 01 | NOVEMBER 2023



EDITED BY

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Policy Brief: Social Issues in Cambodia

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Thanks to our KAS & IISPP team and all of our esteemed authors.

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FOREWORD

The Kingdom of Cambodia has opened a new chapter with high hope for progress and prosperity. The new government sworn in on 22 August 2023 consists of young and energetic members that truly reflects the current demographic of Cambodian society. The curtain was opened with a clear strategic roadmap called “The Pentagon Strategy”. The Royal Government of Cambodia of the 7th Legislature of the National Assembly launched the Pentagon Strategy Phase I during their first cabinet’s meeting on 23rd August 2023¹. The strategy aims toward realizing Cambodia’s 2050 vision of a robust society with a higher income status². Outlined on top among the “Five Strategic Pentagons” is the “Human Capital Development” followed by Pentagon 2: Economic Diversification and Competitiveness Enhancement, Pentagon 3: Development of Private Sector and Employment, Pentagon 4: Resilient, Sustainable and Inclusive Development, and Pentagon 5: Development of Digital Economy and Society. Under the first pentagon, the government has recognized the indispensable significance of fulfilling the growing needs of Cambodia’s socio-economic development through investment in human capital development.

The Konrad-Adenauer-Stiftung (KAS) Cambodia Office and the Institute for International Studies and Public Policy of the Royal University of Phnom Penh shared and supported this strategic vision. We recognize the importance of public policy awareness as a supporting mechanism and an investment to promote the country’s human capital development in particular, and the nation’s development in general. In 2022, KAS Cambodia and IISPP, entered a framework of cooperation in the field of public policy training program. Our partnership envisions the future of Cambodia driven primarily by enthusiastic, professional and young policy leaders, as well as by well-informed, participatory and proactive citizens. In 2023, both institutions successfully conducted a 7-months long public policy training program, the Adenauer Young Scholars for Excellence (AYSE), that has resulted in improvement of knowledge, network, and skills among its fellows.

Following the conclusion of the AYSE, KAS and IISPP has continued to work with the 14 young scholars of the program’s first cohort. The first Volume of “Policy Brief: Social Issues in Cambodia” is an outstanding result from the immense efforts of our young scholars and editorial team within the past months.

In this volume, fourteen articles have been highlighted in four areas ranging from 1) Phnom Penh City, 2) Economy and Digitalization, 3) Disaster Risk and Waste Management, and 4) Sustainable Development Goals in Cambodia. After undergoing the intensive training, research, and various consultations, these articles offer insights to selected critical social issues in Cambodia in an attempt to provide feasible policy recommendations.

1 Yalirozy, T. (2023, August 24). New government sets Pentagon strategy in key areas. Cambodianess. Retrieved October 25, 2023, from <https://cambodianess.com/article/new-government-sets-pentagon-strategy-in-key-areas>

2 Cambodia targets high-income country status by 2050: PM. (2023, September 23). Xinhua. Retrieved October 25, 2023, from <https://english.news.cn/20230923/84b14b38904049acb119b2cedcedb86/c.html>

We hope that you will find insights in your reading of this policy brief. We would also like to express our sincere appreciation to everyone who made this publication a successful project. Especially to our young and enthusiastic fellows, the editorial team of KAS Cambodia and IISPP. The most special appreciation is extended to Mr. Lak Chansok and Mr. Soth Chhayheng for their leadership in spearheading this project. Our sincere thanks also to Dy Sereyvoleak for her assistance.

1 November 2023
Phnom Penh, Cambodia

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SECTION 1

PHNOM PENH CITY



Along the riverside of Phnom Penh
Photo: flickr

CHAPTER 1

Toward a Walkable Future: Policy Solutions for Alleviating Traffic Congestion in Central Phnom Penh

Jak Sangchana

Executive Summary

- A city built for cars is bound to be congested. Phnom Penh’s reliance on private transportation and the lack of sidewalks are the main reasons the city suffers from daily traffic congestion.
- Flyovers and road expansions are temporary solutions to the city’s ongoing traffic problem as they create induced demand—in which, as the supply (the roads) expands, the demand (vehicles) also increases.
- This paper aims to provide policy recommendations for the Cambodian government, local authorities, and investors to transform Phnom Penh into a walkable city and to further invest in three key areas: public transportation, sidewalk design, and congestion pricing.

Introduction

The cheapest and most convenient mode of transportation is by walking—but why do the people of a developing country like Cambodia opt to drive a car, ride a motorbike, and call for TukTuk, which is neither sustainable nor cheap? The rapid urbanization and robust economic growth in Cambodia have contributed to a surge in demand for private vehicle ownership, worsening the general traffic despairs in the city. This mushrooming urban landscape is primarily characterized by the rapid expansion of housing communities, known as Boreys in Khmer, which encourage residents to settle at considerable distances from the city center and necessitate their daily commutes to work. As of 2022, an astounding 310 Boreys (Gated Communities) and apartment projects have been recorded in Phnom Penh alone.¹ Regrettably, the city’s sole public transportation option, the Phnom Penh City Bus, falls short of providing complete coverage. Although it offers affordable fares that cover only a fraction (20 percent) of the operational costs, the Phnom Penh City Hall shoulders the remaining financial burden,² compounding the issue. On top of that, the bus service operates sluggishly with infrequent schedules, making it challenging to attract passengers.

Consequently, a heavy reliance on private automotive vehicles has become the population’s primary mode of commuting. Cambodia has experienced a remarkable upswing in motor vehicle ownership, bragging an average annual growth rate of 11.3 percent; presently, the country maintains a registry of 6.7 million vehicles, with an overwhelming majority comprising motorcycles, totaling 5.7 million.³ Projections indicate that urban areas are poised to accommodate 36 percent of the population by 2050.⁴ The prevalent urban sprawl, manifested

1 Construction & Property News. (2022, June 8). Phnom Penh Recorded 310 Boreys and 1,603 High-Rise Buildings by the Start of 2022. Retrieved from [construction-property.com/phnom-penh-there-are-310-borey-and-1603-high-rise-buildings-by-the-beginning-of-2022/](https://www.construction-property.com/phnom-penh-there-are-310-borey-and-1603-high-rise-buildings-by-the-beginning-of-2022/).

2 GIZ. (2022, September). Partnership Ready Cambodia: Sustainable mobility. The Global Business Network. Retrieved from www.giz.de/en/downloads/GBN_Sector%20Brief_Kambodscha_Mobility_E_Web.pdf.

3 Manoj, M. (2023, March 8). Cambodia’s Vehicle Population Grows by 11.3%,” Khmer Times, Retrieved from www.khmer-timeskh.com/501251641/cambodias-vehicle-population-grows-by-11-3/.

4 World Bank. (2017, December 20). Urban Development in Phnom Penh,” Retrieved from www.worldbank.org/en/country/cambodia/publication/urban-development-in-phnom-penh.

by the expansion of Borey communities, underscores critical shortcomings in urban planning, particularly in the neglect of human-centered design principles. This unchecked expansion has increased in cars, motorcycles, and tuk-tuks (three-wheel motorcycles), which have inundated the city's road network, precipitating frequent traffic congestion and frustrating delays.

The city's road infrastructure is grappling with increasing demand, resulting in congestion and traffic jams during peak hours. In Phnom Penh, every workday witnesses a three-hour rush hour, spanning from 7 A.M. to 9 A.M. and 4 P.M. to 7 P.M. Nonetheless, certain intersections may encounter persistent bottlenecks throughout the entire day.

Further aggravating the situation, the city's narrow roadways often double as parking areas or venues for mobile businesses, intensifying traffic density. This multifaceted challenge necessitates a holistic approach to urban planning and transportation management to mitigate the adverse effects of rapid urbanization and burgeoning vehicle ownership in Cambodia's capital. Effectively tackling traffic congestion necessitates a comprehensive strategy beyond simply deploying flyovers, elevated highways, or overhead solutions. While flyovers and road expansion can offer short-term alleviation in specific congestion-prone zones and help ease bottlenecks—they need to present a complete remedy for the complex issue of traffic congestion. The challenges of relying solely on flyovers and road expansion include induced demands, disruption, limited capacity, and unsustainable transportation.

Due to the importance of decreasing demand during rush hours, this paper aims to use existing solutions in foreign countries to address the following questions:

- (i) What are the potential problems of solely focusing on flyover construction?
- (ii) How can the Congestion Pricing Program help reduce demand, assist income in supporting public transportation, and encourage more pedestrians?
- (iii) What policy recommendations can help make Phnom Penh a walkable city?

Potential Problems with Flyover Construction

Cambodia has boasted six operational flyovers, with a seventh under construction at the Russey Keo overpass.⁵ Overseen by the Overseas Cambodia Investment Corporation (OCIC), this new project carries an estimated cost of approximately USD 46.77 million.⁶ While the flyovers are instrumental in alleviating traffic congestion in the city, it is crucial to weigh the potential downsides accompanying their construction and operation.

To begin with, the construction of flyovers entails a substantial financial commitment. Research conducted in Delhi underscores the considerable costs associated with flyover projects, which can strain public budgets and pose challenges to the feasibility of implementing such large-scale initiatives.⁷ Notably, the total expenditure incurred in Phnom Penh for the construction of bridges and flyovers, including the ongoing projects, has already surpassed USD 226 million.⁸

5 Samean, L. (2022, August 22). New Phnom Penh flyovers to break ground by end of Aug: Koeut Chhe. Phnom Penh Post. Retrieved from www.phnompenhpost.com/national/new-phnom-penh-flyovers-break-ground-end-aug-koeut-chhe.

6 Khmer Times. (2022, September 1). Phnom Penh builds two more flyovers to mitigate traffic congestion. Retrieved from www.khmertimeskh.com/501142978/phnom-penh-builds-two-more-flyovers-to-mitigate-traffic-congestion/.

7 Deepak, K. J., & Pandey, M. (2012). Analysis of Traffic Congestion and Its Control Measures in Urban Areas: A Case Study of Delhi. *International Journal of Engineering and Advanced Technology (IJEAT)*, 1(5), 401-408.

8 Mom, K. (2022, August 31). PM Breaks Ground on \$47M Flyover Job for Phnom Penh.

Retrieved from www.phnompenhpost.com/national/pm-breaks-ground-47m-flyover-job-phnom-penh

Moreover, it is crucial to consider the concept of “induced demand” and the subsequent rebound effect. Expanding road capacity through flyover construction can inadvertently trigger induced demand, a phenomenon wherein the increased capacity lures more drivers onto the road network. Paradoxically, this inflow of drivers can ultimately lead to a resurgence of congestion, reverting to previous levels or even worsening them.⁹ This underscores the necessity of adopting a comprehensive approach to address traffic congestion, encompassing sustainable transportation solutions rather than relying solely on expanding road capacity.

In short, while flyovers represent a valuable tool in mitigating traffic congestion, their development and operation should be approached with a thorough understanding of their financial implications and the potential for induced demand. Such insights emphasize the importance of integrating sustainable transportation solutions into the broader strategy for addressing traffic congestion, ensuring a more balanced and practical approach to urban mobility challenges.

Congestion Pricing Program to Reduce Induced Demands

The Congestion Pricing Program is a strategy that involves charging a fee for driving in congested areas or during peak hours. It has demonstrated several benefits in addressing traffic congestion. This fundamental concept has been implemented by London since 2003, and it has recently celebrated 20 years of success in reducing both congestion by 30 percent and bus travel in central London by 33 percent.¹⁰ In the United States, the first-ever congestion pricing program has discouraged jams in Midtown Manhattan.¹¹ Introducing congestion pricing may pose challenges for developing nations such as Cambodia. Still, this strategy can prove beneficial with careful research, in-depth analysis, and gradual implementation, starting with a limited section at a time. The reason why the Congestion Pricing Program works in London is that they have one of the best Public Transportation Systems in the world for their citizens as a substitute. Cities such as Singapore, London, Stockholm, Milan, and Gothenburg have been the prime examples when mentioning congestion pricing. The program, however, can take decades to develop; New York City has been studying this program since 2008¹² and is set to implement the program in 2024.¹³

Furthermore, we must anticipate that during the initial phase of implementing this model, there may be some public resistance due to the necessary adjustment period. Predictably, we can expect feedback such as Pricing, Insufficient Knowledge of the Electronic Toll Collection (ETC), and Congestion on nearby roads. Hence, before implementing charges on the public for driving, it’s essential to ensure that there are viable walking alternatives available to them. The Congestion Pricing Program, by itself, is insufficient; the development of an effective public transportation system and pedestrian sidewalk must complement it.

9 Douglass B. L, Jr. (n.d.). Concept of Induced Demand. Induced Traffic and Induced Demand. Retrieved from https://nac-to.org/docs/usdg/induced_traffic_and_induced_demand_lee.pdf

10 Intelligent Transport. (2023, February 17). London’s Congestion Charge celebrates 20 years of success. Retrieved from www.intelligenttransport.com/transport-news/143883/londons-congestion-charge-celebrates-20-years-of-success/

11 Ley, A. (2023, June 29). How Might Congestion Pricing Actually Work in New York? The New York Times. Retrieved from www.nytimes.com/2023/06/28/nyregion/congestion-pricing-nyc.html

12 Colner, P. J., & D’Agostino, C. M. (2023, March). How Seven Cities Are Exploring Congestion Pricing Strategies. Institute of Transportation Studies. University of California. Retrieved from <https://doi.org/10.7922/G2Z60MDW>

13 Brosnan, E. (2023, October 2). What you need to know about NYC congestion pricing. NY1. Retrieved from ny1.com/ny/manhattan/transit/2023/10/02/what-to-know-about-congestion-pricing-in-new-york-city

Policy Recommendations

Urban designing is no cookie-cutting matter. What works for other cities might not work for ours, so the government should invest in research and development for urban planning, mainly focusing on *“integrated urban planning.”* An integrated approach to urban planning is a modern planning approach where cities collaboratively work across agencies, sectors, and even jurisdictions to tackle key planning challenges.¹⁴ Any of the following suggested program policies might solve a problem. Regardless, to build a sustainable city, all programs and policies must complement one another,

- **Promoting the use of public buses** not only reduces dependence on personal vehicles but also contributes to making the city more walkable. By improving bus services, strategically locating bus stops, and creating pedestrian-friendly infrastructure, residents can access efficient public transportation while minimizing the need for private vehicle usage, ultimately fostering a more walkable urban environment.
- **Allocating space for sidewalks and greenery** involves creating wide and safe pedestrian walkways free from the concerns of potential vehicular accidents or encroachment by mobile vendors and parked cars. These spacious and secure sidewalks not only promote a safer and more enjoyable walking experience but also contribute to a greener and more aesthetically pleasing urban landscape.
- **Implementing the congestion pricing program** in the capital of Phnom Penh aims to deter the use of private vehicles when entering specific areas. By imposing charges on cars for accessing congested zones, this initiative incentivizes individuals to explore alternative transportation options, such as public buses or walking, particularly for short-distance trips within the city. This not only eases traffic congestion but also aligns with efforts to create a more sustainable and walkable urban environment, reducing the reliance on private vehicles for daily commuting while improving the overall quality of urban life.

By adopting and further researching these three comprehensive approaches, the government can effectively address traffic congestion. Congesting can discourage people from driving, and the revenue generated can be reinvested to improve public transportation. This enhancement of public transportation will, in turn, transform the city into a more walkable environment.

Conclusion

The Royal Government of Cambodia must adopt a holistic approach when addressing traffic congestion instead of focusing solely on solving bottlenecks at specific spots. While flyovers or road expansions can provide temporary relief, they must be more comprehensive and long-term traffic solutions. As mentioned in the Pentagon Strategy–Phase I, one of the visions for Cambodia in the next 25 years, Cambodia shall be “a country that enjoys harmony, resilience, and inclusivity of physical and natural environment, and has a good balance between development

14 The Key Elements for Integrated Urban Planning. (n.d.). The Hague Academy for Local Governance. Retrieved from <https://thehagueacademy.com/news/the-building-blocks-for-successful-urban-development-projects/>

and environmental conservation.”¹⁵ The citizens of Cambodia shall enjoy unrestricted pedestrian mobility, maintain a solid connection to their natural environment, and avoid the daily inconvenience of traffic congestion during their workdays.

¹⁵ Pentagonal Strategy–Phase I. (2023, August). The Royal Government of the Seventh Legislature of the National Assembly.



Houses in Phnom Penh City
Photo: Diego Fiore/Getty Images

CHAPTER 2

Addressing The Housing Affordability Issue for Young Cambodians in Phnom Penh

Song Lauren

Executive Summary

- In Phnom Penh, the young generation, as first-time entrants into property markets, struggle to secure homeownership and end up in the rental sector. This policy brief intends to address the issue by identifying the factors influencing the housing affordability issue in Phnom Penh, looking beyond house prices and introducing other associated elements that serve as roadblocks to home-buying.
- The study has found that measurements of the housing affordability problem differ depending on the context of a society. Nonetheless, in the context of Cambodia, the affordability of income, purchase, and repayment is a measurement that best explains the current situation. Furthermore, financial management and unequal access to urban resources are significant determinants.
- Cambodia recognizes the situation and has taken steps to prevent the issue from escalating further through policy implementation. The most current is the National Policy on Incentives and the Establishment of a National Program for the Development of Affordable Housing, which intends to increase affordable housing in order to fulfill market demand.
- Given the complexities of the crisis, this paper provides some policy recommendations to supplement the national policy objectives: (1) provide incentives for the private sector; (2) develop a social housing scheme; (3) strengthen a more stringent mortgage market regulation; and (4) establish a housing and development board. These measures are believed to be very important instruments to promote housing accessibility and affordability in Phnom Penh today.

Introduction

As the population expands and rural-urban migration grows, the demand for houses in Phnom Penh rises. Nevertheless, affordable housing is in short supply. Not to mention homeownership, many citizens, particularly the young generation, from low and middle-class families even struggle to afford proper rent, mainly due to the gap in the house price-to-income ratio. For instance, in 2014, just 10 percent of the population could afford a house of 36 to 48 square meters in Phnom Penh, with a price range of USD 50,000 to USD 80,000.¹ And it took a person approximately 33 to 53 years of working to ultimately purchase a house given the average salary of USD 121.25 per month, based on the report of Cambodia Socio-Economic Survey (CSES) 2014.²

In 2021, the average monthly disposable income for households in Phnom Penh was USD 813, a significant increase from 2014.³ However, given the changes in the country's socioeconomic conditions, where the economy expands greatly and the rate of inflation increases, consumption by households increases as well. Meanwhile, the average house price in Phnom Penh continues to

1 Policy on Incentive and Establishment of National Program for Development of Affordable Housing (2017),1.

2 Cambodia Socio-Economic Survey 2014, October 2015, <https://www.nis.gov.kh/nis/CSES/Final%20Report%20CSES%202014.pdf>.

3 Cambodia Socio-Economic Survey 2021 - nis.gov.kh, December 2022, https://nis.gov.kh/nis/CSES/Final%20Report%20of%20Cambodia%20Socio-Economic%20Survey%202021_EN.pdf.

escalate dramatically. According to the National Bank of Cambodia (NBC), the average price rose to USD 114,164 in 2022, with inflation reaching 8.8 percent (up from 3.4 percent in 2021).⁴ And it shows no signs of slowing down anytime soon.

This is where the challenge arises for the young adults, first-time homebuyers who wish to reside in Cambodia’s capital city, as they are living in the context of economic hardship, low salaries, and inflated housing prices. Housing affordability has developed into an ‘intergenerational issue’ in which house prices increase from one generation to another. Therefore, this paper explores the obstacles to the pursuit of homeownership that the young generation has currently faced. It also addresses national policy initiatives to solve the housing affordability problem and suggests potential actions to further effectively lessen the financial burden for young adults.

Research Overview

Housing affordability is linked to different socioeconomic concerns, including poverty, income inequality, standard of living, and many more. Because there are a variety of variables circling the housing affordability problem, the measures of housing affordability are predominantly about (1) Income Affordability; (2) Repayment Affordability; and (3) Purchase Affordability.⁵ Using these measures, it helps us gain further insight into the issue and propose a direct solution.

In Phnom Penh, although there is a high proportion of young employment, their incomes cannot keep up with the city’s quickly growing housing costs, which leads to a gap in the ratio of cost of living to income. According to CSES 2021, the average wage is 1,881,000 riels, which equals USD 470,25 per month and USD 5,643 per year.⁶ As a result, if the average home price is USD 100,000, the ratio is 17.7 years of earnings. Household total income, on the other hand, declined by nearly 13 per cent compared to 2019-20, illustrated by the National Institute of Statistics of the Ministry of Planning.⁷

Table 1 Income composition, average per month, 2015 – 2021. In thousand riels and percent

| Source of Income | CSES 2015 | CSES 2016 | CSES 2017 | CSES 2019/20 | CSES 2021 |
|--------------------------|--------------|--------------|--------------|-----------------|--------------|
| Values in Thousand Riels | | | | | |
| Phnom Penh | | | | | |
| Primary Income | 2,869 | 2,827 | 2,788 | 3,530 | 3,101 |
| Wage and Salary | 1,736 | 1,738 | 1,831 | 2,127 | 1,881 |
| Self-employment Income | 1,110 | 1,078 | 949 | 1,401 | 1,206 |

4 “Macroeconomic and Banking Sector Development in 2022 and Outlook for 2023,” National Bank of Cambodia, January 6, 2023, <https://www.nbc.gov.kh/english/>.

5 Emilie Traub and David Sweeting, Affordable Housing in Phnom Penh - Ensuring decent housing opportunities for all, October 2020, https://planete-eed.org/wp-content/uploads/2022/02/Affordable-housing-in-Phnom-Penh-Ensuring-decent-housing-opportunities-for-all_compressed.pdf, 29.

6 Cambodia Socio-Economic Survey 2021 - nis.gov.kh, December 2022, https://nis.gov.kh/nis/CSES/Final%20Report%20of%20Cambodia%20Socio-Economic%20Survey%202021_EN.pdf, 114.

7 Ibid.

| | | | | | |
|--------------------------|-------|-------|-------|-------|-------|
| Agriculture | 7 | 6 | 7 | 30 | 7 |
| Non Agriculture | 738 | 749 | 611 | 1,067 | 949 |
| Owner occupied house | 365 | 322 | 331 | 304 | 251 |
| Property income (**) | 23 | 12 | 8 | 2 | 14 |
| Total transfers received | 69 | 80 | 65 | 205 | 163 |
| Total Income | 2,938 | 2,907 | 2,853 | 3,735 | 3,263 |
| Total transfers paid (*) | 16 | 16 | 20 | 22 | 12 |
| Disposable Income | 2,922 | 2,891 | 2,833 | 3,714 | 3,252 |

Source: CSES 2021

The decline in income at that time was partially a result of the COVID-19 pandemic, which made the companies lay off employees and cut down the salary to minimize the cost of operation. Since then, not to mention the low pay, employment in Phnom Penh has become immensely competitive for young people, particularly vulnerable groups in education and training, making them most cost-burdened.

Young people with a good educational background might have a better chance of landing a decent job, but it does not guarantee a chance for homeownership. Aside from house pricing, there are transaction costs to consider, such as the agent's commission, title search fees, appraisal fees, and government taxes, all of which are costly and serve as additional hurdles to homeownership. Hence, the cost of living in the city is high.

On another note, approaches to housing affordability in contemporary research have shifted from solely focusing on income and expenditures to investigating additional dimensional concepts, such as housing quality, inequities, and urban policy. The city is facing many challenges as a result of rapid urbanization, including unregulated building, traffic congestion, flooding, which influence the affordability of housing in metropolitan locations.⁸

Policy Critique

Cambodia is mindful of the issue and is working to address it mainly through the National Policy on Incentives and Establishment of National Programme for Development of Affordable Housing developed in 2017 as a complement to the 2014 National Housing Policy to provide low-to-middle income and vulnerable people with affordable and suitable houses. The first mechanism is “fiscal incentive measures, public investment, and regulations” aiming to stimulate private sector investment in affordable housing through tax breaks and state investments. The second approach is the formulation of a “national program for affordable housing development” to establish a long-term plan for affordable housing. These initiatives appear to be promising for resolving the problem, yet there are some limitations.

8 Phnom Penh Sustainable City Plan 2018-2030, November 2018, https://www.gggi.org/wp-content/uploads/2019/06/SUBSTAINABLE-CITY-REPORT_EN_FA3.pdf.

Firstly, the policy places too much reliance on the private sector for affordable house building, which is unsustainable regarding Phnom Penh's growing population. Likewise, the private sector plays a vital role in expanding affordable housing, and incentives have encouraged private enterprises to participate in the developments. However, based on the existing number of projects, the supply of affordable housing remains limited.

By 2030, the urban population is expected to reach 7.92 million, prompting the construction of an additional 50,000 urban houses in 15 years (2015-2030).⁹ Nonetheless, there are only five affordable housing projects that meet the criteria for the government's concessional packages, with only one project being in Phnom Penh: the Arakawa Residences in Teuk Thla, which intends for only 2,960 units.¹⁰ Meanwhile, other projects are developing on the outskirts of Phnom Penh, such as World Bridges Homes, which builds approximately 3,000 houses. This figure poses concerns about the long-term availability of suitable housing.

Secondly, the policy emphasizes providing subsidized loans to consumers while neglecting repayment affordability during a crisis. For example, the government intends to implement a nationwide program that would provide poor and middle-income people with a low-interest loan to help them afford a shelter. Undoubtedly, loans allow people to buy a property quickly, but repayment affordability is the key consideration. With a steady economy, homeowners should be able to repay their debts; nevertheless, if an unanticipated event occurs such as a pandemic, it will eventually have an impact on household finances.

Lastly, the policy fails to address "Housing Plus" Affordability, which includes access to electricity and clean water for people living on the outskirts. Most of the residences in the USD 15,000 to USD 30,000 price range are located 20 kilometers from the main city.¹¹ In this case, access to resources is severely constrained, necessitating government interventions. Furthermore, the distance from the city's center results in increased transportation costs. Therefore, young people have difficulties since they must go to the central city to seek education and professions.

Policy Recommendations

Considering these deficiencies, some recommendations might complement and improve the development of affordable housing policy. Since this is a complicated issue that involves lack of access to affordable houses, real estate, mortgage regulations, as well as capacity development, each proposal will be made in light of these factors.

Initially, the government should ensure sufficient affordable houses on the market. It can be done in two approaches: (1) expand subsidies for private sectors and (2) develop a social housing scheme. With the demographic changes and expected increase in population, it is possible that the supply of affordable houses cannot meet the demand. Therefore, the Cambodian government must continue to stimulate the private sector through fiscal incentive measures, including tax incentives, to attract more investment in housing construction.

9 Sithika Sok, "Cambodia's Urban Population to Reach 7.92M by 2030," *Khmer Times*, August 18, 2022, <https://www.khmertimeskh.com/501133955/cambodias-urban-population-to-reach-7-92m-by-2030/>.

10 Pisei Hin, "Low-Cost Homes 'Ready 2022,'" *Low-cost homes "ready 2022" | Phnom Penh Post*, October 20, 2021, <https://www.phnompenhpost.com/post-property/low-cost-homes-ready-2022>.

11 Bunthoeun Chhut, "Affordable Housing Projects on Track," *Khmer Times*, January 14, 2020, <https://www.khmer-timeskh.com/679514/affordable-housing-projects-on-track/>.

Moreover, it is suggested that Cambodia develop a Social Housing Scheme, to fulfill long-term demand when the private sector is unable to provide the required level of affordable housing for all those in need. To date, Cambodia does not have a social housing plan, and there is only one experiment in land sharing and social housing in Phnom Penh called Borei Keila.

The Social Housing Scheme could not only address homeownership but also give affordable rental prices compared to enterprise-owned property rent. The state could build houses for rent at a cheap cost so that young people who cannot afford a house can at least afford to pay rent. However, the government is expected to engage with other ministries, like the Ministry of Economy and Finance, private sectors, and non-governmental organizations to satisfy expenditures, architectural, and basic living standards. Countries and cities like Singapore have served as successful examples of significant public investment in housing. Through the government's acquisition of property and investment, construction prices for residential and business premises were effectively kept at a reasonable level.¹²

Furthermore, the Cambodian government should strengthen a more stringent mortgage market regulation to ensure the purchase and repayment affordability for first-time homebuyers in Phnom Penh by setting the maximum allowable loan to income and providing loan to Cambodians with low interest rate.

In spite of the fact that the bank offers lower interest rates, borrowing money through private lenders and property developers is more common in Cambodian society today. For instance, a household must pay 10 per cent to 20 percent of the interest rates with property developers each year, but the bank simply levies 6 per cent to 10 percent of the interest rate each year.¹³ Still, households prefer borrowing from developers over banks because developers' loans do not require extensive computation, complicated administrations, and evaluation.

To maintain optimal interest rates and a secure debt-to-income ratio, the Cambodian government should strengthen mortgage and rigorously oversee private banks and developers in order to preserve optimal interest rates and a safe debt-to-income ratio. Perhaps set strict guidelines and a standard to determine the maximum amount a family can borrow, and encourage borrowers and lenders to conduct risk assessments properly before lending or borrowing money. Not only does a household's debt fail to solve housing affordability, but it may also hinder the growth of the country's economy.

In addition to the loans, making a down payment on a house is one of the more difficult processes for buyers, especially first-time buyers because it is a required lump sum payment paid before the purchase of a property. The government might consider creating a package where it is utilized to aid purchasers with down payment in order to lessen the financial burden and promote housing affordability.

For example, MyDeposit Program, a program that assists the middle-income group in purchasing their first home through private housing developments that are not subsidized, was developed

12 "Land Acquisition Act Is Enforced," Land Acquisition Act is enforced - Singapore history, accessed August 22, 2023, <https://eresources.nlb.gov.sg/history/events/>.

13 Chan Sok, "Cambodia's Growing Home Loan Problem," Khmer Times - Insight into Cambodia, January 19, 2020, <https://www.khmertimeskh.com/680977/problems-on-the-home-front/>.

in Malaysia in 2016 and has proven to be effective. 127 housing projects totaling 3,105 homes received a total of RM86.386 million in financing, according to the Ministry of Local Government Development or KPKT.¹⁴ Although the government has already halted the program, the ministry is aware that this had a significant impact on first-time homebuyer, especially the young adults.

In this scenario, it will be beneficial if the Cambodian government invests in an aid package for down payments of first-time homebuyers under specific terms and conditions. This might encourage young people to purchase a house and reduce the administrative expenses associated with loan schemes. Since the measure might have an influence on the government's overall budget, careful planning and investigation are needed before proceeding.

Last but not least, the government should establish a board of experts and professionals to work on housing and development in Cambodia. In fact, the Ministry of Land Management, Urban Planning, and Construction is in charge of overseeing construction projects, urban planning, and land usage. Nevertheless, to ensure a regulated and appropriate living environment, such as a solid building foundation, complete access to energy, clean water, etc., it is recommended that a different board be formed to solely and closely monitor the private sector's compliance with affordable housing projects.

The aforementioned policy recommendations may have an impact on the government's national budget. Thus, in order to assure the success of policy execution, the government must study, put in effort, and act in all aspects of housing affordability, not just one. For example, providing a framework for effective and efficient financial regulations such as tax incentives and mortgage interest rates, public spending on financial assistance to homebuyers and homeowners, and enforcing other social protection programs. The Ministry of Economy and Finance, the Ministry of Land Management and Urban Planning, and the National Bank of Cambodia are significant players in implementing this act.

Conclusion

Housing affordability is a concern to many Cambodian people, particularly Millennials and Generation Z, since property prices continue to rise while income remains low. In today's context, first-time entrants into the housing market are unable to access homeownership and end up in the rental sector, where they are likely to remain for an extended period. How long will it take them to be financially able to go from renting to purchasing a home? Will there be available properties in the city for them once the finance is secured? These are the issues confronting the young generation in terms of homeownership. The launch of the 2017 Affordable Housing Policy resulted in more affordable homes, but it still needs more development to address the existing situation. At first look, it appears to be a problem with limited housing and rising housing costs, but at its core, it is also an emergency of urbanization, infrastructure, finances, and spatial inequality that demands an immediate and comprehensive solution.

14 PropertyGuru, KPKT eyes to reintroduce mydeposit scheme | market news | propertyguru ..., December 21, 2021, <https://www.propertyguru.com.my/property-news/2021/12/202898/kpkt-eyes-to-reintroduce-mydeposit-scheme>.



Photo: Justino Borralho/Getty Images



Flooding in Phnom Penh city
Photo: shutterstock

CHAPTER 3

Improving Flood Protection and Drainage System in Phnom Penh

Him Sinoun

Executive Summary

- Cambodia has experienced rapid growth in urban development since the early 2000s, posing the fast-growing rural-urban migration to the capital city. Despite the second fastest urban population growth in Asia, Phnom Penh city has gradually faced various problems, one of which is flash flooding, stamping from the flow of stormwater after heavy rains.
- The factors resulting in flash flooding consist of continuous filling in the wetlands and the lakes that are the natural drainage system, increasing solid waste and low supplies of drainage systems, and the low technical standard of drainage system building.
- To address the flooding problems, the Royal Government of Cambodia has implemented a variety of policies, such as the Phnom Penh Master Plan 2035, Phnom Penh Citywide Inclusive Sanitation Strategy, Smart and Sustainable City Strategic Roadmap 2020-2035, and collaboration between Cambodia and Japan on JICA's Drainage and Sewage Improvement Project in Phnom Penh Metropolitan Area to facilitate and manage the flood.
- However, the policies need to be enhanced and added as they seem insufficient for settlement of the urban population. Therefore, this paper further examines the policies that have been implemented by the government for flash floods. The paper also suggests policy recommendations for flood protection through waste management and sponge city study cases.

Introduction

Urbanization has contributed considerably to economic growth and social development in Cambodia. A rising rural-urban migration is on the rise with the rapid growth of the urban population from 1.1 million in 2000 to 2.3 million in 2023.¹ Notably, Phnom Penh city is a home for 20 per cent of the country's population and creates 50 percent of its GDP. By 2030, it is anticipated that 44 percent of Cambodia's total population will settle in urban areas, amounting to 7.92 million people.² However, the lively urbanization stirs up many problems, one of which is flash floods. The rapid development of hard infrastructures in urban areas requires the filling of the lakes and wetlands, limiting dependence on the natural drainage system. The study of urban wetlands suggests that Boeung Tumpun and Boeung Trabek are the two important natural drainage systems that receive the stormwater flows in Phnom Penh, hold the water to Choeng Ek, and thus reduce a high degree of flush flooding.³ The ecosystem functions of Choeng Ek have, nevertheless, deteriorated over time, affecting the outcomes of managing the floods. Phnom Penh has become more susceptible to the effects of flooding and has incurred economic losses. In 2019, 16 lakes were filled for lucrative building constructions, further decreasing the natural drainage systems.⁴ Moreover, it is visible that the poor waste management in Phnom

1 World Population Review, "Phnom Penh Population 2023".

2 Sithika Sok, 2022. "Cambodia's urban population to reach 7.92M by 2030".

3 Lyna Khan, 2019. An economic assessment of urban flooding in Cambodia: A case study of Phnom Penh. *Cambodia Journal of Basic and Applied Research (CJBAR)*, 1:1, 125 – 149.

4 Sahmakum Teang Tnaut, 2019. "The Last Lake".

Penh has caused a sewage and drainage system filled with floating rubbish to block stormwater flows. To tackle this problem, the Department of Public Works and Transport cleans 10,000 tonnes of rubbish annually to ease the stormwater flows.⁵

Flash Floods in Phnom Penh

During 2011 and 2013, Phnom Penh suffered devastating floods as a consequence of monsoon rains, typhoons, and the high-water level in the Mekong River, causing 17,000 families to evacuate from their homes in 2011 and more than 3,500 families in 2013.⁶ The subsequent impact of flash floods was in 2021, in which more than 3,000 families in Khan Dangkor and Khan Kambol were affected by the flood coming from Stung Prek Tnaot.⁷ Concurrently, the heaviest rainfall in the last three years was on the evening of July 3 2023, up to 153 mm, measured at Boeung Trabek station. This caused heavy flooding in the central areas of Khan Sen Sok, Meanchey, Chbar Ampov, and Por Sen Chey, increasing flooding and hindering daily activities, employment, and social infrastructure.⁸

Policy Critique

Since 1998, the Royal Government of Cambodia (RGC) has been working with JICA to study and construct drainage systems and technologies, including retention basins, pumping stations, sluiceways, and drainage channels, to mitigate stormwater flows after heavy rains. The project for flood protection and drainage improvement in Phnom Penh consists of four phases. The latest phase, phase IV, was launched in April 2022 with a total budget of USD30 million. This phase has constructed underground sewerage tanks, 8.2 km of sewerage network in Khan Toul Kork, 4.4 km sewerage network in Khan Daun Penh, and pumping stations. However, only four communes - Charmka Mon, Daun Penh, Prampi Makara, and Toul Kork - have received the benefit of this drainage system so far. Additionally, the Phnom Penh Master Plan 2035 includes the development of canals and other constructions. However, multiple buildings of drainage channels to ease the flow of stormwater do not work if there are no consistent regulations on technical standards of flood prevention infrastructure. Furthermore, mismanagement of dump waste in the sewerage and drainage system has affected the flow of water and taken longer for stormwater to recede.

Policy Recommendations

To ensure sustainable urban development alongside unpredictable rainfalls and flash floods, two key operative policies for improvement of flood protection and drainage systems in Phnom Penh.

Sponge City: It is a concept of sustainability that builds the urban city with efficient flooding management and reuses the rainwater for various purposes.⁹ It has been adopted by urban cities in China to construct green infrastructure, including impermeable pavements, wetlands, infiltration trenches, bioretention basins, rain gardens, as well as green roofs. These environmentally friendly

5 Long Kimmarita, 2019. "PP gov't clean capital's canal".

6 The World Bank, 2017. "Urban Development in Phnom Penh".

7 Khmer Times, 2021. "More than 3,000 families in Dangkor and Kambol districts were affected by the Stung Prek Tnaot flood".

8 Khmer Times, 2023. "In Pictures: Heavy rainfall causes severe flooding in Phnom Penh".

9 Harrisberg Kim, 2022. "What are 'sponge cities' and how can they prevent floods?". RACE TO RESILIENT.

techniques can help mitigate flooding in urban catchments while enhancing water quality and storage capacity.

Addressing waste management: It is crucial in preventing flash floods in urban areas by keeping the drainage system clear of debris. In 2019, the Cambodian government included Phnom Penh, Battambang, and Siem Reap in the ASEAN Smart Cities Network (ASCN) to promote sustainable urban development. One of the key policies that achieve this is waste management. The Phnom Penh Smart and Sustainable City initiative aims to educate urban residents on proper waste disposal and provide a clear schedule for waste collection. By improving the implementation capacity of existing policies, cities can facilitate urbanization while keeping the environment clean and manageable. Proper waste management can help reduce the risk of flooding in metropolitan areas.

Conclusion

Effective sewerage and drainage systems are essential for improving the quality of life for people, particularly in light of climate change, heavy rainfall, and slow stormwater receding. To enhance flood protection, it is crucial to improve existing policies and introduce more practical approaches. Given Phnom Penh's anticipated lack of green spaces, constructing green infrastructure using existing plans can help alleviate the impact of flash floods. It is also important to note that both the government and residents in the city have equally significant roles to play in addressing this flooding issue.



SECTION 2

ECONOMY AND DIGITALIZATION



CHAPTER 4

Cambodia Toward An Upper-Middle Income Country by 2030: What's Next After Mitigate Contemporary Economic Instability

Re Yunan

Executive Summary

- With notable economic progress, Cambodia has adopted the Economic Diplomacy Strategy (EDS) 2021-2023 to assist the Kingdom in achieving an upper-middle income status by 2030 and high-income status by 2050. In the current global economic slowdown, the debate on what can be done to avoid economic stagnation and instability remains trendy.
- Cambodia's new government in the 7th Legislature of the National Assembly sets out short- and long-term economic policies to address the current global economic downturn and turn it into opportunities to achieve economic resilience and improve livelihoods of people.
- This paper mainly discusses Cambodia's economic situation and what the new government needs to do to roll out the EDS 2024-2028 in alignment with the Rectangular Strategy Phase IV (2018) as well as particularly with the current Pentagonal Strategy Phase I.

Introduction

Cambodia is located on the Indochinese peninsula, bordering Lao PDR in the northeast, Vietnam in the east and southeast, and Thailand in the west and northwest. As a country rich in natural resources, Cambodia is a vast plain, accounting for more than three quarters of the country. Since 1999, the Royal Government of Cambodia (RGC) has adopted a liberal economy, promoted economic privatization and trade liberalization, as well as prioritized agriculture, processing industry, tourism and infrastructure. As a consequence, the Kingdom has obtained a lower-middle income status in 2015, and it aims to graduate from Least Developed Countries (LDC) by 2027 and attain an upper middle-income status by 2030.¹

With an annual growth rate of 7.7 percent from 1998 to 2019 or even higher from 2012 to 2018, Cambodia has become one of the fastest-growing economies in the world.² At present, Cambodia is facing economic setbacks, and its Small and Medium Enterprises (SMEs) are at risk of being shut down. This problem has been derived from the complex geopolitical tensions among great powers that have been disrupting international trade, global supply chains, efficiency gains from globalization, and the post-COVID19 recovery. These geopolitical tensions and economic slowdown have diminished market confidence, reduced investment and adversely affected growth prospects in the region.

This problem also sparks doubts of former Prime Minister Hun Sen about Cambodia's aim for upper-middle income and high-income goals during his keynote address at the 14th Cambodia Outlook Conference. Cambodia has been challenged mainly by the impact of COVID-19, Russia's invasion of Ukraine, and economic sanctions and political pressures imposed by the Western

1 Chea Vanyuth, "Cambodia to become a higher-middle-income country by 2030", Khmer Times, June 6, 2023. (accessible at: <https://www.khmertimeskh.com/501302664/cambodia-to-become-higher-middle-income-country-by-2030/>)

2 "GDP growth (annual %) - Cambodia", The World Bank, 2023. (accessible at: <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=KH>)

countries³. Noticeably, the government has implemented a number of measures to successfully combat COVID-19 and fully reopened the economic activities since 01 November 2021. Cambodia's GDP increased by 3 percent in 2021, and it is anticipated to grow by 5.5 percent in 2023 and 6 percent in 2024. The path to achieving two long-term goals has been challenged by the negative impact of the global economy.⁴

In this paper, the above-mentioned context has been debated as Cambodia remains confident to leave the LDC status and reach its goal of achieving the upper-middle income status. The discussion about Cambodia's economic diplomacy is important as the RGC plans to unlock USD 600 million of national savings to offset the estimated USD 412 million national budget deficit by the end of 2023, which is almost half of 2020 and 2021 government's spending to cover the impact of the COVID-19 crisis, on key sectors.⁵ The paper aims to contribute assessments of the current economic instability and the country's capability to ensure revenue generation to tackle the economic impact on the people's livelihood through economic tools built on the Economic Diplomacy Strategy 2021-2023.⁶

Contemporary Economic Instability

For decades, Cambodia has been pursuing its international dependency upon the import of basic necessities, technology, and hedging strategy for national security shelter. As the world moves toward globalization in the post-Cold War era, Cambodia has enjoyed regional stability, peace and national reconciliation, technologies, trade liberalization and economic growth. Despite being a small state with inherent vulnerability, Cambodia has many rooms to grow, integrating itself into the regional and global community and revitalizing its active roles in regional and international affairs.

The Economic Diplomacy Strategy (EDS) 2021-2023 of the Ministry of Foreign Affairs and International Cooperation outlines the possible solutions to combat the several impact of COVID-19 on the country's economy and vision to attain the upper-middle income and high-income statuses. The government introduced thorough assessments and practical measures to assist Cambodia's economy in maintaining and promoting businesses, international trade, foreign direct investments (FDIs), tourism, national economic competitiveness, and social protection to the poor and the vulnerable. To attract FDIs to Cambodia, the new investment law aims to establish a favourable and an enabling business environment in the country. This includes the drafting of law on the Public-Private Partnership (PPP), a government credit guarantee scheme, an online business registration, and a number of other digital economy initiatives.⁷ The government's effort in harnessing cultural and economic diplomacy through the signing of the Cambodia-China Free Trade Agreement (CCFTA) in October 2020, the Regional Comprehensive Economic Partnership (RCEP) in November 2020, the conclusion of the negotiation of the Cambodia-Republic of Korea Free Trade Agreement (CKFTA), and others.

3 Kang Sothear, "PM doubts upper-middle income, high-income goals", Khmer Times, October 10, 2022. (accessible at: <https://www.khmertimeskh.com/501165237/pm-doubts-upper-middle-income-high-income-goals/>)

4 Ibid., 2.

5 Ou Sokmean, "Government to release \$600 million to balance national budget", Cambodianess, August 8, 2023. (accessible at: <https://cambodianess.com/article/government-to-release-600-to-balance-national-budget>)

6 "Economic Diplomacy Strategy, 2021-2023", Ministry of Foreign Affairs and International Cooperation, January 13, 2021. (accessible at: ([https://www.mfaic.gov.kh/files/uploads/S2QKPXXAOTPW/\[En\]_Economic_Diplomacy_Strategy.pdf](https://www.mfaic.gov.kh/files/uploads/S2QKPXXAOTPW/[En]_Economic_Diplomacy_Strategy.pdf)))

7 Ibid., 6.

As a matter of fact, it is a priority for the government to nurture the Kingdom's economic growth, and the recent achievement of a trade agreement with the United Arab Emirates (UAE) on Comprehensive Economic Partnership (CAM-UAE CEPA) outlines three phases of implementing the EDS. This opens more opportunities for Cambodia's agro-processing products, local services, technology transfer, investment, and e-commerce.⁸ However, income inequality – a multidimensional issue in the country – centred around the lack of opportunities, capabilities, good governance, and social exclusion that require government close attention to not stagnate the growth in the upcoming years.

Contemporary economic instability has been influenced by various and intertwined factors. The COVID19 pandemic has had a significant impact on the country's economic sectors, such as tourism, manufacturing, and exports. Given this impact, some Cambodians could mostly survive with their traditional businesses, known for affordable prices and suitable services, at tourism sites. Recently, awareness has shown that tourist destinations in Cambodia are heavily dependent on the visits from locals and internationally to maintain the momentum. In 2019, there were roughly 11.3 million domestic and 6.61 million international tourists. In 2022, Cambodia recorded 2.2 million international visitors, 11 percent increase from 2021.⁹ Over decades, it shows tourism is one of the key pillars of Cambodia's economy. According to the Ministry of Tourism's statistics report in February 2022, there was a sharp drop in the country's tourism from 2020 to 2021 as shown in the graph below.¹⁰

Figure 1: Number of International Tourist Arrival to Cambodia 2010-2020



Source: *Tourism Statistic Report February 2022* • Created by Open Development Cambodia
License: CC BY-SA

Source: *Open Development Cambodia*

8 "Cambodia, UAE conclude talks on trade pact", Phnom Penh Post, March 18, 2023. (accessible at: <https://www.phnompenhpost.com/business/cambodia-uae-conclude-talks-trade-pact>)

9 Hin Pisei, "International visitors top 2.2M in 2022, lifting 2023 hopes", Phnom Penh Post, January 18, 2023. (accessible at: <https://www.phnompenhpost.com/business/international-visitors-top-22m-2022-lifting-2023-hopes>)

10 "Tourism", OpenDevelopment Cambodia, February 2, 2023. (accessible at: <https://opendevelopmentcambodia.net/topics/tourism/#ref-170221-6>)

Cambodia's manufacturing sector gave a remarkable hit in the first half of 2022 with USD 7.57 billion on the output. The sector amounts to USD 5.26 billion worth of exported products, while USD 2.31 billion were sold on the domestic market. This sector accounts for 39 percent of the country's GDP in 2022.¹¹ With the EDS 2021-2023, the second phase of the EDS implementation emphasises mainly on strengthening public-private partnerships and multi-stakeholder dialogues in order to promote Cambodia's economic interest. This focuses on the close coordination of production and capability to export to partnered countries. Garment exportation alone accounts for 90 percent of total export values; however, it has slightly been impacted by the withdrawal of "Everything But Arms" (EBA) since 2020. Cambodia's exports to the EU markets amounts to USD 1.053 billion annually.

In this connection, the current economic situation has impacted the livelihood of the citizens. According to RFI Khmer, a great number of Cambodians are suffering from the debt with microfinance institutions (MFIs) as their low income has been exacerbated by the ongoing global financial slowdown.¹² To address these economic challenges, Cambodia's new Prime Minister Hun Manet sets out new economic recovery policies with six short derives from five long-term policies as priority measures. Those covers healthcare service accessibility, skill training for vulnerable families, social security programs, formalized businesses in Cambodia, agricultural promotion, as well as capacity building of agricultural experts. This links to the EDS 2021-2023 as both MEF and MFAIC have been implemented to promote economic integration and seek more opportunities to export more agricultural products to other countries. In my opinion, this is just the initial step to strengthen our country's domestic agro-industrial capacity. Building on the Rectangular Strategy-Phase IV.¹³ Pentagonal Strategy-Phase I will further focus on energy, agriculture, skill development, and education.¹⁴

Policy Efforts and Constraints

The EDS 2021-2023 was, indeed, the first step that the RGC solidified that the kingdom is in need of geo-economic focus to further support close international partnerships to ensure long-term economic growth, resilience, and sustainable recovery. This explains the domino effect of how the EDS can shape different dimensions in society to mitigate economic instability. With the achievements mentioned above, some constraints were seen not to align well with other frameworks.

Firstly, lacking internal capacity to process raw products. One of the objectives of the EDS 2021-2023 is to promote international trade, focusing primarily on the diversification of exports. With the dominant sectors for export in Cambodia such as textiles, garments, and agriculture, it is important to focus that agro-processing products are still not sufficiently exported. It is not even dominance toward local demand.

11 "Cambodia's manufacturing output hits 7.57 billion", Khmer Times, August 12, 2022. (accessible at: <https://www.khmertimeskh.com/501130948/cambodias-manufacturing-output-hits-7-57-billion/>)

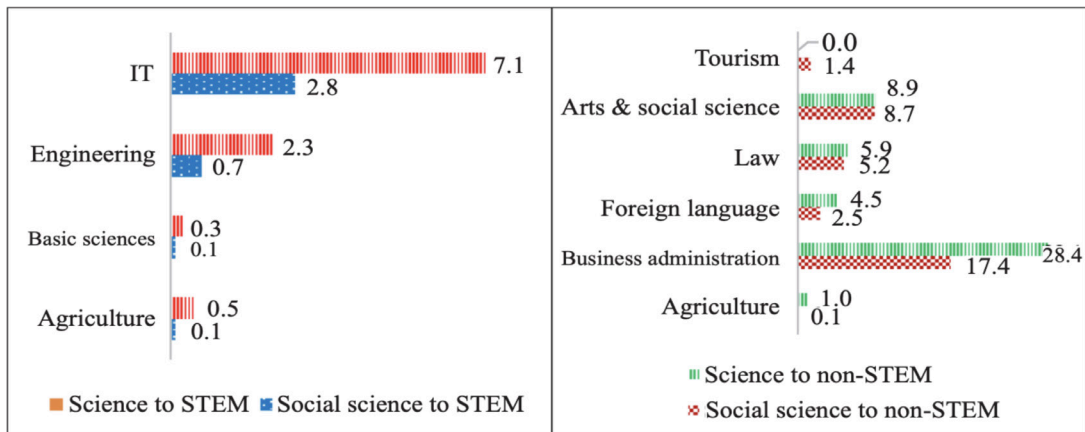
12 "លោក ហ៊ុន ម៉ាណែត ដាក់ចេញកម្មវិធីនយោបាយស្តារសេដ្ឋកិច្ចជាអាទិភាព", អេង គីមហុង, August 22, 2023. (accessible at: <https://www.rfi.fr/km/កម្ពុជា/20230822-លោក-ហ៊ុន-ម៉ាណែត-ដាក់-ចេញ-កម្មវិធី-នយោបាយ-ស្តារ-សេដ្ឋកិច្ច-ជា-អាទិភាព>)

13 "Rectangular Strategy Phase IV", Royal Government of Cambodia, September 2018. (accessible at: http://cdc-crdb.gov.kh/en/strategy/documents/Rectangular_Strategy_Phase_IV_Eng.pdf)

14 Kang Sothear, "How Pentagon Strategy will help develop Cambodia", Khmer Times, March 20, 2023. (accessible at: <https://www.khmertimeskh.com/501257992/how-pentagon-strategy-will-help-develop-cambodia/>)

Mismatch skills also largely contribute to the incapacity for agro-cultural processing efforts. According to Cambodia Development Resource Institute (CDRI), students' choices of major choosing and switching are prone to social science majors.¹⁵ Noticeably, sectors like business, law, and social science are facing surplus in human resources which create an unnecessary competitive employment market. Recognizing the importance of Industrial 4.0, digital literacy also needed to be actively promoted to bridge the digital divide between urban and rurals. This digital divide can escalate to mismatch development in Cambodia if the gap is still not narrowing.

Figure 2: Upper Secondary School Tracking and Major Choices in Higher Education: To switch or not to switch



Source: Cambodia Development Resource Institute (CDRI)

Secondly, insufficient energy supply for industries to maximize production efforts. Cambodia has undergone rapid economic development in recent decades. However, the lack of infrastructure required for the energy sector to match the pace of development is still largely concerning. Energy security facilitates the country's socio-economic growth and sustainability. It is more than just electricity; it is a basic necessity and for industrial purposes as well. With the focus for more exports, industrialization requires much more than skilled labour but favourable infrastructure and natural resources. Cambodia's energy needs of power is about 2,100 megawatts per year for the country's power usage when the total production is about 4,200 megawatts which means the country's power production is currently in surplus.¹⁶ This energy production surplus does not make industrialization easier since the energy cost is one of the highest in the ASEAN region. The adoption of law and policy on development of the energy sector in 2020 was not given significant changes to sustain energy production to supply in the country. It serves the purpose of Electricity Access for Cambodian Villages by 2020 was a priority of the government in the fifth mandate in 2014. Supplying the demand with the reliance on imports for oil and gas is the only way to generate enough power that the country uses around 48,000 barrels of petroleum a day

15 Kao Sovansopha, Chea Phal, & Song Sopheap, "Upper Secondary School Tracking and Major Choices in Higher Education: To switch or not to switch", CDRI, March 30, 2022. (accessible at: <https://cdri.org.kh/publication/upper-secondary-school-tracking-and-major-choices-in-higher-education-to-switch-or-not-to-switch>)

16 Chea Vanyuth, "Energy supply sufficient for economic sectors, says minister", Khmer Times, November 17, 2022. (accessible at: <https://www.khmertimeskh.com/501186159/energy-supply-sufficient-for-economic-sectors-says-minister/>)

because it costs less.¹⁷ This did not give a favourable investment climate toward Cambodia and it is still a rising concern.

Thirdly, the lack of official promotional platforms to harness cultural diplomacy. Adding to the efforts of economic integration and liberalization of the RGC, the EDS also outlines the importance of cultural diplomacy to ameliorate livelihoods of the Cambodians. The term cultural diplomacy, regarded as “soft power,” has been prevalent.¹⁸ Harnessing cultural and historical resources is a means to gain international attention. The successful listings of the Preah Vihear temple in 2008 and Sambor Prey Kuk temple in 2017 on the World Heritage List have promoted Cambodia’s cultural and historical heritages. According to the EDS progress analysis in 2022, the Economic Diplomacy Coordinating Group (EDCG) of MFAIC highlighted significant achievements of publishing “The Taste of Angkor,” which received the Gourmand World Cookbook Awards 2022 in two categories, namely “Best Asian Cuisine Book” and “Heads of State/Food.”¹⁹ Thus, the promotion has been the effort of the government, but not the citizens because the promotions were made entirely by the government on major tourist sites and overlooking local uniqueness. Cambodia’s neighbouring countries like Thailand and Vietnam have utilized digital platforms monitored by the government officials to promote their cultures. The official monitoring plays a major role in mitigating misinformation and leveraging the national interest.

Policy Recommendations

In the phase of policy appraisal and formulation, the EDS 2021-2023 prepares for the EDS 2024-2028 to roll out more effective measures to address future issues in Cambodia that could stagnate 2030 and 2050 upper-middle income and high-income country plans. The geo-economic divide poses great disruption to the global economy mainly from the aftermath of COVID-19 pandemic, the ongoing Russia-Ukraine conflict and the Israel-Hamas War. However, it gives opportunities to Cambodia to harness its potential through this smart strategy. In mitigating contemporary economic instability, Cambodia shall revise the EDS 2024-2028 focusing on energy, education, and cultural diplomacy to further improve its economic growth.

First, promoting energy diplomacy for supporting the availability, reliability, and affordability of energy consumption. The energy cost in the Kingdom is the highest among its neighbours. The cost was quite consistent between 480 to 740 KHR equivalent to USD 0.12 to 0.18 per kWh compared to Thailand and Indonesia with 0.07 to 0.10 per kWh.²⁰ The Electricity Authority of Cambodia (EAC)’s proposed rates remain relatively higher which require active involvement of the RGC in finding different sources of energy to enhance favourable climate for foreign investment to the kingdom. This can contribute to improvement of the country’s investment climate and value-added product focus for exportations.

17 “Total petroleum consumption (by country)”, US Energy Information Administration, 2019. (accessible at: <https://www.eia.gov/international/data/world>)

18 Dr. Helen Jarvis, “The Kingdom of Wonder Regains its Place on the World’s Cultural Stage”, Asian Vision Institute, October 23, 2019. (accessible at: <https://www.asianvision.org/archives/publications/avi-perspective-issue-2019-no-11>)

19 Hom Phanet, “Workshop analyses progress of economic diplomacy strategy”, Phnom Penh Post, June 27, 2022. (accessible at: <https://www.phnompenhpost.com/business/workshop-analyses-progress-economic-diplomacy-strategy>)

20 May Kunmakara, “Electric rates static amid Covid shocks”, Phnom Penh Post, February 22, 2022. (accessible at: <https://www.phnompenhpost.com/business/electric-rates-static-amid-covid-shocks>)

Second, the RGC should further improve education quality and focus on industry-academia collaboration. Creating strong linkages between academia and industry can help align educational programs with market demands. Cambodia should encourage collaborations between universities and industries as well as international universities and industries as a program for students to gain practical experience through internships, cooperative education programs, and industry-oriented research projects. This collaboration will produce graduates who possess skills and knowledge required by the job market, driving economic growth. In addition, science, technology, engineering, and mathematics (STEM) programs have been successfully rolled out, capturing the vast interests of high school students. In addition to the program, vocational training and agricultural techniques sharing among experts and local farmers should be promoted to strengthen our economic growth.

Lastly, the government shall harness cultural diplomacy through digital marketing and branding more. Cultural diplomacy reveals the character of a nation which in turn generates influence. Utilize digital technologies and online platforms to showcase rich Cambodian culture and local uniqueness to a global audience. The government and relevant stakeholders should further develop virtual exhibitions, online performances, and cultural contents that can reach a wide range of people worldwide. This can help raise awareness about Cambodia's cultural heritage, attract tourists, and generate more revenues for the country. This can be done through creation of the official digital platforms and active engagement especially with international stakeholders to elevate the image of Cambodia's culture. Moreover, the government should further collaborate with NGOs and other private sectors to promote cultural programs which can attract foreign investment, tourism, and ultimately boost economic growth. Perfect example can be taken from the spread of local foods on TikTok. The strong algorithm in TikTok can be a great chance for Cambodia to express local uniqueness and convey strong cultural influence better.



Photo: Unsplash

CHAPTER 5

Cambodia's Digital Divide

Kong Bonn

Executive Summary

- Digital transformation brings enormous benefits and opportunities to all countries including Cambodia. However, it also gives rise to one growing issue known as digital divide.
- Digital divide is an evolving term. Initially, it referred only to the issue of lacking physical access, but now it has expanded to include also the issue of digital skill.
- In Cambodia, both infrastructure and the digital skill gaps have contributed to the widening digital divide. The female population has been disproportionately affected by the digital divide.
- The Royal Government of Cambodia, particularly through the Ministry of Post and Telecommunications (MPTC) as a key agency, has put tremendous efforts in preparing the Kingdom for the digital transition through various projects aiming to improve the digital infrastructure and promote the digital skill.
- Since women play a key role in Cambodia's economy, Cambodia can learn from one program in India that has successfully addressed the gender-based digital divide and promoted digital literacy and skill.

Introduction

The Fourth Industrial Revolution and digital transformation are the two phenomena that the world is going through. These have forced countries to take actions to catch up with and take advantage of these trends. Digital transformation can bring many benefits and opportunities for countries seeking to modernize their economies and improve the livelihood of their citizens. One of the significant advantages of digital transformation is the improved economic growth. The value of the digital economy was USD 11.5 trillion, or 15.5 percent of global GDP, in 2016 with the prediction that the digital economy will have expanded to 24.3 percent of global GDP by 2025.¹ Digital technologies have become increasingly important for determining economic growth, national security, and global competitiveness, influencing all dimensions such as resource allocation, income distribution, and growth.² Moreover, the adoption of digital technology has the potential to significantly improve the efficiency and delivery of public services while also increasing transparency and trust among citizens.³ Particularly, in Southeast Asia, digital technology can enable countries to shift their focus from demand-driven export growth to productivity-driven supply-side development, allowing them to climb the value chain.⁴

Cambodia, as a post-conflict society, sees this digital transformation as a golden opportunity for the Kingdom to move forward and to catch up with other economies. With a strong economic

1 Huawei and Oxford Economics, Huawei - building a fully connected, Intelligent World, 2017, https://www.huawei.com/minisite/gci/en/digital-spillover/files/gci_digital_spillover.pdf

2 Makada Henry-Nickie, Kwadwo Frimpong, and Hao Sun, "Trends in the Information Technology Sector," Brookings, June 27, 2023, <https://www.brookings.edu/articles/trends-in-the-information-technology-sector/>.

3 ANNA BJERDE and ASLI DEMIRGÜÇ-KUNT, "Digitalization and Data Can Vastly Improve Public Service Delivery for Citizens," World Bank Blogs, March 30, 2021, <https://blogs.worldbank.org/europeandcentralasia/digitalization-and-data-can-vastly-improve-public-service-delivery-citizens>.

4 OECD, OECD Southeast Asia Regional Forum Opportunities and policy challenges ..., 2017, https://www.oecd.org/south-east-asia/events/regional-forum/Forum_Note_Digital_Transformation_STI.pdf.

performance over the decades with an annual growth of 7 percent, the digital economy is seen as a new engine for the country to sustain its impressive economic growth. Seeing the potential and opportunities offered by digital technologies, the Royal Government of Cambodia (RGC) has envisioned turning Cambodia into a digital society. To achieve this vision, the government has adopted two main strategic frameworks, “Cambodia Digital Economy and Society Policy Framework 2021-2035” and “Cambodia Digital Government Policy 2021-2035.”

Although digital transformation is believed to be beneficial, it has also given birth to one growing social issue. This is known as “digital divide”, which refers to a wide variety of social disparities related to the accessibility and utilization of the Internet, digital tools, and services.⁵ Globally speaking, approximately three billion people remained inaccessible to the Internet with the majority of them dwelled in developing countries in 2022. While the global coverage of mobile broadband networks rose to 94 percent in 2020, about 43 percent of the world’s population living in the areas with mobile broadband coverage still remained unconnected to mobile Internet services.⁶ This means that a vast majority of the population is lacking behind as they could not reap the benefits from the digital technologies. Without effective policies, the gap will be widened and thus the social inequalities derived from it will be deepened. For Cambodia, as the country is also moving toward the direction of digital transformation, the issue of digital divide has remained as the stumbling block for the Kingdom to fully reach its potential.

Digital divide can be either examined on international level between countries or on local level between particular groups of society. The latter is the main focus of this paper. Therefore, this paper aims to discuss Cambodia’s digital divide and propose recommendations to tackle this issue. The paper begins by discussing the overview of the digital divide. Next, the paper goes deeper to touch on the issue in Cambodia’s context. Then, the paper takes a closer look into what has been done. Also, the proposed recommendation is clearly elaborated with well-presented arguments. Last is the conclusion.

Understanding Digital Divide

The origin of the term “digital divide” can be traced back to almost two decades, approximately having been introduced in the United States in the 1990s as part of the early discussions over the spread of the Internet.⁷ Many publications and studies usually refer to the US Department of Commerce’s National Telecommunications and Information Administration as the first institution who used the term in its official publication.⁸ As society and technology progress, the term “digital divide” also evolves. Initially, when the term “digital divide” was introduced into public discourse, the main focus was on the lack of physical access to computing and telecommunications services. Digital divide was then understood as the inequalities between those who have access to digital technology and those who have not.

5 Colin Sparks, “What is the “digital divide” and why is it important?” 2013, <https://www.tandfonline.com/doi/abs/10.1080/13183222.2013.11009113>.

6 GSMA, “Over Half World’s Population Now Using Mobile Internet,” Newsroom, September 28, 2021, <https://www.gsma.com/newsroom/press-release/over-half-worlds-population-now-using-mobile-internet/>.

7 Jan A.G.M. van Dijk, “Digital Divide Research, Achievements and Shortcomings,” Redirecting, 2006, <https://doi.org/10.1016/j.poetic.2006.05.004>.

8 David J. Gunkel, “Second Thoughts: Toward a Critique of the Digital Divide,” *New Media & Society* 5, no. 4 (2003): 499–522, <https://doi.org/10.1177/146144480354003>.

During 2004 and 2005, several experts in the realm of policy and politics, especially in affluent and advanced nations, believed that the issue of digital divide was almost resolved due to a significant increase in the number of their citizens who had access to computers, the Internet, and other forms of digital technologies.⁹ However, later on, there was a shift in the focus beyond “physical access” to include the issues of skills and usage.¹⁰ This means that with a given new scope of digital divide, the inequality and social disparity derived from digitalization is currently facing all countries even in the developed countries. As highlighted by Chetty. et al (2018), there are two root causes of digital divide. The first one is the limited and costly infrastructure. Due to main factors such as high expenses and inadequate infrastructure, which includes everything from inconsistent power supply to limited access to ICT amenities, communities with low to moderate incomes have restricted entry to digital technologies.¹¹ Another cause is the lack of digital literacy to effectively utilize digital technologies. These have been confirmed as the chief digital director of UNDP also stated in 2021 that even with the availability of network coverage, the digital divide persists due to problems related to affordability, content accessibility, and insufficient proficiency in digital skills.¹²

Cambodia’s Digital Divide

Cambodia, like many other developing countries, faces numerous challenges concerning the digital divide. The Internet users in Cambodia reached 11.37 million in January 2023, while another 5.48 million remained without internet access, which translates to approximately 32.5 percent of Cambodia’s population who were not using the Internet.¹³ In terms of coverage, Cambodia has five mobile Internet service providers and 35 fixed Internet service providers, with 92 percent of the total population covered by 2G mobile coverage, 85 percent covered by 3G, and 82 percent covered by 4G.¹⁴ This means that nearly 20 percent of the population currently live in the areas inaccessible to high-speed Internet. Moreover, as measured by the United Nations in 2020, Cambodia scored 0.54 out of 1.00 in the Telecommunication Infrastructure Index, which puts the Kingdom in the moderate level compared to global scale.¹⁵ As outlined in the Cambodia Digital Economy and Society Policy Frameworks 2021-2035, although digital infrastructures such as broadband networks have achieved impressive coverage areas and provided affordable pricing options, there have been limitations on the quality of Internet service.¹⁶ By 2021, the Internet speed of Cambodia is around 19 Mbps, which is far below the top scorer in the region, Singapore which has an internet speed of 192.17Mbps.¹⁷ Regarding Internet speed, in May,

9 Ibid., 7.

10 Panayioti Tsatsou, “Digital Divides Revisited: What Is New about Divides and Their Research?” *Media, Culture & Society* 33, no. 2 (2011): 317–31, <https://doi.org/10.1177/0163443710393865>.

11 Krish Chetty et al., “Bridging the Digital Divide: Measuring Digital Literacy,” *De Gruyter*, December 1, 2018, <https://doi.org/10.5018/economics-ejournal.ja.2018-23>.

12 Robert Opp, “The Evolving Digital Divide: United Nations Development Programme,” UNDP, July 14, 2021, <https://www.undp.org/blog/evolving-digital-divide>.

13 Simon Kemp, “Digital 2023: Cambodia - DataReportal – Global Digital Insights,” *DataReportal*, February 13, 2023, <https://datareportal.com/reports/digital-2023-cambodia#:~:text=There%20were%2011.37%20million%20internet,percent%20of%20the%20total%20population>.

14 Chea Vanyuth, “Internet Users Surge to 17.5m as Gov’t Moves to Digital Economy - Khmer Times,” *Khmer Times - Insight into Cambodia*, March 2, 2022, <https://www.khmertimeskh.com/501033903/internet-users-surge-to-17-5m-as-govt-moves-to-digital-economy/>.

15 Royal Government Cambodia, “CAMBODIA DIGITAL ECONOMY AND SOCIETY POLICY FRAMEWORK 2021-2035” 2021,

16 Ibid

17 Abe Olandres, “Internet Speeds: Are We Still the Slowest in ASEAN?” *YugaTech: Philippines Tech News & Reviews*,” *YugaTech*, January 24, 2022, <https://www.yugatech.com/feature/internet-speeds-are-we-still-the-slowest-in-asean/>.

Cambodian Prime Minister Hun Sen criticized slow Internet services again and urged ISPs in the country to create a competitive market to enhance Internet services, particularly for Borey residents.¹⁸ Therefore, the problem of lacking quality Internet service is prominent in the capital, not to mention in the provinces and rural areas.

Besides the infrastructure gap, the lack of digital skills also contributed to Cambodia's digital divide. The Kingdom has approximately 50,000 specialists in the digital field, while the remaining Cambodia's ICT workforce is predominantly at an intermediate level (RGC, 2021).¹⁹ Simultaneously, the same source also suggests that only 27.1 percent of students currently pursuing higher education have enrolled in STEM programs, indicating a lower prevalence of STEM education compared to other academic fields. In modern technology domains such as Blockchain, Fintech, Cloud Computing, and Artificial Intelligence, there is a widespread shortage of proficient academics.²⁰ This means a vast majority of the population is still lacking the necessary skills to utilize digital technologies which thus lead to widened digital gap in terms of usability. In short, Cambodia's digital divide continues to persist due to the infrastructure problems such as the Internet coverage and the quality of Internet services as well as the lack of digital skills.

During the COVID-19 pandemic, digital technologies have played an increasingly important role for countries to combat the COVID-19. Due to social distancing and lockdown measures implemented during the pandemic, the adoption of digital solutions has risen significantly. For instance, the World Bank reported that, during the pandemic, countries that used digital identifications and databases for government payments reached 39 percent more beneficiaries than those who did not.²¹ In Cambodia, the government has taken the pandemic as the opportunity to promote digitalization country-wide as the Prime Minister stated that the COVID-19 pandemic drove a digital transformation in Cambodia, with approximately 3 million students engaging in online learning and a majority of economic transactions now conducted through mobile phones.²² Despite the opportunities it offers, the COVID-19 is believed to have widened the digital divide in the Kingdom between the rich and the poor and between urban and rural students according to the Digital Skill Assessment Report.²³ The report also shows that there is a shortage of competence and skilled employees for digital firms while schools, particularly those located outside the main city, continue to face difficulties in obtaining proper technology and Internet connectivity. This aligns with the finding of the study conducted by UNICEF in 2020, which found that across Cambodia, teachers and educational establishments face limited availability of ICT gadgets and reliable internet connection.²⁴

18 Khmer Times, "Cambodian PM Repeats Appeal for Improvement of Internet Services - Khmer Times," Khmer Times - Insight into Cambodia, May 25, 2023, <https://www.khmertimeskh.com/501296737/cambodian-pm-repeats-appeal-for-improvement-of-internet-services/>.

19 Ibid., 15.

20 CADT, Cambodia Academy of Digital Technology, 2021, https://www.cadt.edu.kh/wp-content/uploads/2022/06/CDRI_DigitalSkillsAssessment_3rd_draft_v11.pdf.

21 Riccardo Puliti, "Digital Inclusion Unlocks a More Resilient Recovery for All," World Bank Blogs, 2022, <https://blogs.worldbank.org/voices/digital-inclusion-unlocks-more-resilient-recovery-all>.

22 Chea Vanyuth, "PM Hun Sen Says Covid-19 Drives Digital Transformation in Cambodia - Khmer Times," Khmer Times - Insight into Cambodia, January 24, 2023, <https://www.khmertimeskh.com/501224475/pm-hun-sen-says-covid-19-drives-digital-transformation-in-cambodia/>.

23 Ibid., 20.

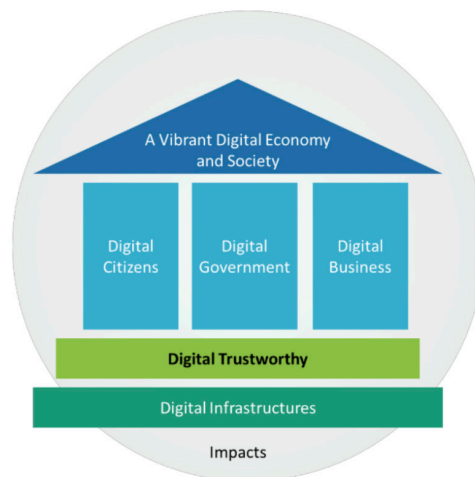
24 UNICEF, "Needs Assessment Helps to Understand the Impact of COVID-19 on Education Stakeholders," UNICEF Cambodia, March 1, 2021, <https://www.unicef.org/cambodia/reports/needs-assessment-helps-understand-impact-covid-19-education-stakeholders>.

Moreover, it is important to note that the digital divide has also given more strength to one entrenched social inequality, which is gender inequality. Globally, 69 percent of men use the Internet compared to 63 percent of women in 2022, which means there are 259 million more men than women using the Internet.²⁵ The same phenomenon occurs as the digital divide in Cambodia appears to have a disproportionate impact on female and rural students as compared to their counterparts, which might leave them with employment disadvantages in the digital era.²⁶

The Efforts to Address the Digital Divide in Cambodia

Although Cambodia is a developing nation with limited economic resources, the Kingdom has acutely been aware of the current trend and expressed its interest in undergoing digitalization. The first official effort was seen in 2018 with the introduction of the Rectangular Strategy-Phase IV.²⁷ Later on, a more serious commitment from the Royal Government of Cambodia can be seen through the adoption of two strategic frameworks, “Cambodia Digital Economy and Society Policy Frameworks 2021-2035” and “Cambodia Digital Government Policy 2021-2035,” which set out the long-term vision to build a vibrant digital economy and society. According to these frameworks, Cambodia’s digital economy and society will rest upon two foundations (digital trustworthy and digital infrastructure) and three main pillars (digital citizens, digital government, and digital businesses).

Figure 1: Principles and Framework for Building Cambodia’s Digital Economy and Society



Source: Cambodia Digital Economy and Society Policy Frameworks 2021-2035

25 ITU, “The Gender Digital Divide,” Facts and Figures 2022, 2022, <https://www.itu.int/itu-d/reports/statistics/2022/11/24/ff22-the-gender-digital-divide/>.

26 Brian Brian Badzmierowski, “Covid Widens Digital Divide as Cambodia’s E-Economy Booms,” Cambodia Investment Review, December 23, 2021, <https://cambodiainvestmentreview.com/2021/12/15/covid-widens-digital-divide-as-cambodia-as-e-economy-booms/>.

27 CHHEANG Vannarith, CORRADO Riccardo, THAN Sokhearin, and IN Vatanak, “Avi Policy Brief Issue: 2022, No. 02: Cambodia’s Digital Transformation: Not Only an Urban Matter,” Asian Vision institute, accessed August 23, 2023, <https://www.asianvision.org/archives/publications/avi-policy-brief-issue-2022-no-02-cambodias-digital-transformation-not-only-an-urban-matter>.

In order to promote the Kingdom's digitalization and bridge the digital divide, the Ministry of Post and Telecommunication (MPTC) has played many key roles in improving the digital infrastructure and promoting digital awareness and skills with the help of multi stakeholders.²⁸ In 2018, the MPTC launched the program with the support of the Korean Telecommunication Corporation to enhance access to academic resources online for students through installing free-Wi-Fi at schools in the province.²⁹ This program is aimed at reducing the digital gap between rural and urban students. Moreover, to fill up the shortage of digital skill in Cambodia, many public institutions were established such as the Cambodia Academy of Digital Technology (CADT) and the Techo Startup Center, which all aim to create more digital talents for Cambodia. Providing scholarships for outstanding students to study in the digital field is also another effort made by the MPTC in collaboration with other relevant stakeholders. For instance, in December 2022, the MPTC Minister announced that the Cambodia Academy of Digital Technology (CADT) aims to offer 500 scholarships for Bachelor's, Master's, and Ph.D. degrees in digital technologies in 2023.³⁰

Recently, in June MPTC also launched another program called "Digital Talents", which is a competition that provides students from various backgrounds with a chance to exhibit their skills and discover their suitability in the realm of digital fields.³¹ To further improve digital literacy and narrow the digital divide in Cambodia, one important initiative will be launched soon which is the establishment of the community Tech Centers at 158 high schools across the country.³² To deal with the problem of digital infrastructure, the MPTC has set up five task forces to achieve some objectives. These objectives include strengthening digital connectivity; expanding 4G coverage; preparing for the implementation of 5G; improving Internet broadband infrastructure including submarine cables; promoting infrastructure sharing among operators; encouraging private investments in telecom infrastructure development; and continuously updating and improving telecom-related legislation.³³

Policy Recommendations

Although Cambodia has performed well in preparing itself for digital transition, little attention has been paid by the government on the role of women in digitalization. For instance, in November 2022, the Ministry of Women's Affairs organized a training course titled "Financial and Digital Knowledge," which was aimed at women participants from four provinces, namely Siem Reap, Preah Vihear, Stung Treng, and Kratie.³⁴ However, it made a small impact as there were only 75 beneficiaries. For Cambodia, the gender-based digital divide is of greater concern as it has a notably high percentage of small and medium-sized enterprises (SMEs) that are owned by women, amounting to 61 percent, which surpasses that of numerous other ASEAN

28 Ibid

29 Sok Chan, "Reducing the Digital Divide with Free Wi-Fi at Schools - Khmer Times," Khmer Times - Insight into Cambodia, July 5, 2018, <https://www.khmertimeskh.com/508863/reducing-the-digital-divide-with-free-wi-fi-at-schools/>.

30 Manoj Mathew, "Government to Launch Community Tech Centres to Boost Digital Literacy - Khmer Times," Khmer Times - Insight into Cambodia, December 11, 2022, <https://www.khmertimeskh.com/501200557/government-to-launch-community-tech-centres-to-boost-digital-literacy/>.

31 Chhaysinh Te, "Cambodia to Improve Digitalization in High School," Cambodianess, accessed August 23, 2023, <https://cambodianess.com/article/cambodia-to-improve-digitalization-in-high-school>.

32 Ibid

33 Ibid., 30.

34 Bor Pich, Zelin, "Digital Skills Training Targets Women in Five Provinces," Digital skills training targets women in five provinces | Phnom Penh Post, November 18, 2022, <https://www.phnompenhpost.com/national/digital-skills-training-targets-women-five-provinces>.

nations.³⁵ By giving a little attention to gender digital inclusion, Cambodia would leave out enormous potential.

Regarding the gender-based digital divide, there is one program that Cambodia can learn from. It is a Saathi program that was launched in July 2015. It was a collaboration program between Google and Tata trusts with a principle aim of building digital literacy and empowering women in rural areas by bringing the benefits of the Internet to their communities.³⁶ For India, it was known as a country that has a steep digital divide with only 30 percent of India's Internet users are women.³⁷ The Saathi program seeks to address this gender disparity by training and empowering women to use the Internet effectively. The program trains local women to become Internet Saathi, imparting essential digital skills and knowledge to enable them to support their communities. These Saathis often navigate through rural areas to train and assist other women in accessing the Internet and using digital tools. They educate women on various subjects such as mobile Internet usage, digital payments, online government services, educational resources, and health information, among others. Additionally, the Saathi program ensures that women entrepreneurs become economically self-reliant. By participating in the program, Saathi gains the skills and tools necessary to generate income by offering digital services. They become catalysts for change in their communities, fostering digital inclusion and facilitating access to information and services. Saathi also plays a crucial role in addressing any cultural barriers or hesitations surrounding Internet usage and technology adoption.³⁸ The impact of the Saathi program has been significant. In 2021, 80,000 Internet Saathi were trained, who in turn volunteered to train other women which reached over 30 million women from approximately 300,000 villages. These statistics highlight the program's success in empowering women, fostering digital inclusion, and bridging the gender gap in rural areas.³⁹

It is worth noting that women play a crucial role in Cambodia's society as they take care and have a direct influence on children. Promoting digital literacy and skills among women would positively impact the kids as well as the whole society. Such an effective program mentioned above might not be fully applicable for Cambodia due to different socio-cultural and socio-economic contexts. With that being said, Cambodia can learn from the above program and modify it in order to ensure that it fits well with the local context. Putting more serious focus on promoting digital literacy especially among women populations would only provide a positive change as Women are the backbone of Cambodia's economy.

35 Sopheak Seng, "Policy Brief: Challenges of Women-Owned Smes in Getting Bank Loans," CWEA Cambodia, accessed August 23, 2023, <http://www.cweacambodia.org/kh/news-update/230/policy-brief-challenges-of-women-owned-smes-in-getting-bank-loans>.

36 Chakravarti Ankita, "Google Internet Saathi Programme Turns Messiah for Unemployed Women in Rural Areas," India Today, March 8, 2021, <https://www.indiatoday.in/technology/features/story/google-internet-saathi-programme-turns-messiah-for-unemployed-women-in-rural-areas-1776789-2021-03-08>.

37 Nandini Rathi, "Google's Internet Saathi Programme: How Rural Women Are Transforming Communities," The Indian Express, March 13, 2017, <https://indianexpress.com/article/technology/tech-news-technology/rural-women-transforming-communities-google-internet-saathi-4566849/>.

38 Tata Trusts, "Internet Saathi," Tata Trusts, accessed August 23, 2023, <https://www.tatatrusts.org/our-work/digital-transformation/digital-literacy/internet-saathi>.

39 Ibid., 36.





SECTION 3
DISASTER RISK AND
WASTE MANAGEMENT

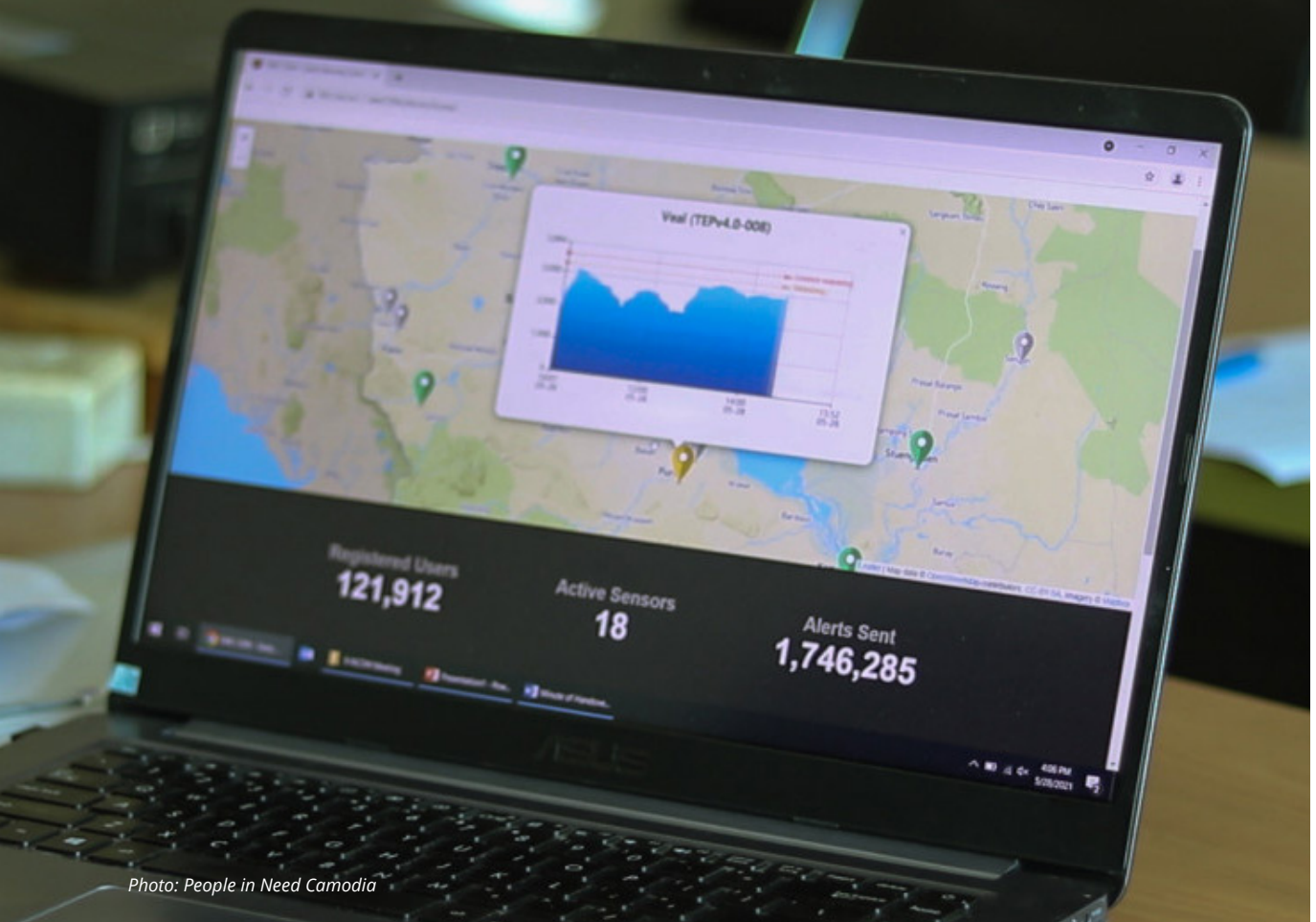


Photo: People in Need Camodia

CHAPTER 6

Early Warnings for All with Inclusive and Accessible Multi-Hazard Early Warning System

Nang Khourn Kimmariya

Executive Summary

- Cambodia is affected by floods and droughts every year along with other disaster risks. Additionally, climate change threatens the country's rapid development with detrimental economic, social and environmental impacts.
- EWS1294 is Cambodia's national early warning system to prevent, avoid and limit damages caused by natural disasters. It follows the global standard for effective early warning systems with 4 necessary components: risk knowledge, monitoring and warning service, dissemination and community and response capability.
- EWS1294 has been recognized as an integral instrument in supporting the country's disaster risk reduction efforts. Nevertheless, there is still room for advancement to narrow the gaps and optimize disaster preparedness in Cambodia.
- Efforts to expand the reach and capability of the early warning system must incorporate digitalization and regional cooperation and keep pace with the evolving disaster risks.
- This paper provides four key recommendations including (1) enhancing risk knowledge and impact forecasting, (2) improving data governance and regulations, (3) improving public awareness and education, and (4) enriching transboundary collaboration.

Introduction: Disaster Risk Profile

Cambodia is considered one of the most disaster-prone countries in Southeast Asia, exposed to almost every hydrometeorological event linked with the weather and climate change.¹ Flooding is a common natural disaster in Cambodia due to monsoon rains from May to November causing the Mekong River and its tributaries to overflow. Additionally, flash floods can occur due to heavy rainfall, particularly in urban areas with poor drainage. As the developing country goes through its rainy season, the heavy rainfall, thunderstorms, lightning strikes and strong winds can damage houses and crops.

Drought is also a frequent occurrence in Cambodia, particularly in the dry season from November to April. Prolonged dry spells can cause water shortages and crop failures, leading to food insecurity and economic hardship for rural communities. Cambodia has also faced several epidemics including COVID-19, Malaria, hand, foot and mouth diseases, hepatitis B, tuberculosis, avian flu, and dengue fever.² Furthermore, fires, lightning strikes, and landslides contribute to disaster risks.

Vulnerability to Natural Disasters and Climate Change

Cambodia's vulnerability to climate change is due to its characteristics as a post-civil war and developing country with nearly 80 percent of the population living in rural areas.³ Agriculture and fisheries contribute 25 percent to the country's GDP and a significant majority of its population still depends on agriculture, water resources, forestry, fisheries, tourism, and other climate

1 The World Bank Group and Asian Development Bank, *Cambodia Climate Risk Profile 2*.

2 Institut Pasteur du Cambodge, *2019 Scientific Report and 2020 Perspective*, 6.

3 World Bank Group, Cambodia - *Vulnerability | Climate Change Knowledge Portal*.

sensitive sectors for their livelihoods. The country's weak adaptive capacity, poor infrastructure, and limited institutions also further exacerbate its vulnerability. Although socio-economic conditions in Cambodia have seen much improvement in recent years, the disaster risks are still disproportionately high toward impoverished communities as their coping capacities have a limit.⁴ Households or individuals who rely on a single source of income such as fishing also tend to be most vulnerable to changes in ecological systems. Other demographics such as women, children, people with disabilities, minorities, the ill and the elderly face a greater threat in the event of a disaster. An individual's disability in Cambodia, for instance, has been found to increase the risk of poverty by 12 to 15 percent.⁵ Additionally, when disaster strikes, people with disabilities are also at risk of facing unique burdens including no warning of oncoming disasters, unclear instructions or improper warnings, and they often have to rely on personal support networks.

Furthermore, Cambodia is projected to experience more severe floods and droughts which could affect Cambodia's GDP by nearly 10 percent by 2050.⁶ At this current rate, the population exposed to an extreme river flood could grow by around 4 million by the 2040s.⁷ Compounded by political, geographic, and social factors, Cambodia is recognized as vulnerable to climate change impacts, ranking at 144th out of 181 best prepared countries in the 2021 ND-GAIN Index which calculates a country's vulnerability to climate change and other global challenges as well as their readiness to improve resilience.⁸

Key Disaster Risk Reduction Efforts

The Royal Government of Cambodia has taken significant steps toward mitigating the impact of natural disasters through various measures in order to protect the safety and strengthen the disaster resilience of the country. Due to Cambodia's high disaster risk, the government considers disaster management as a key component of development planning.⁹ They also recognize the importance of anticipating and reducing risks, and cooperates with donors, the UN agencies, and NGOs to improve the coordination and communication in response, recovery, and emergency preparedness.

The main organisation responsible for disaster response in Cambodia is the National Committee of Disaster Management (NCDM), with the support of other relevant organisations and members of the committee.¹⁰ Established in 1996, the committee is responsible for coordinating disaster management activities and implementing the national disaster management policy. It also works with international organisations to strengthen the country's capacity to respond to disasters.

A vital initiative taken by the government is the development of the Cambodia National Plan on Disaster Risk Reduction. The National Strategic Action Plan for Disaster Risk Reduction (NAP-DRR) 2019-2023 is a comprehensive strategy for reducing the risk of disasters and building

4 Asian Disaster Preparedness Center & UN Office for Disaster Risk Reduction, *Disaster Risk Reduction in Cambodia*, 12.

5 Kang et al, *Consequences of armed conflicts on poverty*

6 The World Bank Group and Asian Development Bank, *Climate Risk Country Profile: Cambodia*, 2.

7 The World Bank Group and Asian Development Bank, *Climate Risk Country Profile: Cambodia*, 2.

8 University of Notre Dame, Notre Dame Global Adaptation Initiative, *ND-GAIN Country Index Rankings*.

9 Asian Disaster Preparedness Center & UN Office for Disaster Risk Reduction, *Disaster Risk Reduction in Cambodia*, 16.

10 ASEAN Federation of Engineering Organisations, *Disaster Management of Cambodia*, 3.

resilience across the country.¹¹ Based on a thorough analysis of the nation’s hazard profile, vulnerability, and capacity to respond to disasters, the plan includes a variety of measures to lessen the impact of disasters, including strengthening early warning systems, improving disaster preparedness and response, and enhancing the resilience of critical infrastructure. The plan also prioritises the needs of vulnerable communities, including women, children, and people with disabilities and emphasises the importance of community participation and engagement in disaster risk reduction efforts.

Most notably, the government has also invested in early warning systems and disaster response equipment. For instance, in response to several floods in the 2000s and 2010s that severely affected the lives and livelihoods of Cambodian people, a voice-based mobile phone early warning information dissemination system “EWS1294” was established by the humanitarian organisation People in Need with support from the Royal Government of Cambodia.¹²

Understanding Early Warning Systems

According to the United Nations Office for Disaster Risk Reduction, an early warning system is an integrated system of hazard monitoring, forecasting and prediction, disaster risk assessment, communication and preparedness activities systems and processes that enables individuals, communities, governments, businesses and others to take timely action to reduce disaster risks in advance of hazardous events.¹³

The Sendai Framework for Disaster Risk 2015-2030 recognizes the importance of multi-hazard early-warning systems (MHEWS) in supporting risk reduction efforts.¹⁴ Specifically, Target G of the Sendai Framework aims to “significantly increase the availability and access to disaster risk information and assessments to the people by 2030.” The framework also outlines the global commitment to strengthen and invest in people-centred MHEWS, disaster risk communication methods, and hazard-monitoring telecommunications networks with a focus on participative and gender-inclusive strategies.

EWS1294: Cambodia’s National Early Warning System

Early Warning System 1294 (EWS1294) is officially recognized as Cambodia’s national multi-hazard early warning system operated by the national and provincial authorities to generate and disseminate timely and meaningful warning information to all people and communities at risk regarding climatic or societal hazards.¹⁵ To be dubbed effective, early warning systems must actively involve the people and communities at risk from a range of hazards, facilitate public education and awareness of risks, disseminate messages and warnings efficiently and ensure that there is a constant state of preparedness and that early action is enabled.¹⁶ The EWS1294 follows four necessary components to provide a user-friendly and scalable design that places users at the heart of system development.

11 Clingeffer and Usamah, *Disaster risk reduction plan*.

12 People in Need (PIN) Cambodia, *Cambodia’s Early Warning System 1294*, 2.

13 United Nations Office for Disaster Risk Reduction, *Early Warning System Terminology*.

14 United Nations Office for Disaster Risk Reduction, *Sendai Framework 2015-2030*, 12.

15 People in Need (PIN) Cambodia, *Cambodia’s Early Warning System 1294*, 2.

16 World Meteorological Organization, *Multi-hazard Early Warning Systems*, 1.

Risk Knowledge

To further bolster its disaster risk management efforts, the Cambodian government launched the Cambodia Disaster Loss and Damage Information System (CamDi) in 2015.¹⁷ The database collects and analyses data on the impact of disasters on the country, helping to identify areas that need more attention in disaster management. This includes analysing social, economic, and environmental factors that could potentially lead to disasters or other crises. By understanding these risk factors, policymakers and other stakeholders can better anticipate and prepare for potential challenges.

For near real-time flood monitoring applications, cloud computing used for satellite data analysis is employed to support disaster response.¹⁸ The flood hazard indices derived from the frequencies of past flood occurrences are used to combine with the current locations of people and the indicators of their vulnerability and capacity, leading to an estimation of the flood risk. The National Committee for Disaster Management also utilizes the PRISM platform as a primary data collection tool for capturing hazard exposure and impact information after an event. With real-time monitoring of flood and drought risk indicators, the platform gives disaster management officers access to an interactive map-based dashboard overlaid with the locations of the most vulnerable populations. In addition, PRISM incorporates data on poverty from the Ministry of Planning (IDPoor), allowing for real-time estimations of the location and number of vulnerable persons affected.

At the community level, feedback and knowledge are collected from the disaster management committee which includes the village chief and other stakeholders to identify hazards that their community face and the specific areas prone to greater impact.¹⁹ They also evaluate the capacity and resources needed should a disaster strike, as well as vulnerability factors and particularly vulnerable groups such as people with disability and single-headed households. These assessments are crucial for communities as well as policy and decision-makers to understand and respond to risk accordingly.

Monitoring and Warning Service

The EWS1294 Tepmachcha sensors are used for flood monitoring in critical locations. They are solar-powered, gsm-enabled, and sonar-based, and display water level data in a user-friendly manner on the EWS1294 Dashboard. The sensors have undergone regular hardware improvements and can be easily installed and operated, allowing the system to be extended to all provinces. The data management platform relies on the Cambodian cell phone network and can be easily extended to other provinces.

17 UNDP Cambodia, *CAMDI Update*.

18 World Food Programme, *Satellite-derived Flood Mapping. 2*.

19 UNDP Cambodia, *Weather-ready Climate-smart Cambodia*.

Dissemination and Communication

The alert dissemination system has a user-friendly and scalable design to be easily accessed and used by national and local authorities.²⁰ Officials are able to issue timely and accurate warning messages that complies with the Common Alert Protocol (CAP) by using pre-recorded alert messages and selecting relevant information and safety guidance to the hazard. Audio messages are issued to users in at-risk areas to warn them of risks and steps to take to protect themselves during emergencies and are accessible to all users of major local telecommunication companies in all 24 provinces. To receive these emergency alerts, people can subscribe by simply dialling the number “1294” and follow the instructions to indicate their location. Alerts were initially only disseminated via Interactive Voice Response after assessing that the majority of the population owns some kind of phone. To expand their reach, they have introduced additional means of dissemination, such as loud public speaker broadcasting, radio broadcasting, Facebook Chatbot, and Telegram Messenger. The early warning system has also extended beyond its initial purpose of broadcasting flood warnings and has been used for other societal and climatic hazards such as storm warnings, UV index warnings as well as important news and guidance relating to Covid-19.

Response Capability

Collaboration between multiple stakeholders is crucial in strengthening disaster response capability. At the national level, the National Committee of Disaster Management provides overall supervision of the early warning system.²¹ At the sub-national level, the provincial committees for disaster management (PCDMs) are in charge of distributing warnings, maintaining sensors, and responding to community concerns. Flood emergency response trainings, linked to the provincial and district-level disaster management system are conducted to strengthen the knowledge of local institutions and increase subscription within communities highly vulnerable to flooding. The establishment of Village Disaster Management Groups (VDMGs) empowers local communities for proactive members of the community to take the lead in disaster preparation, emergency response, and impact recovery at the village level. In addition to their immediate response functions, they also play an important role in disaster preparedness and risk reduction by identifying vulnerabilities, developing evacuation plans, and improving infrastructure to withstand disasters. By identifying potential hazards and developing strategies to mitigate them, VDMGs can help to reduce the impact of disasters on the community. Additionally, awareness campaigns of the EWS1294 are undertaken across the country through different advertising efforts to help in raising awareness and demonstrating the subscription procedure of the system.

20 People in Need (PIN) Cambodia, *Cambodia's Early Warning System 1294*, 4.

21 People in Need (PIN) Cambodia, *Cambodia's Early Warning System 1294*, 6.

Limitations and Challenges

Data Management

Despite great advances in technology and data science, gathering and applying disaster-relevant data and statistics to investment decisions to reduce disaster risk is still a challenge. A major obstacle is the collection and storage of high-quality data over longer periods of time.²² One information source, such as satellite data, is frequently insufficient on its own and must be considered with another, such as soil data.²³ Given that data science is a highly specialized field and that many experts prefer the higher-paying work in the private sector, both governmental and non-governmental actors frequently reach their technological limits at this point. For instance, in 2016, the 'CamDI' disaster information system, which had been a trailblazer up until then, lost 70 percent of all the data it had gathered between 1996 and 2013 as the data had not been effectively backed-up due to limited staff knowledge during a technical transition.

Funding

Early warning systems require significant funding to operate, maintain, and upgrade including the cost of equipment, staff salaries, and ongoing maintenance costs. The current funding model for the EWS1294 is heavily reliant on external aid, which can be sporadic and unpredictable. Planning and implementing long-term initiatives and activities become challenging as a result. Additionally, it often lacks the capacity to secure funding from alternative sources, such as the private sector or domestic government budgets. For instance, a possible expansion to automated alerts disseminated by multi-national organizations is currently being negotiated according to People in Need, however there are some disagreements on who should cover the costs.²⁴

Sensor operation and maintenance

Keeping the sensors operational and maintained is also another challenge. The system's nationwide growth has led to a significant increase in the number of sensors that must be controlled, necessitating more time and labour to keep the sensors up to date.²⁵ Despite the sensors' straightforward functioning and advancements over the years, maintenance is required every two years to change the batteries, clear out cobwebs that occasionally jam the sonar, clean the solar panel, among other things. Periodic improvements to the sensor are required to adapt to challenges encountered during operation such as mobile connectivity issues, damage to the sensor, etc. Moreover, training and capacity building for national, provincial and local disaster management authorities in sensor maintenance are needed to ensure the warning system continues to be effective and reliable.

Reach of the system

Expanding the reach of EWS helps to ensure that everyone has equal access to the warning message, and everyone is equally prepared to deal with an emergency. Although the number of subscribers has slowly and steadily increased over the years, the system is still far from reaching the entire population at risk. Currently, the system has just over 140,000 registered users in

22 Bündnis Entwicklung Hilft & Ruhr University Bochum - Institute for International Law of Peace and Armed Conflict (IFHV), *WorldRiskReport 2022 - Focus: Digitalization*, 15.

23 Cheney, *How to Make Satellite Data Useful*.

24 GSM Association, *Early Warning Systems in the Philippines*, 16.

25 People in Need (PIN) Cambodia, *Cambodia's Early Warning System 1294*, 7.

February 2023.²⁶ Local promotional campaigns have been found to be the most effective way to increase subscribers, but they require a lot of time and work. In order to spread awareness of the system locally, People in Need has started training NCDM, PCDMs, and VDMGs in certain provinces. The frequent sim card switching by Cambodians is another obstacle to reaching subscribers. These obstacles point to the need for other tactics to be taken in order to broaden the system’s audience.

Early Warnings for Transboundary Hazards

Transboundary early warning systems are crucial for preventing or mitigating the impact of natural disasters, disease outbreaks, and other emergencies that can affect multiple countries. These systems allow for the timely exchange of information and coordination of response efforts across borders, enabling affected countries to take measures to protect their populations and minimise the damage caused by such events. However, this can be difficult to achieve if there are political or economic tensions between countries, or if there are differences in the way that countries approach risk management and emergency response. Another challenge is the need for standardised data collection and sharing procedures as developing and implementing such procedures can be time-consuming and resource-intensive. There is also a need for sustained investment in the development and maintenance of transboundary early warning systems. Without sustained investment, these systems may become outdated or ineffective over time. In 2018, a Laos dam collapsed causing dangerous flood levels all the way downstream across the border to northern Cambodia and forced an emergency evacuation of 1200 families with no warning as there was no built-in warning system between the countries at the time.²⁷

Policy Recommendations

- **Enhance risk knowledge and impact forecasting**

Effective collection, dissemination and application of relevant data and statistics about disaster risk and impact are of paramount importance at national and local level to form the evidence base for policy, planning, implementation and investment in development and humanitarian domains across different sectors and to ensure that no-one is left behind. All governmental stakeholders have a part to play in closing data gaps, increasing disaster risk awareness, and forecasting the effects of disasters. To enhance risk knowledge for generating early warning messages, there is a need to extend their ability to conduct real-time risk assessments and monitor hazards along with identifying potential and likely impacts on communities, infrastructure, and economic sectors. The Department of Meteorology should seek to build capacity for context-specific understanding of risks and multi-hazard impact-based forecasting, which goes beyond producing accurate forecasts and timely warnings to better understanding and anticipating the likely human and economic impacts, essentially shifting the angle from “what the weather will be” to “what the weather will do.”. The targeted information combines topography, flood and landslide hazard maps, population demographics and geo-located critical infrastructure and other vulnerability and exposures – aid to quickly identify vulnerable groups, exposed assets, physical and social vulnerabilities and to facilitate the quantification of impacts for early action.²⁸ To meet the rising demand for data and information on disaster risk and its

26 Khmer Times, *Czech EWS 1294*.

27 Ellis-Petersen, *Laos Dam Collapse*.

28 Campbell, Beardsley and Tokar, *Impact-based Forecasting and Warning*.

use in risk assessment and climate change analysis, capacity building is needed particularly through utilising strategic alliances and innovative technology. The central government could also consider regulatory and policy reforms that give private companies the right incentives to innovate digital solutions and strengthen the nation's public-private partnership in disaster management.

- **Improve Data Governance and Regulations**

Improved data collection, analysis, application, and data governance can provide enormous benefits by reducing economic losses, saving lives, improving livelihoods, and managing disaster risk.²⁹ Strong data governance is required to access quality disaster and climate data by working across departmental silos and administrative levels to produce relevant analysis and products for informed disaster risk policy-making and investments. Government's stakeholders should work to improve data governance and foster better collaboration and coordination between stakeholders. Governmental organisations, which have the political mandate over Disaster Management in Cambodia such as National Committee for Disaster Management and the Ministry of Posts and Telecommunications can take the lead in addressing challenges in data governance by incentivising all stakeholders involved in EWS to work together across sectors and across different levels of governance in order to reduce data fragmentation. Government agencies should also consider incorporating interoperable digital tools and frameworks that promote open-source solutions, which call for a shift in perspective to view data openness as a benefit. To prevent loss of historical data, particular attention needs to be paid to how information is handled and how data is gathered, managed, stored and used to ensure transparency, accountability, and legitimacy.

- **Improve Public Awareness and Education**

One of the key means of increasing public awareness is to use innovation and technology. ICTs, including social media networks, are essential tools for increasing the resilience of a population through awareness raising and sensitization. With the majority of Cambodians active on social media, social media advertising has the most potential in increasing the public knowledge of hazards, providing information on logistic and humanitarian needs as well as allowing for data collection and giving voice to the people. Focus should also be placed on educating and empowering youth on disaster risk reduction. Youth have a unique perspective and can be effective agents of change in their communities. By educating them on early warning systems and disaster risk reduction, they can become advocates for preparedness and help spread information to their peers and families. It is also important to engage youths in different decision-making discussions and activities. For instance, international youth forums like The Ship for Southeast Asian and Japanese Youth Program (SSEAYP)³⁰ allow youths from different countries in the region to come together and gain a broader perspective, strengthen international collaboration and contribute to society in different areas, one of which is disaster risk reduction.

Disaster risk reduction education could also be incorporated into school curriculums with lessons on emergency preparedness, risk assessment, and response planning. The Comprehensive School Safety Framework 2022-2030 supports and outlines the development of formal curriculum as well as non-formal activities for disaster risk reduction education including

29 United Nations Economic and Social Commission for Asia and the Pacific, *UN DESA Policy Brief No. 139*.

30 Cabinet Office, Government of Japan, *The Ship for Southeast Asian and Japanese Youth*.

providing the underlying resource for the content of books, games, videos as well as learning activities.³¹

- **Enrich Transboundary Cooperation**

Transboundary cooperation is crucial for Cambodia and its neighbours due to their location on the Mekong Basin, resulting in often shared disaster impacts. Collaboration and information sharing between neighbouring countries are required to ensure that early warning systems are effective in preventing or reducing the overall impact of disasters. Recent initiatives such as the CREWS Cambodia and Lao PDR Transboundary EWS Project are promising but further efforts are needed to strengthen and establish collaborative projects with other countries to promote regional cooperation in disaster risk reduction.³² Countries can develop joint training programs, design a coordination mechanism for improving data access and exchange among regional and national authorities as well as establish a centralised system for warnings at regional level for informing decision makers and international communities on ongoing and up-coming hazards. With strengthened transboundary cooperation and other disaster risk reduction efforts, we can effectively move the needle from responding to disasters to reducing the impact of disasters.

Conclusion

Early warning systems play a crucial role in disaster risk reduction and management by providing advance notice and guidance to those who may be affected. An inclusive and accessible multi-hazard early warning system includes a range of measures designed to ensure that warnings reach all members of the community. In Cambodia, where natural disasters are common, the EWS1294 is essential in helping to mitigate the impact of these disasters and promoting inclusive community resilience by using multiple modes of communication and working with community leaders and organisations to ensure that warnings are disseminated effectively and that everyone is aware of the risks and how to respond. Nevertheless, enhancement of existing efforts is required to accommodate and adapt to the evolving disaster risks.

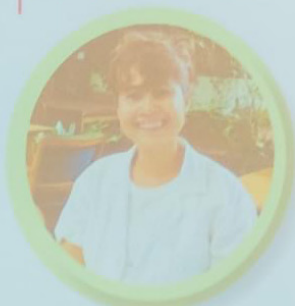
31 GADRRRES, *Comprehensive School Safety Framework 2022-2030*.

32 Amach, *Launch of the CREWS*.

PANEL DISCUSSION

"HOW TO MAKE WASTE SEPARATION WORK"

BREAKOUT SESSION - ROUND 1 - BANQUET HALL



Ms. Sotheary SAO

Self-Employed-Policy, Environmentalist
and Human Rights Advocate



Panel discussion on "How to make waste separation work" at the Waste Summit 2023
Photo: Waste Summit Cambodia

CHAPTER 7

Circular Economy Approach for Municipal Solid Waste Management in Cambodia

Lim Chhivmey

Executive Summary

- Phnom Penh, the capital city and the soul of Cambodia's prosperous development point, burdens the issues from the Municipal Solid Waste (MSW) just like other countries. As the Kingdom is walking toward urbanization, industrialization, and rapid population growth, it is challenging to manage MSW in a sustainable manner.
- More than two million people dwell in Phnom Penh, and growth is inevitable. Thus, management mechanisms will only become more demanding for proper control and effective policies enacted. The challenges are raised further when looking in-depth at MSW management at each stage: collection, transportation, recovery, processing, and disposal. The increased inflow of MSW to landfills makes the practice of the 3Rs (Reduce, Reuse, Recycle) questionable despite a high commitment from both national and sub-national levels in pushing the 3Rs to effectiveness.
- However, this policy brief seeks to focus on Municipal Solid Waste generated by households and how to put the Circular Economy approach into practice to ensure waste is minimized at the source, recycling is prioritized, and awareness is reached.

Introduction

The Circular Economy is a new sustainable alternative to reducing waste to a minimum by changing from the traditional model of take-make-dispose to using products with durability and recyclability and making old used material to recreate. The Cambodia National Circular Economy Strategy and Action Plan launched in 2021 is when the term Circular Economy (CE) was coined to promote sustainable development in tackling social and environmental issues in the Kingdom. This paper will center around MSW and CE as a path toward adopting sustainable manners toward waste thereby contributing to promoting economic growth. Such transition requires time and refinement throughout each stage from production to disposal by ensuring resource efficiency, materials reused and remanufactured to minimize waste at the source. Particularly, this could be an important breakthrough for the challenges of MSW in Cambodia pertaining to being an emerging economy with a growing population. A first CE pilot in MSW will be the model for other major sectors relevant to the nation's economy.

Defining the Approach

In the policy brief, we will look at how the Circular Economy model is suitable to address the underlying issues of MSW management in Cambodia. Through maximizing resource efficiency and minimizing waste generation, the practice can be embedded by encircling all stakeholders including the private sector and, most importantly, households and individuals. The practice needs consistent and transparent mechanisms to ensure the monitoring and evaluation process. Although this is a new approach, the chance of implementing it correctly will result in a vast change in how Cambodia manages its solid waste. However, admitting that the process requires determination and adaptation will ease the unforeseeable challenges during the implementation process. Despite all past policy initiatives, MSW management remains a socio-economic and environmental problem faced in the Kingdom. Change is needed.

Challenges

Cambodia is prone to Municipal Solid Waste that ends up in a short cycle from disposal to just dumping in a landfill. This means recyclable materials could end up wasted without an alternative to remanufactured, thus waste reduction to landfill is not feasible. According to the Circularity Gap Report 2021, the global circular economy stands at 8.6 percent while the rest of the percentage means materials wasted.¹

The data on Cambodia's MSW are difficult to obtain and are mainly estimated by population number and waste generation.² The largest percentage of MSW generation in Phnom Penh is from households which accounted for 55 percent with the population roughly around 1,446,000 in 2015.³ As the capital city population reached over two million in 2019, this means the MSW surged along with it. Overwhelming population growth, urbanization, and higher standards of living will pose further challenges to MSW management if the current state of management does not spur significant change.

Our traditional linear approach aggravates the resources used to inefficiency and does not facilitate the sustainable circular transition. This puts vulnerability to the economy and environment and steers directly to cause climate change. This is why adopting CE to MSW is essential for Cambodia as a step toward pursuing the CE model nationwide. A kickstart of CE to MSW will lead to resource efficiency, waste generation minimization, effective separation reform, and waste resources treatment which are the essential methods in management.

Critique of Policy Options

3Rs (Reduce, Reuse, Recycle)

This practice was adopted in 2008 by the Ministry of Environment (MOE) with support from UNEP to change Cambodia's behavior toward waste.⁴ Under the national strategy, the 3Rs initiative aims to manage sustainable solid waste by improving capacity in waste collective service, an efficient waste separation mechanism, promoting recycled behavior, and a long-term operational disposal site. The goal is to compose organic waste from households by 40 percent and 50 percent from business centers by 2020.⁵ However, the MOE's Secretary of State and Spokesman Neth Pheaktra mentioned that 60 percent of waste was organic in 2022, thus reflecting that composting is not feasible.⁶ This is due to limited production capacity, inefficient and outdated technology, and an unskilled labor force to process the organic waste. Anti-Plastic Bags campaigns also fall under the 3Rs initiative, however, the rise in plastic bag usage is alarming as per person consumes around 2000 plastic bags annually according to the data available.⁷ The continual growth of plastic consumption would halt all national efforts to reduce environmental degradation.

1 Circle Economy, Circularity Gap Report 2021.

2 Dek et al., Municipal Solid Waste Management in Cambodia.

3 Signh et al., State of Waste Management in Cambodia, 11.

4 Euro Cham, Partnership Ready Cambodia: Waste Management, 4.

5 Sang et al., Current Urban Organic Waste Management and Policies in Cambodia, 7.

6 Khmer Times, Cambodia Produces Over Four Million Tons of Garbage Per Year.

7 Manoj, Plastic Control Key for Cambodia to Create Circular Economy.

Waste Collection

Waste collection companies have long struggled with a limited budget and capacity to perform their tasks. Phnom Penh and other urban areas in Cambodia with contracted private companies received better services due to resident cooperation and payment for fee services. However, a lack of service coverage is found in rural and less densely populated areas in which traditional methods of waste disposal such as burning and dumping in water sources are still practiced.⁸ Moreover, the estimated 7.3 percent of MSW which is about 75,000 tonnes per year is recycled informally by informal waste pickers in Phnom Penh. Their participation could contribute significantly to waste collection if Cambodia has a formal recycling model and strategy to involve informal waste pickers in the collection and recycling sector.

Budget Constraint

Limited funding and budget remain the constraints to push forward proposed policies or policies enacted. The right allocation of budget is necessary to ensure the improvement of needed areas. Especially, whether to a recycling facility or a long-lasting landfill with compaction for effective disposal sites, Cambodia needs national budget and funding support for restructuring MSW to a more circular approach. Budget constraint layout in all areas: collection, transportation, landfill, and recycling facility. Issues of service fee payment from the public, inadequate budget allocation, and short-term MSW management investment poses risk to adopting all management policies, including the CE approach.

Landfill Operationality and Recycle Facility

Over 700,000 tonnes of waste generation are at the final disposal site a year and in which Dangkor district receives over 2,000 tonnes of MSW daily.⁹ JICA gave assistance to provide recommendation practices in keeping the Dangkor Landfill in operation, however, it is soon to reach full capacity.¹⁰ In the meantime, the Dangkor district residents endeavor unhygienic and unpleasant smells which bring public health at risk.

The lack of recycling capability poses a major challenge to the overall enacted policies, especially if considering the Circular approach to waste management, recycling is the way forward. However, recyclable waste is not segregated and the recycling industry is still limited nationwide. The Kingdom carries on exporting recycled waste to countries such as Thailand, South Korea, Vietnam, China, Singapore, Malaysia, and Taiwan. Most of the plastic scraps were exported to Vietnam and China, according to the data by MoE in 2015. If MSW continues to be improperly sorted and collected, the recycling sector is hardly scaling up its potential, business opportunities are also at risk.

8 Sang et al., Current Urban Organic Waste Management and Policies in Cambodia, 8-10.

9 PPCA, Phnom Penh Waste Management Strategy and Action Plan (2018-2035), 3.

10 Mao, Dangkor Landfill Full in Two Years, 5Rs Recommended.

Policy Recommendations

The policy recommendations below seek to manage municipal solid waste around the concepts of Circular Economy which include:

- **Strengthening Recycling Capability:** This serves the responsibility of relevant ministry and private stakeholders to improve recycling infrastructure and commit the effort to make recycling facilities the first step forward to allow waste circulation and extend the life cycle of products. Therefore, increasing the number of recyclable wastes is aligned with the goal of minimizing waste which could contribute significantly to the first R (Reduce).
- **Improve Waste Segregation:** To ensure waste can be repurposed, the right start is during collection which requires correct sorting and segregating waste types before final disposal. However, this approach requires the utmost household contribution to facilitate collection services since Cambodia does not have a waste recovery facility, thus the first primary source must weigh the responsibility to separate types of waste. This can also be improved by enhancing waste collection coverage and budget support for waste collection services to outline their responsibility in alignment with proper sorting and segregation and possess the equipment to facilitate the process.
- **Change of Behavior:** Cambodia needs an attractive scheme for the change of household behavior toward their daily waste. A market economy requires a market-based instrument. Therefore, incentives can effectively push for more action-oriented participation from both public and private stakeholders. By creating an incentive system, individuals will find themselves disposing of less waste and more aware of what material goes wasted in garbage. Policies enacted need to nudge household behavior for their awareness of minimizing waste, waste separation, and recycling. The 'Pay-as-you-throw' (PAYT) success stories are growing and may carry over effective results to the Kingdom once adopted.
- **Elimination at Source:** CE approach is pivotal from the production process to the final stage. Thereby, managing waste starts right where waste can be consumed. Elimination at the source matters, thus, traditional instruments through decentralizing waste management to just command and control are inadequate for CE. The municipality needs to coordinate with households to promote awareness and incentivize them to act through mindful consumption, reusing materials, and correct waste separation.
- **Scale-Up Support for Awareness:** Cambodia's decentralized waste management only means through the support of local authority commitment can push through good progress. A circular approach can account for household action. However, the government necessitates support in providing strong signals to introduce this new scheme and process explanation, and action demonstration will elevate CE and be in alignment with the 3Rs. Thus, a knowledge centric around CE is inducing behavioral change, and this goes beyond just households. The municipal level bears the responsibility of disseminating information to the private sector and industry to ensure messages are heard for alteration to sustain the CE approach in the long run and start to encircle all responsible stakeholders to act.



Art pieces made from recycled materials exhibited by Gomi Recycle at the Waste Summit Cambodia 2023
Photo: Waste Summit Cambodia



Waste water treatment plant at Bakheng
Photo: AFP

CHAPTER 8

Strengthening Integrated Liquid Waste and Resource Management Plans in Phnom Penh

Ley Kimchhong

Executive Summary

- Due to the rapid urbanization and economic growth in Phnom Penh, there is an urgent need for integrated plans to manage liquid waste and resources, improve physical infrastructure and enhance the living standards of the city's dwellers. The current infrastructure is inadequate, leading to the dumping of untreated liquid waste into rivers and canals, which poses significant risks to humans and aquatic life.¹
- This paper suggests six main strategies: (1) comprehensive monitoring and reporting system, (2) collaboration between public and private sector in liquid waste management, (3) encouraging overseas investment and broadening the investment origins, (4) review of management current facilities and development of new treatment facilities, (5) implementation of a public education campaign, and (6) improvement of regulations on imposing taxes on contributors or companies that produce industrial waste.
- These policies require a close cooperation between the government, the private sector, and the community. With this trilateral cooperation, Phnom Penh can move toward a more sustainable and more effective waste management system that benefits all citizens in the city.

Introduction

Liquid waste refers to the wastewater accumulated from various establishments such as residences, enterprises, manufacturing plants, and others through a complex system of sewage pipelines.² Untreated liquid waste, which can contain pollutants from streets, homes, and disorganized waste, has the potential to be washed away and ultimately reach canals, rivers and the ocean.³

In Cambodia, there has currently been a lack of effective wastewater treatment plants. While being constructed and operated in certain provinces, central treatment plants only serve urban areas such as Phnom Penh, Battambang, Siem Reap, Sihanoukville, Kampong Cham, Kandal, and others.⁴ However, this treatment system has been insufficient. On a daily basis, there are approximately 234 tons of feces, 2,335 cubic meters of urine, and 8,154 cubic meters of gray water being released into water bodies. As a result, around 497 tons of biological oxygen demand (BOD) are generated daily.⁵

Phnom Penh has seen a rapid increase in population density due to urbanization. The city's wastewater management infrastructure has, however, been unable to keep up with this growth,

1 Environmental Sustainability Impacts of Solid Waste Management Practices. (2022, October 5). NCBI. Retrieved October 31, 2023, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9566108/>

2 M, C. (2021, August 15). Industrial Liquid Waste Management: What to Know as a Facility Manager. EcoRobotics. Retrieved October 31, 2023, from <https://ecorobotics.com/industrial/industrial-liquid-waste-management-what-to-know-as-a-facility-manager/>

3 Ferronato, N., & Torretta, V. (2019, March 24). Waste Mismanagement in Developing Countries: A Review of Global Issues. NCBI. Retrieved October 31, 2023, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6466021/>

4 Wastewater Production, Treatment and Use in Cambodia. (n.d.). ais.unwater.org. Retrieved October 30, 2023, from https://www.ais.unwater.org/ais/pluginfile.php/501/mod_page/content/87/report_cambodia.pdf

5 Health and Sanitation in Cambodia, World Bank, East Asia and the Pacific Region, WSP-EAP, 2008

leading to an inadequate system for collecting, treating, and disposing of liquid waste. In Phnom Penh alone, there are approximately 2 million tons or more of waste per year.⁶ All types of waste produced from home account for approximately 55.3 percent of the total trash in the city, and other sources of waste from other places such as hotels (16.7 percent), restaurants (13.8 percent), markets (7.5 percent), shops (5.4 percent) and the waste from workplaces (1.4 percent).⁷

Due to the annual increase in all kinds of waste, most of the wastes are dumped in the suburbs, on the sidewalk, at designated locations, or illegally dumped in rivers or oceans.⁸ Illegal dumping of waste into the environment has caused flooding, foul-smelling sewage, contaminated water, and negative impacts on the health of the city. As a result, significant environmental and health concerns have been raised, such as water pollution and the spread of waterborne diseases. To tackle these issues, strengthening the integrated liquid waste and resource management plans is critical for Phnom Penh to improve the wastewater system in the city and infrastructure as well enhance the living standards of the city's dwellers. Properly managing liquid waste can reduce the strain on the city's infrastructure and prevent health hazards from occurring in this densely populated area.

In this context, the discussion about Phnom Penh's liquid and resource wastes is more urgent than ever. This paper aims to contribute to this policy by providing practical inputs to enhance both the environment and living standard of the dwellers in the city.

Significance of Prompt Policy Implementation in Phnom Penh

The rapid urbanization and economic growth in recent decades have come with a cost when it deals with liquid waste management. Phnom Penh currently needs help to pay greater attention to liquid waste mismanagement. In the city, most households, shops, restaurants, and businesses need proper wastewater treatment facilities. As a consequence, untreated liquid waste is commonly discharged directly into canals and rivers, which are the city's primary water sources. This practice has led to contaminated water bodies, posing substantial risks to humans and aquatic lives.

The results of inadequate liquid waste management in Phnom Penh are far-reaching. The contamination of water sources affects the livelihood of local residents who rely on these water bodies for drinking, bathing, and cooking. The life quality for these communities is worsened as they are constantly exposed to polluted water and risks of contracting waterborne diseases. In addition, when rivers and canals become contaminated, it can disrupt the natural balance of aquatic ecosystems and harm biodiversity. This type of pollution can also negatively affect the fishing industry, an important source of income for many communities in the city.

6 សំរិម សំណុំរឹង. (n.d.). Open Development Cambodia. Retrieved October 30, 2023, from <https://opendevdevelopmentcam-bodia.net/km/topics/solid-waste/>

7 Sophak, K., & Taguiam, S. (2015, May 18). *Dumpsites to get makover*. Phnom Penh Post. Retrieved October 30, 2023, from <https://www.phnompenhpost.com/national/dumpsites-get-makover>

8 Noriko, O. (n.d.). Chapter 2 Understanding Issues of Assistance in the Solid Waste Sector. JICA. Retrieved October 31, 2023, from https://www.jica.go.jp/Resource/jica-ri/IFIC_and_JBICI_Studies/english/publications/reports/study/topical/waste/pdf/waste_03.pdf

Table 01: Overview of industrial wastewater as pollution sources⁹

| Industry | Significance as pollution sources | | | | |
|------------------------------------------------------------|-----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | Very high | High | Moderate | Low | Very low |
| Food, beverages, tobacco | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Textile, apparels, leather | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Wood, wood products | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Paper, paper products, printing | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Chemicals, chemical products | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Pharmaceuticals, medicinal chemical products | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Rubber and plastics products | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Metal manufacturing | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Electrical equipment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Machinery and equipment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Motor vehicles, other transport equipment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Livestock industries | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Mining and quarrying | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Petroleum refining | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <i>Other industries (please specify in the rows below)</i> | | | | | |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Source: Chandath Him

Moreover, a lack of proper waste maintenance and garbage blocking the drains exacerbate the problem. The limited capacity of the existing drainage systems in Phnom Penh is also exacerbated by a lack of proper arrangement of the liquid system, resulting in flooding. As the city has rapidly developed, the drainage infrastructure has struggled to keep up with the increased rainwater runoff. In Phnom Penh, many Sangkats or districts, including Steung Mean Chey, Toul Sangke, and Toul Tom Pong, have experienced heavy rainfalls, which led to flooding and drainage issues in the city. The heavy rainfalls pose challenges to the city's infrastructure and the overall living condition of the residents.¹⁰

Phnom Penh Liquid Waste Management: Efforts and Constraints

Effectively managing liquid waste in Phnom Penh has not been an easy task for the government. Although measures are taken to address this liquid waste problem, the existing challenges have remained, such as inadequate infrastructure, insufficient funding, and a need for more awareness among citizens about the importance of responsible waste management. Moreover, industrial effluent standards in the city need to be improved. Those industrial effluent standards are divided into three categories: (1) Type 1 of public water area (non-flow water sources), (2) Type 2 of public water area (flow water sources), and (3) Sewage connecting to sewage treatment plants.¹¹

⁹ Updates on Industrial Wastewater management in Cambodia https://wepa-db.net/wp-content/uploads/2023/02/201_Cambodia_report-2022.pdf

¹⁰ Sokny, C. (2023, October 24). Flood warnings issued as more rainstorms on way. Phnom Penh Post. Retrieved October 31, 2023, from <https://www.phnompenhpost.com/national/flood-warnings-issued-more-rainstorms-way>

¹¹ "Updates on Industrial Wastewater management in Cambodia" Chandath Him, (2019, March 9). Retrieved October 30, 2023, from https://wepa-db.net/wp%20content/uploads/2023/02/201_Cambodia_report-2022.pdf

Table 02: Industrial Effluent Standards¹²

កម្រិតកំណត់ស្តង់ដារនៃការបញ្ចេញសំណល់រាវ

| ល.រ | ប៉ារ៉ាម៉ែត្រ | ខ្នាត | បរិមាណសារធាតុបំពុលដែលអនុញ្ញាតឱ្យបញ្ចេញចូល | | |
|-----|-----------------------------------------------------|---------|-------------------------------------------|--------------------------|--------------------------------------------------|
| | | | តំបន់ទឹកសាធារណៈប្រភេទទី១ | តំបន់ទឹកសាធារណៈប្រភេទទី២ | បណ្តាញស្នាក់នៅស្ថានីយប្រព្រឹត្តិកម្មទឹកកន្ទក់រួម |
| ១ | សីតុណ្ហភាព ^១ (T) | °C | <៤០ | <៤០ | <៤៥ |
| ២ | ពណ៌ (Color) | mg Pt/l | <៥០ | <១៥០ | <៣០០ |
| ៣ | សារធាតុរឹងអណ្តែតក្នុងទឹក (TSS) | mg/l | <៥០ | <១០០ | <២០០ |
| ៤ | pH | | ៦-៩ | ៥,៥-៩ | ៥-៩ |
| ៥ | BOD ₅ | mg/l | <៣០ | <៦០ | <២០០ |
| ៦ | COD (Cr ₂ O ₇ ⁻²) | mg/l | <៦០ | <១២០ | <៣០០ |
| ៧ | ប្រេងប្រូតេអ៊ីន (Oil & grease) | mg/l | <៥ | <១០ | <៣០ |

Source: Chandath Him

Despite these ongoing challenges, some efforts have been made, including construction of wastewater treatment facilities and implementation of regulations to encourage proper waste disposal. Moreover, the government also adopts some sub-decree to reduce the impact and improve the liquid waste mismanagement in the city, such as:

- The sub-decree No 27 ANKR.BK on Water Pollution Control, dated 6 April 1999, aims to regulate water pollution control to prevent and reduce the water pollution of public water areas so that protection of human health and conservation of biodiversity can be maintained.
- There is also a sub-decree that applies to all sources of pollution and all activities that cause pollution of public water areas, according to Article 2. The sub-decree also gives the pollution types, effluent standards, and water quality standards in different areas. Concerning the project, some water quality standards for the public water areas will be applied.
- The sub-decree No 36 ANKR.BK on Solid Waste Management, dated 27 April 1999, aims to regulate solid waste management in a proper technical manner and safe way to ensure the protection of human health and the conservation of biodiversity.
- The sub-decree on managing the drainage and wastewater treatment plant systems was enacted on 25 December 2017. This sub-decree aims to effectively improve drainage systems and wastewater treatment plants' management with transparency and accountability to ensure safety, public health, and biodiversity conservation.
- Standard Discharge of Wastewater from Business Buildings, Residents, City, and Resort or Creation Centers into Sewer System Connection to Wastewater Treatment Plant. The sub-decree also includes effluent standards that appear stricter than the sub-decree on Water Pollution Control sub-decree No 27.¹³

¹² "Updates on Industrial Wastewater management in Cambodia" Chandath Him, (2019, March 9). Retrieved October 30, 2023, from https://wepa-db.net/wp%20content/uploads/2023/02/201_Cambodia_report-2022.pdf

¹³ ក្របខណ្ឌគ្រប់គ្រងផ្នែកបរិស្ថាននិងសង្គមនៃគម្រោងធ្វើឱ្យប្រសើរឡើងការផ្គត់ផ្គង់ទឹកស្អាត និងអនាម័យ. (n.d.). ក្រសួងសាធារណការ និងដឹកជញ្ជូន. Retrieved July 9, 2023, from <https://www.mpwat.gov.kh/kh/documents/policy/32>

However, extra efforts are needed to ensure that the city's liquid waste management is sustainable and effective in the long run. The proper liquid waste management can benefit all the citizens in the city.

Policy Recommendations

It is crucial for Cambodia to prioritize the management of wastes, both solid and liquid, in its capital city of Phnom Penh. The city's location is important for Cambodia, with 14 percent of the country's total population which is more than 2 million people,¹⁴ and there is also an immense potential for the city's growth and development. However, to fully reap benefits of this location, Cambodia must implement effective policies and take concrete actions to address the issue of liquid waste mismanagement. The government and the Phnom Penh City Hall must focus on six key strategies as follows:

- **Comprehensive monitoring and reporting system** is the most important step to restore the liquid waste mismanagement in Phnom Penh. The Phnom Penh Capital Administration needs to establish a monitoring and reporting system for liquid waste management to ensure that all the data and resources of liquid waste are properly tracked and disposed of in a safe and environmentally-friendly manner. To secure that, the Phnom Penh City Hall needs to (a) access the current waste management situation in the inner and outer districts of Phnom Penh; (b) identify risks to communities with improper waste management; (c) provide clear recommendations to community officers and stakeholders about this issue; and (d) provide evidence of waste issues through statistics, descriptive and visual reports.
- **Cooperation between public and private sectors in liquid waste management should be further promoted and strengthened.**
 1. It is imperative that the commune officer and the related officer comprehend the matter at hand, including its underlying cause. It is important to emphasize collaborative efforts in resolving this issue.
 2. Public-private partnerships: To improve liquid waste management in Phnom Penh, it is essential that the government and private sector work together through public-private partnerships. These partnerships can leverage the strengths of both parties to develop and implement effective waste management strategies.
 - a. The Royal Government of Cambodia should provide incentives and further cooperate with the existing development partners, such as JICA, Asia Wastewater Management Partnership, and others to assist in addressing the issue.
 - b. The government should further cooperate with technologically advanced countries with best practices in liquid waste management particularly in the city. Those countries include, but are not limited to, Japan, Germany and other western countries.
 - c. The government should have a strong involvement in multilateralism in the fields of sanitation and wastewater in Phnom Penh. Those organizations include World Health Organization, World Bank, UNICEF, Asian Development Bank, and Global Youth Institute. A strong partnership between the government and private sector can help tackle the challenges of liquid waste management and promote sustainable development.

14 Phnom Penh, Cambodia Metro Area Population 1950-2023 | MacroTrends. (n.d.). MacroTrends. Retrieved March 19, 2023, from <https://www.macrotrends.net/cities/20357/phnom-penh/population>

3. Regulatory frameworks: Collaboration between public and private sectors can also help establish regulatory frameworks to ensure that all forms of liquid wastes are properly managed and disposed of. They can develop fair, effective, and enforceable regulations.
- **Encouraging overseas investment and broadening the investment origins** are also one of the main strategies. The government needs to work closely with other developed countries with advanced technologies. There is also a need for more investments in creative industries that can recycle and convert polluted water into clean water with low bacterial risks. A proper waste treatment system with a low cost is needed in Cambodia especially for households and MSMEs in the city.
 - **Review of management current facilities and development of new treatment facilities**¹⁵ is needed to improve liquid waste management in Phnom Penh. The construction of new treatment facilities is necessary to remove harmful pollutants from wastewater and to ensure environmental safety. Developing the new facilities involves these key steps:
 1. It is essential to thoroughly identify and assess the urban community's current needs and determine what types of facilities are needed.
 2. Once the need has been identified, the next step is to develop a facility plan. This may involve working with architects and engineers to design the building and determine what equipment and technologies will be needed.
 3. Funding is also a critical component of the development process, and securing grants or loans to finance the project may be necessary.
 4. Once the facilities are installed, it is crucial to hire and train staff to make greater use of them. Both human capital and new technologies will improve the existing treatment facilities and ensure better and safer liquid waste management for generations.
 - **Implementation of a public education campaign** is another key recommendation for improving liquid waste management. Through public campaigns, the government can distribute materials to raise public awareness about the importance of proper liquid waste disposal and the potential risks associated with improper disposal. To achieve this aim, the public campaigns need to:
 1. Be designed to ensure attraction, clarity and lucidity of the campaigned information.
 2. Utilize various communication platforms such as social media, television channels, and community outreach programs, and other appealing and user-friendly platforms.
 3. Partner with local organizations and community leaders for inclusive cooperation. The campaign can also help to foster a sense of collective responsibility and promote positive behavioral change towards waste management.
 4. Evaluating how effective the campaigns are and what challenges remain. With all the information, the government can seek proper solutions.

15 Background Policy Study on Wastewater Management and Sanitation in Cambodia, Lao People's Democratic Republic (PDR) and Social. (n.d.). ESCAP. Retrieved July 9, 2023, from https://www.unescap.org/sites/default/files/Background%20Policy%20Study%20on%20Wastewater%20Management%20in%203%20Countries_24%20March_2014.pdf

- **Enforcing Cambodian laws on imposing taxes on the contributors or companies that produce industrial waste** is also important. Here are the steps to implement this policy:
 1. Review the current regulations: Conduct a thorough review of the current regulations and identify areas that need to be revised or updated. This review should involve inputs from stakeholders such as affected companies, environmental groups and households.
 2. Identify necessary changes: Once the review is complete, identify the necessary changes that need to be made to the existing law or propose new legislation. This should take into account best practices from other countries and jurisdictions.
 3. Monitor and enforce compliance: Once the necessary changes have been identified and implemented, they should be carefully monitored and enforced to ensure compliance and effectiveness. This can be done through inspections, audits, and penalties for non-compliance.
 4. Evaluate effectiveness: Regular evaluations should be conducted to assess the effectiveness of the policy in achieving its goals. This will help identify any gaps or areas that need improvement. By following these steps, we can ensure that the regulation of the law on imposing taxes on contributors or companies that produce industrial waste is improved, leading to a safer and cleaner environment for all.

To achieve the above-mentioned objectives, the Ministry of Environment, Ministry of Public Works and Transport (MPWT), and other line ministries should, first and foremost, create an inter-ministerial working group or a unit or task force to work closely with other agencies and stakeholders.

Secondly, Phnom Penh Capital Administration (PPCA), the sub-national government body, needs to take more actions to monitor by working closely with the commune officers, village officers, and with the team or the units that form between the Ministry of Environment and Ministry of the Public Works and Transport. Moreover, the PPCA needs to help facilitate public-private partnership in waste management.

Thirdly, the PPCA should diligently implement the government's regulations. It is imperative that these regulations are strictly enforced particularly for both safety and well-being of the communities.

Fourth, there should be more workshops, seminars, debates, and sharing sessions that focus on the environment, especially liquid waste. The sessions will help contribute to public awareness and enforcement of regulations and laws to reduce wastes and protect the environment.

Last, inclusive participation of the people is the policy's success. There is a need for more active participation of the locals involved in the policy-making processes. The local participation will strongly support the policies. They are more likely to comply with the policies and work towards achieving the policy outcomes. The local participation makes the policy implementation more inclusive, efficient and effective.

Conclusion

The mismanagement of liquid waste in Phnom Penh has affected both human health and the environment. To address these issues, it is crucial to prioritize the management of solid and liquid wastes in Phnom Penh by focusing on six key strategies. Those strategies include comprehensive monitoring and reporting systems, public-private partnerships, overseas investments, new treatment facilities, public education campaigns, and enforcing the Cambodian law on taxes for industrial waste contributors. The success of these strategies will require close collaboration between the government, the private sectors, and the communities. With these practical strategies, Phnom Penh can have a more sustainable and effective waste management system that benefits both the country and its people.



Photo: supakitmod/Getty Images





SECTION 4
SUSTAINABLE DEVELOPMENT
GOALS IN CAMBODIA



Photo: KulikovaN/Getty Images

CHAPTER 9

Reviving the Ancient City: Developing Siem Reap Into an Education and Tech Hub

Luy Ung Techhong

Executive Summary

- Siem Reap heavily depends on the tourism sector, particularly the Angkor complex, which possesses both economic benefits and hidden risks. The city aims to diversify its offerings to avoid being labeled a one-trick pony.
- Tourism Development Master Plan Siem Reap 2021-2035 seeks to revitalize the city's potential by focusing on education and technology, as well as expanding green tourism sites.
- This policy brief explores the potential transformation of Siem Reap into an education and tech hub while leveraging its strengths and safeguarding its cultural heritage sites. It also provides an analysis of the policies implemented by the government and multifaceted recommendations encompassing local economic diversification through education, urban planning, and sustainable tourism management.

Introduction

The COVID-19 pandemic has crumbled Siem Reap's economy significantly with approximately 90% of businesses, most of which are hotels and restaurants, being either temporarily halted or permanently shut down.¹ Nearly 30,000 workers directly employed by these businesses were impacted. Not to mention thousands of other workers in the informal sector. In response, the Royal Government of Cambodia (RGC) introduced cash transfers program for affected tourism workers,² offered tax exemptions, paused tourism licensing fees, and provided low-interest loans for tourism businesses' recovery,³

Prior to the pandemic, Cambodia's tourism industry grew rapidly. Evident by the record of 11.32 million domestic visitors and 6.61 million international visitors in 2019.⁴ In the same year, the industry provided jobs to 630,000 people, while also generating nearly USD 5 billion, equivalent to 12.1% of the country's GDP.⁵ Despite having beautiful beaches, conservation parks, and numerous cultural and heritage sites across the country, a staggering 58% of international tourists exclusively choose to visit Siem Reap and the Angkor complex.⁶ This situation is a double-edged sword. The immense popularity of Angkor substantially stimulates Siem Reap's economic growth as the province itself generated USD 1.3 billion in 2019.⁷ Nonetheless, the city might be labeled a one-trick pony and ultimately fail to harness its fullest potential, should the city fail to diversify its attractions and to a greater extent, its economy.

1 Pradeep, Adur. 2022. "Siem Reap worst affected tourist destination during Covid-19." Khmer Times. <https://www.khmer-timeskh.com/501141148/siem-reap-worst-affected-tourist-destination-during-covid-19/>.

2 Chea, Sokny. 2023. "Final cash support for Siem Reap tourism workers." Phnom Penh Post. <https://www.phnompenhpost.com/national/final-cash-support-siem-reap-tourism-workers>.

3 O'Connell, Clint. 2023. "Cambodia: Additional Measures to Mitigate the Economic Impact of Covid-19 and Support the Recovery of the Tourism Sector." DFDL. <https://www.dfdl.com/insights/legal-and-tax-updates/cambodia-additional-measures-to-mitigate-the-economic-impact-of-covid-19-and-support-the-recovery-of-the-tourism-sector/>.

4 Asian Development Bank. 2022. "Community-Based Tourism COVID-19 Recovery Project: Sector Assessment Summary - Tourism in Cambodia." SECTOR ASSESSMENT SUMMARY: TOURISM IN CAMBODIA. <https://www.adb.org/sites/default/files/linked-documents/53243-001-ssa.pdf>.

5 Ibid.

6 Ibid.

7 Ministry of Tourism. 2019. "Cambodia: Tourism Statistics Report." NagaCorp. https://www.nagacorp.com/eng/ir/tourism/tourism_statistics_201912.pdf.

Recent Developments

It is fair to say that the Kingdom's tourism sector has not had time to catch a break. A series of interesting events have taken place and attracted more eyes to every move the government makes. Netizens were unamused by the tourism statistics and how the reporting compared this year's numbers with 2022 instead of pre-pandemic statistics — seemingly boasting the 250% increase and underplaying the 77% drop.⁸

Firstly, many Cambodians were outraged by the construction of a replica of Angkor Wat temple in Wat Phu Man Fah, located in Thailand's Buriram province. This incident has ignited the historical tensions and nationalistic sentiments between Cambodians and Thais. The Ministry of Culture and Fine Arts issued a statement emphasizing that experts were dispatched to assess the site and verified that there had been no further construction.⁹ Secondly, the application of international copyright laws, enforced by the APSARA National Authority locally with various heritage sites, has led to confusion among local tourists regarding their ability to capture photos and videos of these heritage sites. The sanctity of Angkor Wat and similar heritage sites has raised concerns about potential copyright infringements, especially when these sites are included in the UNESCO World Heritage Sites list. The use of fisheye cameras, popular among content creators and vloggers can only be used at the discretion of the authority.¹⁰ Thirdly, a group of singers who wished to film their music video at a heritage site expressed frustration with the bureaucratic regulations despite submitting all required documents. In response, the APSARA National Authority set up a Telegram channel and a call center to streamline the process.¹¹ Finally, the biggest blow to the tourism sector might have been the news reports of online scams and human trafficking by various organizations and media outlets, amplified by the high-grossing Chinese film called *No More Bets*,¹² which has tarnished the Kingdom's reputation among international tourists and ultimately affected the industry.¹³ Considering all the negativity surrounding the tourism sector, the Kingdom received 3.5 million tourists in the three quarters of 2023, with half of million of them visiting the Angkor Wat temple, generating USD 25 million from the ticket sales alone.¹⁴

8 FRESH NEWS. 2023. “ក្រសួងទេសចរណ៍ ចេញប័ណ្ណបញ្ជាឱ្យបិទទ្រូមលើស្ថិតិភ្ញៀវបរទេស៣.៥លាននាក់ ក្នុងរយៈពេល៨ខែ ឆ្នាំ២០២៣ (Video inside).” <https://www.freshnewsasia.com/index.php/en/localnews/312145-2023-09-29-08-56-12.html>.

9 Chandara, Samban. 2023. “Ministry taking steps over Thai ‘replica’ of Angkor Wat.” Phnom Penh Post. <https://www.phnompenhpost.com/national/ministry-taking-steps-over-thai-replica-angkor-wat>.

10 Chhun, Sunly. 2023. “Fisheye cameras barred in Angkor Wat.” Khmer Times. <https://www.khmertimeskh.com/501214213/fisheye-cameras-barrred-in-angkor-wat/>.

11 FRESH NEWS. 2023. “អាជ្ញាធរជាតិអប្សរា ដាក់ឱ្យប្រើប្រាស់គេហទំព័រសម្រាប់ផ្តល់សេវាកម្មផ្សេងៗក្នុងមណីយដ្ឋានអង្គរ.” <https://freshnewsasia.com/index.php/en/localnews/312857-2023-10-05-13-09-39.html>.

12 The film chronicles a story about persons being trafficked overseas and forced to defraud online. Enticed by the promise of high-paying jobs, a Chinese programmer and a model find themselves trapped in a foreign country, prisoners of a ruthless gang and forced into online gambling fraud.

13 Chheng, Niem. 2023. “Are reports of scamming affecting tourism revival?” Phnom Penh Post. <https://www.phnompenhpost.com/national-post-depth/are-reports-scamming-affecting-tourism-revival>.

14 Hin, Pisei. 2023. “Angkor park sees rise in tourism.” Phnom Penh Post. <https://www.phnompenhpost.com/business/angkor-park-sees-rise-tourism>.

Policy Analysis

The city's dependence on cultural heritage sites could undermine its pursuit of sustainable management and inclusive development, both of which are approaches set out in the Tourism Development Master Plan Siem Reap 2021-2035 by the government.¹⁵ The master plan seeks to boost international visitors to the city to 7.5 million by 2035, creating 940,000 jobs, and generating an additional USD 6 billion in revenue.¹⁶ As part of this plan, the city has undergone a significant infrastructure makeover, involving an investment of USD 150 million in the construction of 38 new roads, complete with well-designed pedestrian walkways and bicycle lanes.¹⁷ Also, the new Siem Reap Angkor International Airport (SAI), scheduled to commence operations on October 16, was built at a cost exceeding USD 880 million and has the capacity to potentially serve more than 7 million passengers annually.¹⁸ In the future, transportation to the city center from the airport might be eased by a light rail line.¹⁹ Furthermore, the city will also be one of the beneficiaries of the planned Phnom Penh-Siem Reap-Poipet Expressway, thus an increase in domestic tourism should be expected. This model is proven by the success of the Phnom Penh-Sihanoukville Expressway.²⁰

The vision of the master plan is “*to recapture the pride as the major tourist destination in Cambodia and Southeast Asia region*”. In reality, Cambodia ranked 79th, behind its neighboring countries, according to the Travel & Tourism Development Index 2021 (Thailand in 36th and Vietnam in 52nd), both of which are competing for the same piece of the pie. Some typical leading causes of low competitiveness are the lack of infrastructure like air and ground transport, business environment, international openness, safety and security, human resources, ICT readiness, tourist services, and natural and cultural resources.²¹ Despite the recent infrastructure upgrades and future implementation of strategies such as the development of *Priority Tourism Zones* and *New Tourism Products*, Siem Reap must develop its own competitive advantage to compete with its neighbors, let alone the whole region. New tourism products mentioned in the master plan such as *Culture, Heritage, Religious and Belief Tourism, Green Tourism, MICE²² Tourism, Rural Tourism and Agro-Tourism, Sports Tourism Products, Senior Tourism - Health Tourism and Second Home Tourism*, will provide more options for tourists and might increase their length of stay, and ultimately their spending in the city. However, the concern is whether tourists will choose Siem Reap over nearby destinations if they provide similar tourism products. For instance, unless the *Health Tourism* strategy exclusively targets domestic medical tourists, it would be counterproductive for the city to focus on the strategy when many Cambodians preferably

15 The Royal Government of Cambodia. 2021. “Tourism Development Master Plan Siem Reap 2021-2035.” Open Development Cambodia. https://data.opendatacambodia.net/dataset/45a65d2c-cfef-43ff-a326-6780390f3aad/resource/a5b6d7a0-afed-4148-9f06-333ef0c0b94e/download/tourism_dev_master_plan_sr_30.03.2021.pdf.

16 Turton, Shaun. 2022. “Cambodia’s Siem Reap gets USD150m makeover -- now it needs visitors.” Nikkei Asia. <https://asia.nikkei.com/Business/Travel-Leisure/Cambodia-s-Siem-Reap-gets-150m-makeover-now-it-needs-visitors>

17 Ibid.

18 Nhean, Chamrong. 2023. “New Siem Reap airport to facilitate more direct flights.” Khmer Times. <https://www.khmer-timeskh.com/501327204/new-siem-reap-airport-to-facilitate-more-direct-flights/>.

19 Khmer Times. 2023. “Siem Reap to build light rail line from Siem Reap-Angkor International Airport to Siem Reap city.” <https://www.khmer-timeskh.com/501348027/siem-reap-to-build-light-rail-line-from-siem-reap-angkor-international-airport-to-siem-reap-city/>.

20 Khmer Times. 2023. “MoU on Phnom Penh-Siem Reap-Poipet Expressway to be signed this today.” <https://www.khmer-timeskh.com/501304139/mou-on-phnom-penh-siem-reap-poipet-expressway-to-be-signed-this-today/>.

21 World Economic Forum. 2022. “Travel & Tourism Development Index 2021: Rebuilding for a Sustainable and Resilient Future.” <https://www.weforum.org/reports/travel-and-tourism-development-index-2021/in-full/about-the-travel-tourism-development-index/>.

22 Meetings, Incentives, Conferences and Exhibitions

partake in medical tourism to Thailand and Vietnam due to better “quality of care.”²³ It would not be smart for the government to invest millions in the medical tourism industry, just to compete with the 6th best healthcare system in the world, Thailand.²⁴ Those funds, if available, should instead be used to improve the Kingdom’s own public health system to decrease the outflow of Cambodian medical tourists.

Moving east from the restricted area under the control of the APSARA National Authority, the master plan also seeks to expand the city’s buffer zone to accommodate future visitors, naming it “Siem Reap East.”²⁵ This project is expected to be implemented in the next 10 to 15 years with an estimated cost of between USD 500 million to USD 700 million.²⁶ Some of the *Project Implementation Components* such as *Developing some parts of Siem Reap East as a youth tourism zone associated with training and high-class education* and *Developing a green park associated with the ancient road of “Angkor Ancient Road”* are distinctive and if successfully implemented, have the potential to become the city’s competitive advantage aside from Angkor and its surrounding temples. For example, the success story of Singapore’s Jewel Changi Airport offers us a glimpse of how an innovative but simple concept like urban greening, under the technical guidance of a visionary architecture firm, turned an airport into a standalone tourist destination. Income from space rentals, not related to aviation fees, increased significantly from USD 537 million in 2009 to USD 1.17 billion in 2019, just shy of the revenue the whole province of Siem Reap generated in the same calendar year.²⁷

The masterplan’s **20 Priority Actions** mentioned that tourist spots such as the Siem Reap River, Phnom Kulen National Park, and Phnom Krom will receive further development to enhance its attractiveness and be leveraged for their natural beauty. These spots have one thing in common, they can be considered as part of **Green Tourism** which is increasingly popular among tourists. Sustainably managing natural resources in a young and relatively undeveloped heritage city like Siem Reap is essential for several reasons. One of which is, preserving these sites from the outset helps maintain the city’s environmental balance and biodiversity. It can foster a healthier living environment by providing cleaner air, reducing heat radiation, and offering recreational opportunities for residents and tourists. Investing in the maintenance of these natural and heritage sites demonstrates the government’s commitment to **sustainable management** which will ultimately safeguard the city’s natural beauty for both current and future generations. Additionally, the maturity of the Kingdom’s MICE industry was on display during last year’s ASEAN Summit and related meetings and this year’s SEA Games. Regarding Siem Reap, it was obvious that despite the hundreds of hotel rooms available for the delegations, the city lacked the capacity to host such enormous events due to its infrastructure and facilities. Thus, the government has a huge opportunity to explore and focus on **MICE Tourism** to bring in more

23 Liverani, Marco. 2020. “Cross-border medical travels from Cambodia: pathways to care, associated costs and equity implications.” LSHTM Research Online. <https://researchonline.lshtm.ac.uk/id/eprint/4656803/1/HPP%20Medical%20travels%20Cambodia.pdf>.

24 Bangkok Post. 2019. “Thailand’s healthcare ranked sixth best in the world.” <https://www.bangkokpost.com/thailand/general/1746289/thailands-healthcare-ranked-sixth-best-in-the-world>.

25 The Royal Government of Cambodia. 2021. “Tourism Development Master Plan Siem Reap 2021-2035.” Open Development Cambodia. https://data.opendatacambodia.net/dataset/45a65d2c-cfef-43ff-a326-6780390f3aad/resource/a5b6d7a0-afed-4148-9f06-333ef0c0b94e/download/tourism_dev_master_plan_sr_30.03.2021.pdf.

26 Ibid.

27 Chutiphongdech, Thanavutd. 2022. “The Success behind the World’s Best Airport: The Rise of the Changi.” ResearchGate. https://www.researchgate.net/publication/347714549_The_Success_behind_the_World’s_Best_Airport_The_Rise_of_the_Changi.

high-spending international business travelers and simultaneously ensure that the city can host future events. With the appropriate amenities and infrastructure provided in the form of conference centers, in addition to the city's unique environment, abundant hotel rooms, and lower venue costs compared to Singapore and Thailand, Siem Reap can create its own value proposition and stands a chance of becoming a player in the region's MICE industry.²⁸

Overall, the government's ambitious master plan encompasses numerous projects that hold the potential to shape the nation's future. However, a common challenge that often hinders progress is the lack of adequate funding for these multifaceted strategies and action plans. This is evident in the master plan as project cost estimations are provided but funding for most projects is yet to be determined. This financial uncertainty can delay or even stall critical projects, preventing them from realizing their intended impact on the city. Even when funding eventually becomes available, the priority of these project implementations is based on the vested interests of different government agencies and private sector entities.

Discussion

"In the next 25 years, Cambodia has the ambition to boost its national pride (the image and reputation of the Kingdom internationally) to be on par with the Angkor period." - *Samdech Thipadei Hun Manet, Prime Minister's Speech During the First Meeting of the Council of Ministers*

Rather than confining Siem Reap's potential solely to tourism and pigeonholing it as a tourism hub, it is imperative for the government and stakeholders to envision broader horizons. The concept of reviving the historic city aims not to fixate on what has been lost but rather to draw inspiration from its glorious past. One of the rationales behind developing Siem Reap into an education hub is by no means a new concept, it is one that is borrowed from our ancestors. Several universities were established during the Angkor era from the 9th to the 12th century. Historians stated that education during this era was comprehensive, covering various areas such as arts, religion, urban planning, infrastructure, health, and social welfare, reflecting the strength of knowledge and the importance of human capital even in those times.²⁹

One of Prime Minister Hun Manet's *Six Priority Policy Programs is providing vocational and technical training for youth from poor and vulnerable households across the nation*. Thus, right now is perhaps the perfect time for Siem Reap to make use of the land incentives mentioned in the master plan, to build not only international universities and research centers but also the much-needed Technical and Vocational Education and Training (TVET) and Tourism Professional Schools as only just around 30% of workers within the Siem Reap tourism sector undergo certified training.

28 STR. 2023. "Hotels in Southeast Asia seeing the return of MICE business and major leisure events." <https://str.com/data-insights-blog/hotels-in-southeast-asia-seeing-return-of-MICE-business-and-major-leisure-events>.

29 Moeun, Nhean. 2017. "Cambodia housed many universities during Angkor era." Phnom Penh Post. <https://www.phnompenhpost.com/post-plus/cambodia-housed-many-universities-during-angkor-era>.

The concept of American College Towns³⁰ offers a model that can be replicated and develop Siem Reap into an education and tech hub. Within the model, colleges or universities frequently serve as hubs of innovation, research, and entrepreneurial activity, thus these institutions will act as a feeder for the local economy's labor demand and beyond. Another defining trait is that these towns are typically situated far away from the capital city. This often translates into reduced housing expenses for student accommodations and appealingly affordable commercial real estate rates for companies looking to establish their headquarters. They are also recognized as economic powerhouses because of the significant output they produce, primarily driven by their large quantities of young, highly educated professionals who are highly sought after by technology companies offering lucrative employment opportunities.³¹ Furthermore, the New Generation Schools³² (NGS) model can act as the foundation of the city's development of its educational institutions, NGS' implementation of school autonomy and accountability, and the STEM-based curriculum have proven successful thus far for public high schools across the country.³³ This could enable local high school students in Siem Reap to think beyond hospitality and tourism as their only options in university and for their careers.

In terms of urban planning, some of the most populated cities and urban areas in Cambodia are Battambang, Serei Saophoan and Poipet (Banteay Meanchey), Samraong (Oddar Meanchey), Pursat, all of which are neighbors of Siem Reap, with the exception of Pursat as Tonle Sap wedges between the two provinces.³⁴ Geographically, establishing an education hub in Siem Reap will attract the urban population — especially students transitioning into the workforce from its neighboring provinces and address skill shortages among local youth. This can be a win-win situation for all, even for Phnom Penh, the promised land where thousands of provincial students and workers migrate to each year. This will likely alleviate pressure on the capital's infrastructure, and help sustainably manage its population growth and rising cost of living.

To increase Siem Reap's competitiveness in the regional and global tourism industry, the government should continue to work with all relevant stakeholders of the master plan to push on all fronts. For example, a private real estate developer is exploring the potential of *MICE tourism* by building international standard conference spaces to attract international business travelers for business conferences and locals for domestic country-level meetings. The developer is also in consideration of offering land grants to international universities and a research center (the Sleuk Rith Institute) as an incentive for campus locations, building student housing units, and exploring educational partnership models with foreign governments to develop a full-fledged university town.³⁵ The city should not be complacent with its inevitable short-term successes — the influx of tourists as part of the industry's recovery, reported by multiple organizations

30 Any city where a college or university and the cultures it creates exert a dominant influence over the character of the community but not merely home to a college or university

31 Center for Regional Economic Advancement at Cornell University. 2020. "The Post-Pandemic Future of Collegetowns: Leveraging Innovation and Entrepreneurship." <https://crea.cornell.edu/2020/12/01/the-post-pandemic-future-of-collegetowns/>.

32 The New Generation Schools (NGS) reform launched in 2015 is used as a new school governance framework to promote the quality and the relevance of education to equip Cambodian youth with skills in the industrial revolution era.

33 Bo, Chankoulika. 2021. "New Generation Schools in Cambodia." Atlantis Press. <https://www.atlantis-press.com/proceedings/icream-20/125952690>.

34 City Population. n.d. "Cambodia: Provinces, Cities, Urban Areas & Urban Communes - Population Statistics, Maps, Charts, Weather and Web Information." Accessed September 26, 2023. <http://www.citypopulation.de/en/cambodia/cities/>.

35 Hix, Corbett. 2019. Siem Reap East (Internal Working Paper). Urban Living Solutions (ULS).

like the UNWTO³⁶, ADB³⁷, and more. Instead, it should focus on implementing projects related to economic diversification that will generate a long-term output of high-quality human capital and potential tech and digital transformation investments that can truly transform Siem Reap's economy and sustainably manage its highly profitable but fragile heritage sites.

Policy Recommendations

- The government should seek for international university partners and private real estate developers to invest in developing Siem Reap into the Kingdom's education and tech hub by building international universities and research centers, with their programs centered on STEM and social sciences like anthropology, archaeology, history, geography, and more. In the short-term, investment into TVET institutions, and Tourism Professional Schools should continue as they supply the city's tourism sector demands. It should also involve the Ministry of Education, Youth and Sport and the Ministry of Industry, Science, Technology & Innovation, to establish a university-to-workforce pipeline by utilizing the New Generation Schools and the American College Towns model as blueprints for fostering innovation and entrepreneurship.
- The government should leverage the city's ecotourism strengths by continuing the development of Green Tourism sites like the Siem Reap River, Phnom Kulen National Park, and Phnom Krom. It also involves the Siem Reap Provincial Administration and the Ministry of Environment to improve the city's natural beauty and health by implementing whole-of-city urban greening initiatives.

The government should prioritize and expedite the implementation of the Siem Reap East project outlined in the master plan while allocating revenues from ticket sales to sufficiently maintain various heritage sites across the city. Furthermore, it should engage key stakeholders in the process of developing additional tourist attractions and diverse tourism offerings within the buffer zone, aiming to reduce the strain on the city center's infrastructure and heritage sites such as the Angkor Wat temple.

36 UNWTO. 2023. "Tourism on Track for Full Recovery as New Data Shows Strong Start to 2023." <https://www.unwto.org/news/tourism-on-track-for-full-recovery-as-new-data-shows-strong-start-to-2023>.

37 Asian Development Bank. 2023. "Cambodia's Economy to Accelerate on Tourism Recovery — ADB." <https://www.adb.org/node/872356/printable/print>.



Photo: shutterstock

CHAPTER 10

Tackling Homelessness in Cambodia With 3S Policy: Shelter, Skill, Security

Sean Mouying

Executive Summary

- Urbanization and modernization in Phnom Penh, Cambodia, have spurred gentrification, displaced residents, and eroded affordable housing. This has led to homelessness becoming a critical issue, encompassing primary and secondary categories as defined by the United Nations.
- Generally, males outnumber females, with adolescents aged 13 to 17 forming a significant segment. Homelessness arises from factors such as the aftermath of the Pol Pot regime, urbanization-driven evictions, poverty, rural-urban migration, and personal circumstances.
- Efforts of both government and civil society organizations aim to address this challenge, necessitating a tailored policy. The “3S” (Shelter, Skill, and Security) approach is recommended, blending existing methods with fresh initiatives, targeting the long-term reduction and harnessing of potential within the adult primary homelessness population (APHP).
- Guided by human rights and participation principles, the 3S policy demands collaboration among stakeholders: government, civil society, the private sector, and people experiencing homelessness. Adopting this strategy could yield substantial progress in curbing homelessness while harnessing the potential of Cambodia’s youth.

Introduction

The issue of homelessness remains a persistent challenge in developing nations, including Cambodia. In accordance with the comprehensive definition of homelessness introduced by the Global Homelessness Indicators Project (GHIP) and the UN Human Settlements Programme (UN-Habitat), homelessness is characterized by the absence of access to housing that adheres to safety, security, habitability, and affordability standards, thereby enabling individuals to lead lives of dignity and stability.¹ In the Cambodian context, homelessness pertains to individuals who lack housing or shelter for prolonged periods.² As highlighted in a report by the NGO People in Need, the prevailing perception among Cambodians associates homelessness with various groups, encompassing beggars, vagrants, those grappling with substance abuse, and individuals confronting mental health issues.³ Drawing from United Nations categorization, homelessness can be classified into primary and secondary forms. Primary homelessness involves individuals residing on streets or public areas, while secondary homelessness encompasses those experiencing frequent relocations, precarious living conditions, and housing instability.⁴ Reports from Habitat for Humanity Cambodia underscore that in 2013, approximately 10 million Cambodians were without adequate housing.⁵

Notably, this demographic includes Phnom Penh’s street sleepers, which encompass cyclo (three-wheel bicycle), motorcycles, tuk-tuk (three-wheel motorcycle), and rickshaw operators, along with itinerant waste-pickers who migrate from rural to urban regions seeking livelihood prospects.⁶

1 Rajpari, “What Is Homelessness and Why Is It an Issue? – UAB Institute for Human Rights Blog.”

2 Fabienne Luco, “Street Sleeper,” 5.

3 Luco, “Street Sleep,” 6.

4 OHCHR, “Homelessness and Human Rights,” 1.

5 Thelwell, “4 Facts about Housing and Homelessness in Cambodia.”

6 Luco, “Street Sleep” 21.

This homeless population further comprises individuals who have encountered job loss, rendering them incapable of paying rent, those contending with familial upheavals like divorce, and individuals directly impacted by the Covid-19 pandemic.⁷ Furthermore, this group encompasses the profoundly impoverished and susceptible, including child street vendors and those residing at their workplaces, such as construction laborers and domestic staff.⁸ It also extends to those living aboard small boats, such as fishermen, and individuals engaged in modest-scale vending along riverbanks.⁹

In Cambodia, obtaining comprehensive data on homelessness remains a challenge. Research across major cities, including Phnom Penh, found around 2,711 homeless children (13-17 years) in 2017.¹⁰ Another study in these cities reported about 4,086 homeless adolescents in 2020. The overall nationwide count remains unknown.¹¹ Although homeless individuals are a small part of the population, their impact on social and economic development is significant. Most homeless individuals are adolescents. Addressing this is crucial for their potential contribution to Cambodia's progress.

Addressing homelessness in Cambodia is both a moral imperative and a strategic investment in the nation's future. The Vancouver Declaration on Human Settlements, adopted by the UN in 1976, establishes the right to adequate shelter for all, placing an obligation on governments to assist the most disadvantaged through self-help programs.¹² Urgent action is warranted, especially given reports from the Office of the High Commissioner for Human Rights highlighting violations of this fundamental housing right. Strategically, providing secure, affordable housing enhances human capital, fosters social cohesion, and boosts economic competitiveness, particularly unlocking the potential of homeless youth. This aligns with Cambodia's goal of becoming a high-middle-income country by 2030 and a high-income country by 2050. While the government and organizations have initiated efforts, criticism arises, with concerns about inhumane treatment and superficial policies that beautify cities rather than effectively addressing homelessness. Insufficient funding perpetuates the issue, leading to social stigma and hindering homeless individuals from benefiting from government initiatives.

Root Causes

The root causes of homelessness in Cambodia can be traced back to the aftermath of the Pol Pot regime¹³ and the civil war,¹⁴ leading to challenges in accessing land, services, and security for returning individuals. Rapid economic growth and urbanization in the early 2000s resulted in forced evictions¹⁵ and land grabbing, driven by the transformation of cities to attract investment and tourism. Poverty is a significant factor, affecting both rural and urban areas, with around 90 percent¹⁶ of the poor residing in rural regions and approximately 89,326 urban poor across

7 Ibid

8 Ibid

9 Ibid

10 Stark et al., "Estimating the Size of the Homeless Adolescent Population across Seven Cities in Cambodia."

11 CPC Network, "Estimation of Homeless Children Across Seven Cities in Cambodia."

12 United Nations, "United Nations Conference on Human Settlements: Habitat I | United Nations."

13 Quackenbush, "40 Years after the Fall of the Khmer Rouge, Cambodia Still Grapples with Pol Pot's Brutal Legacy."

14 OmniMaster and OmniMaster, "Civil War: Cambodia (1970-1975 and 1979-1991)."

15 CCHR Cambodia, "CCHR Factsheet: Forced Eviction in Cambodia" 2.

16 World Bank Group, "Cambodia Poverty Assessment 2022: Toward a More Inclusive and Resilient Cambodia."

five *khans* (districts) such as Dangkao, Pur Senchey, Sen Sok, Mean Chey, and Russey Keo.¹⁷ The COVID-19 pandemic has further exacerbated poverty levels, pushing many back into poverty, and three-quarters of the population still live on less than USD 3 a day.¹⁸ Affordability of housing is a contributing factor, particularly for rural-to-urban migrants seeking better opportunities.¹⁹ These individuals often rely on temporary shelter or informal work. Another significant factor would be personal circumstances, including family trauma, abusive relationships, orphanhood, and mental health issues, which may also contribute to homelessness.

Policy Implications

Policy implications arise from the outcomes of enacted policies. Hence, addressing youth homelessness through specific measures not only generates a future workforce capable of contributing to the community through employment but also ensures the eradication of homelessness for upcoming generations. A comprehensive yet feasible approach involving government, NGOs, and the public is crucial. This encompasses housing, education, skills training, and social support while addressing urbanization, poverty, and affordability. Adequate funding, coordination, and rights-aligned regulations are imperative. Data collection and awareness campaigns are also vital.

Critique of Policy Options

Efforts undertaken by Cambodia's government and civil society organizations to address homelessness, though praiseworthy, face noteworthy challenges that necessitate a more targeted approach for substantial progress.

The government has introduced policy measures such as the National Housing Policy, designed to enhance housing access for all, particularly the poor and vulnerable, through upgrading, relocations, or settlement development.²⁰ However, these initiatives predominantly target the population of indecent housing conditions (secondary homelessness), leaving the primary homeless population, the most exposed and high-risk group, overlooked. Furthermore, the ambitious target of providing 1.5 million affordable housing units by 2030 lacks regular updates, coordination, and inclusivity for diverse subgroups within the homeless demographic. Direct strategies, such as street sweeping and relocating individuals to the Prey Speu Social Affairs Center, have faced considerable criticism due to subpar living conditions, human rights concerns, and ineffective services.²¹ Additionally, while the IDPoor Card system is a positive step, it still excludes many homeless individuals without a permanent address. A more effective approach would involve the adoption of a comprehensive, participatory, and sustainable framework that incorporates the voices and perspectives of homeless individuals, aligning with international housing rights standards. Contrary to expectation, the complexity of this issue underscores its universality. Recognizing the responsibility to address this concern, the government acknowledges that tackling one of its underlying causes—poverty and income inequality—requires a gradual economic transformation. As we endeavor to uplift our economy, the goal is to mitigate this problem to a certain extent. Meanwhile, the challenge of rural-urban migration adds a layer of

17 “Child Protection and Education”, 23.

18 “Cambodia Housing Poverty: Rebuilding Slums.”

19 Luco, “Street Sleep,” 10.

20 “National Strategies and Frameworks for SDGs and Role of Local Government in Cambodia,” 6.

21 “Cambodia: Death Highlights Detention Center Abuses.”

intricacy. Individuals who find themselves residing on the streets or in public spaces blur the line between homelessness and temporary circumstances, contributing to the unresolved nature of the issue. Furthermore, another formidable obstacle arises from homeless individuals struggling with personal challenges, often linked to mental health issues. Providing assistance for their mental well-being is crucial, yet it comes with substantial costs.

Civil society organizations also play a vital role in addressing homelessness, but they encounter various challenges. Insufficient funding significantly limits the scale and impact of their initiatives, curbing their ability to reach a broader segment of the homeless population. The Housing Rights Task Force, for example, advocates for urban poor communities facing forced evictions, land grabbing, and inadequate housing conditions in Cambodia.²² The Shinta Mani Women's Resources Centre offers shelter, counseling, legal aid, vocational training, and microfinance to women facing homelessness due to domestic violence, poverty, and other factors.²³ Moreover, the People Improvement Organization (PIO) operates drop-in centers for street children and their families living in garbage dump areas.²⁴ Nevertheless, a lack of adequate coordination and collaboration with the government hinders their impact. Additionally, the absence of reliable and up-to-date data on homelessness further impedes effective planning and implementation. Societal and institutional marginalization of homeless individuals, combined with a lack of political will and commitment from the government, further complicate the efforts of these organizations. Overcoming these specific challenges demands increased funding, improved coordination with the government, comprehensive data collection, and a proactive approach to address social and institutional barriers faced by homeless individuals. By tackling these challenges head-on, both the government and civil society can work synergistically to alleviate homelessness in Cambodia.

Policy Recommendations

The policy recommendation to reduce and eradicate homelessness in Cambodia is the 3S approach. This approach targets the APHP explicitly. Importantly, this framework isn't a novel concept; instead, it synthesizes successful insights from other countries, adeptly adjusted to suit Cambodia's distinct context.

Policy Scope

The 3S policy's scope centers on the long-term homelessness reduction by empowering the current primary adult homeless group, yielding realistic societal benefits. The overarching vision is to secure shelter, living conditions, education, and jobs for primary homeless individuals. A phased approach will be adopted, commencing in Phnom Penh. Phase one prioritizes emergency shelter and basic needs for APHP, necessitating collaboration with government officials, local communities, and NGOs. Phase two emphasizes vocational training and education, enabling individuals to access affordable housing options. This fosters self-sufficiency, curbing homelessness. Phase three ensures enduring job security and sustainable lifestyles, preventing relapse into homelessness. Furthermore, implementation entails a case-by-case approach, combining a top-down approach for shelter and skill provision by officials with a bottom-up approach for security assistance from communities, NGOs, and stakeholders.

²² <http://www.ccc-cambodia.org>, "Housing Rights Task Force."

²³ "Shinta Mani Foundation - Direct Assistance."

²⁴ "PIO Website New."

Policy Goals and Implementation

Goal 1: Provide Emergency Shelter for All APHP

The primary objective of Goal 1 aims to provide safe, affordable, and suitable housing options for APHP in Phnom Penh as our test ground. Studies have shown that providing homes for homeless people reduces substance abuse, improves health, and restores dignity and social connections. The “Housing First” approach, which provides permanent housing without preconditions, is one of the most successful policies in reducing homelessness.²⁵ However, due to resource constraints in Cambodia, providing emergency shelters or dedicated centers with appropriate living conditions is a more feasible option. Nevertheless, whether it’s the “Housing First” approach or providing emergency shelters, the key takeaway is clear: people in this situation can only make real progress in turning their lives around when they have a safe place to stay. Before anything else, ensuring shelter is the first crucial step in dealing with this problem.

To implement this strategy effectively, regular and comprehensive surveys and counts of homeless people are crucial to determine the number and location of emergency shelters. These shelters could be tents or simple prefab houses, which could be set up at the Prey Speu Center. Prefab houses are temporary, low-cost homes that could be given to those who agree to join vocational training and attend school. For this to work well, ministries like MSVYR, MLMUPC, and MEF will manage the resources, construction, and running of these shelters. Also, local authorities, NGOs, businesses, and homeless individuals themselves should all work together to make sure there’s enough suitable shelter for the APHP.

Goal 2: Develop Skills for All APHP

The second goal aims to empower homeless adults with education, training, employment opportunities, and social support to foster self-reliance and social integration. This objective targets homeless adults, including young adults (aged 18-39) and middle-aged adults (aged 40-59), who have a higher labor force participation rate (90.9 percent in 2019) and can benefit from educational and skill development programs.²⁶ Skill provision consists of two parts. Firstly, efforts should be made to ensure that homeless children receive appropriate education. Initiatives such as the Policy on Inclusive Education, the STVET project, the NFE, the LSP, and the FIP aim to improve education for homeless children by providing inclusive education, skills training, alternative learning opportunities, and comprehensive support services. Secondly, efforts should be made to provide job skills to adult homeless individuals through vocational training centers. Collaboration with relevant stakeholders, such as the MoEYS, the MOLVT, the MOSVY, local authorities, NGOs, the private sector, and homeless individuals themselves, is essential for this objective. Data on the educational attainment, skills, and employment status of homeless people should be collected and analyzed to design and deliver relevant and effective programs that address their specific needs and facilitate their transition to stable housing.

Goal 3: Enhance Security for All APHP

The third goal aims to secure the APHP from violence, harassment, and discrimination from the broader society. Security also means having access to basic services and resources such as food, water, sanitation, health care, and social support. It can also mean having a sustainable job that provides decent work, fair income, social protection, and opportunities for personal and

25 “Housing First - National Alliance to End Homelessness.”

26 “Cambodia Labor Force Participation Rate 1990-2023.”

professional development. Goal 3 could be successfully achieved via the success of Goal 1 and Goal 2, as having a decent house and job skills could also make them maintain their dignity in life. However, it is also important that goal 3 works alongside the two goals as well. First, it is essential to strengthen the legal and human rights framework and provide adequate health and social services for APHP. The Department of Mental Health and Substance Abuse, part of the Ministry of Health, could collaborate with the local NGOs such as Transcultural Psychosocial support to assist the APHP affected by violence, mental and physical abuse, and drugs. Meanwhile, the ID poor card could make some adjustments to include their access to the APHP as well. Secondly, collaboration and coordination with stakeholders, including local authorities, NGOs, civil society organizations, and homeless individuals themselves, are vital for monitoring and reporting on the human rights situation of homeless people and designing effective programs and services. Thirdly, raising awareness and combating stigma is another crucial aspect. The goal is to show empathy and support for the victims by increasing public awareness. Simultaneously, a donation in the forms of money and relief rations is also popular in Cambodia; however, a collective donation to a certain organization or government officials to allocate those aids could be more effective in helping to build the future of the APHP as well.

Homelessness in Cambodia needs urgent and concerted actions. The 3S approach of shelter, skill, and security can tackle this complex issue. Homelessness is a multifaceted problem that needs a holistic and collaborative response. Cambodia can learn from successful approaches in other countries and adapt them to its context. The government, NGOs, and local communities should work together to provide safe and affordable housing, empower homeless individuals with self-reliance and social integration, and protect them from violence, discrimination, and stigma. The time for action is now. The 3S approach and collaboration can reduce and capitalize on the APHP and create a society where everyone has access to stable housing. It is our collective responsibility to ensure dignity and opportunity for all.



*Cyclo taxi driver sleeping along the street of Phnom Penh
Photo: Department of Media and Communication, RUPP*



CHAPTER 11

Diabetes As An Emerging Hidden Muderer In Cambodia

Ly Vinyean

Executive Summary

- Diabetes, a non-communicable disease, is a chronic illness for Cambodian people. The rate of the illness has skyrocketed in the past ten years making it a concern for people, especially for low-income families who cannot afford long-term treatments.
- In improving the health sector in Cambodia, the Royal Government of Cambodia has implemented both Healthcare Equity Funds and Poor Identification (ID) Cards.
- Regardless of the efforts, there remain some loopholes to address diabetes, which is an emerging disease due to the lack of doctors, nurses, and medical equipment. Additionally, there are inefficient diabetes policies set out by the government.

Introduction

Health is the greatest possession of human beings. To achieve anything in life, one must have a healthy presence of the physical body meaning there are no communicable and non-communicable diseases in their body. As the country became more urbanized, people started to consume high-calorie, processed foods leading to an obesity rate and a higher prevalence of diabetes. In Cambodia, diabetes has become a major disease acting as a hidden murderer for the Cambodian people, especially those who come from a low-financial family. They are more likely to face a high risk of death since they do not have enough money to cover such long chronic illness. More than 600,000 people in Cambodia are currently living with diabetes, while 600,000 are developing the disease to another level.¹ In 2022, more than 430,000 Cambodia people aged 20 and 79 are living with such disease, while the number of deaths resulting from the disease increased from 3,362 or about 3.75 percent.² More notably, the number of diabetes have increased exponentially from 20,000 in 2011 to around 600,000 in 2023.³ Also, one in sixteen Cambodian adults possesses diabetes.⁴ If left untreated, the disease will seriously damage some parts of the body including the eyes, kidneys, feet, and blood vessels leading to a heart attack or even stroke.

One significant risk factor for having such a disease is an unhealthy eating lifestyle. In Cambodia, a lot of junk, fast, and salty processed foods, and mainly sugar-sweetened soft drinks are trendy, luring people to keep eating without realizing the consequences of those foods. Fast food chains are predominant in urban areas, whereas most foods highly contain fat, sugar, and salt. In addition, Cambodia's traditional cuisine is primarily characterized by processed foods and sweet drinks. Further, the lack of healthcare education also contributes to the increase in diabetes. Many Cambodians are unaware of the risks associated with consuming diets with high calories of processed foods and heavy sugar, rendering poor management of a healthy food lifestyle. However, there is also the impact of diabetes on the country if left untreated such as the increased

1 Vibol, T. (2022, July 11). *Diabetes on the rise in Cambodia*. Khmer Times. Available at: <https://www.khmertimeskh.com/501110021/diabetes-on-the-rise-in-cambodia/>

2 Diabetes issues rising fast in Cambodia; govt urges people to follow through a balanced diet. (2022, June 28). The Star. Available at: <https://www.thestar.com.my/aseanplus/aseanplus-news/2022/06/28/diabetes-issues-rising-fast-in-cambodia-govt-urges-people-to-follow-through-a-balanced-diet>

3 Cambodia. (2021). *Diabetes Atlas*. Available at: <https://diabetesatlas.org/data/en/country/34/kh.html>

4 Raksmei, H. (2022, December 13). *Processed foods increase health risks, Cambodia's physicians warn*. Phnom Penh Post. Available at: <https://www.phnompenhpost.com/national-post-depth/processed-foods-increase-health-risks-cambodias-physicians-warn>

rate of health-associated poverty, particularly for those who cannot afford diabetes care and treatment since such chronic diseases require long-term treatments and are costly.

Cambodia's Healthcare System Overview

Cambodia has achieved significant economic growth and successfully secured health indicators since 1980 when during that time there were only 50 doctors available.⁵ The healthcare system in Cambodia is primarily funded by the government, with financial and technical support from development partners and private sectors. Healthcare providers are trained through a mix of public and private institutions, including medical schools and vocational training centers. The healthcare system is dominated by both public and private sectors, which are non-profit and for-profit business models. The public healthcare system has three hierarchical steps which are central, provincial, and operational districts. The central hierarchy includes the Ministry of Health from various departments, training institutions, national centers, and eight national hospitals. From the provincial to the district level, around 180 NGOs are working with public healthcare services which are the direct providers of service, and still offer support and trainings to local staff to ensure they can leverage their medical skills and service delivery.⁶

Strengths of Cambodia's Healthcare System

The Royal Government of Cambodia (RGC) strengthens the public health system by investing in and expanding healthcare services, particularly in rural areas. In 2018, Cambodia spent USD 93 million on healthcare services. However, an additional USD 113 million were spent, resulting in a total increase of 21.97 percent in sector expenditure.⁷ The government has invested in increasing the number of healthcare facilities and healthcare workers. For instance, the Ministry of Health has expanded its capacity and made it convenient for healthcare services between 2018 and 2022. The increase of healthcare centers from 1,205 to 1,288 and of hospitals from 123 to 132 signifies an improvement in health outcomes.⁸ Further, indoctrinated by the universal coverage policies, Cambodia has implemented several healthcare mechanisms such as Poor ID Card and Healthcare Equity Fund. To reduce the incidence of illness and to ensure that the poor and vulnerable people can access healthcare services for free, the Healthcare Equity Fund was established in 2007 as part of the government's healthcare mechanism to achieve universal health coverage.⁹

Around three million people, equivalent to 20 percent of Cambodia's population have currently benefited from such funds.¹⁰ More importantly, to identify poor households and alleviate poverty, the Ministry of Planning issued the so-called Poor ID card in 2007, which was supported by the Ministry of Economic Cooperation and Development of Germany and the Department of Foreign

5 Hyder, Z. & Ly, N. (2021, May 06). *Cambodia: Progressing Toward Universal Health Coverage*. World Bank Blogs. Available at: <https://blogs.worldbank.org/health/cambodia-progressing-toward-universal-health-coverage>

6 EuroCham Cambodia. (2021 September). *Sector Brief Cambodia: Health Care*. GIZ. Available at: https://www.giz.de/en/downloads/SectorBrief_Cambodia_HealthCareSector.pdf

7 Macro Trends. (n.d.). *Cambodia Healthcare Spending 2000-2023*. Available at: <https://www.macrotrends.net/countries/KHM/cambodia/healthcare-spending>

8 Bunthoeurn, O. (2023, March 09). *Healthcare capacity rapidly upgraded in recent years*. The Phnom Penh Post. Available at: <https://m.phnompenhpost.com/national/healthcare-capacity-rapidly-upgraded-recent-years>

9 Cambodia Health Equity Funds (n.d.) URC. Available at: <https://www.urc-chs.com/projects/cambodia-health-equity-funds/>

10 EuroCham Cambodia. (2021 September). *Sector Brief Cambodia: Health Care*. GIZ. Available at: https://www.giz.de/en/downloads/SectorBrief_Cambodia_HealthCareSector.pdf

Affairs and Trade of Australia.¹¹ Such programs help Cambodian citizens to have free access to healthcare services and medical treatments. Also, the card is part of a social service program that supports pregnant women and children through cash transfers, school feeding programs, and even a disability allowance. By 2015 and 2017, the ID Poor Card reached over 550,000 poor households in rural areas.¹²

Thanks to the Cambodian government's healthcare efforts, there has been a positive impact on other sectors. The infant mortality rate is a measure of the number of infants who die before their first birthday per 1,000 live births given in a specific year. In 2022, The rate decreased from 20.173 deaths per 1,000 live births which is a decline of 4.2 percent in 2021.¹³ Since 2011 Cambodia's life expectancy at birth improved dramatically moving from 70.73 to 72.29 in 2021.¹⁴ Nevertheless, most of the healthcare expenditure in Cambodia comes from the patients themselves, which refers to the out-of-pocket payments accounting for 63 percent of total healthcare expenditure in 2017.¹⁵ Last but not least, the strong partnership with development partners such as the World Health Organization (WHO), the United States Agency for International Development (USAID), Japan International Cooperation Agency (JICA) and others, which have provided technical and financial support for healthcare reforms highlights a strength in Cambodia's healthcare improvement.

Weaknesses of Cambodia's Healthcare System

Despite the ongoing economic growth, the healthcare system in Cambodia has had many challenges, particularly lacking financial and human resources. At present, Cambodia has only 1.4 doctors and 9.5 nurses and midwives per 10,000 people. It is noteworthy that the number is below the average of 9 doctors and 19 nurses per 10,000 people compared to low- and lower-middle-income countries in East Asia and the Pacific region.¹⁶ Moreover, in public sectors, only 30 percent of medical graduates from health training institutions commence their jobs each year, and this leads to a shortage of healthcare workers, especially in disadvantaged areas where people could seek prompt help for their treatment.¹⁷

Second, quality of the healthcare services in Cambodia is variable with noticeable distribution between rural and urban areas and between the public and private hospitals. This means that the quality of healthcare widely depends on the facility and location. In some areas, there may be a shortage of essential medicine and supplies, namely insulin and glucose monitoring devices, which can limit healthcare providers to manage the patient's condition effectively. Moreover, there are still concerns about the qualitative training of healthcare workers in Cambodia. This means that there is still a gap in training and education in some areas.

11 EuroCham Cambodia. (2021 September). *Sector Brief Cambodia: Health Care*. GIZ. Available at: https://www.giz.de/en/downloads/SectorBrief_Cambodia_HealthCareSector.pdf

12 EuroCham Cambodia. (2021 September). *Sector Brief Cambodia: Health Care*. GIZ. Available at: https://www.giz.de/en/downloads/SectorBrief_Cambodia_HealthCareSector.pdf

13 Macro Trends. (n.d.). *Cambodia Healthcare Spending 2000-2023*. Available at: <https://www.macrotrends.net/countries/KHM/cambodia/healthcare-spending>

14 O'Neill, A. (2023, July 21). *Cambodia: Life expectancy at birth from 2011 to 2021, by gender*. Statista. Available at: <https://www.statista.com/statistics/970526/life-expectancy-at-birth-in-cambodia-by-gender/>

15 EuroCham Cambodia. (2021 September). *Sector Brief Cambodia: Health Care*. GIZ. Available at: https://www.giz.de/en/downloads/SectorBrief_Cambodia_HealthCareSector.pdf

16 Hyder, Z. & Ly, N. (2021, May 06). *Cambodia: Progressing Toward Universal Health Coverage*. World Bank Blogs. Available at: <https://blogs.worldbank.org/health/cambodia-progressing-toward-universal-health-coverage>

17 Hyder, Z. & Ly, N. (2021, May 06). *Cambodia: Progressing Toward Universal Health Coverage*. World Bank Blogs. Available at: <https://blogs.worldbank.org/health/cambodia-progressing-toward-universal-health-coverage>

In many rural areas of Cambodia, primary care physicians are the first point of contact for patients with diabetes and other health conditions. While these healthcare providers are dedicated and skilled, they may not have the specialized training and expertise needed to manage complex cases of diabetes and its complications. For example, a patient with diabetes and kidney disease may require specialized tests and treatments, such as regular monitoring of kidney function and dialysis treatment. These interventions require specialized training and expertise, which may not be available at a rural health center. The primary care physician may not have the resources and equipment needed to perform these tests and treatments and may need to refer the patient to a specialist or a larger healthcare facility for further care.

Barriers to Diabetes Treatment

The Poor ID Card in Cambodia provides financial support for healthcare services to eligible patients, including those with diabetes and its complications, such as kidney diseases. However, the coverage provided by the card may not be sufficient to cover the full cost of dialysis treatment, which can be quite expensive and require ongoing care. In addition, the availability of dialysis facilities in rural areas of Cambodia can be limited, which can make it difficult for people to access the care they need. The Poor ID Card may cover the cost of transportation to a dialysis center in another area. However, this can still be a significant burden for people who are poor and live in remote areas. Furthermore, the Poor ID Card is designed to target the poorest and the most vulnerable people in Cambodia, but there are still many people who fall outside the eligibility criteria and may not have access to the card.

Flaw in the Government's Policies

The national multisectoral action plan for the prevention and control of non-communicable diseases is a policy that focuses primarily on non-communicable diseases. To prevent such chronic diseases, the government has implemented many action plans. For instance, the government increases taxes on alcohol and sweet drinks, reduces advertisement and sponsorship of alcohol, and promotes the public awareness of the alcohol-associated risks. However, the action appears impractical, especially since one of the policy implementations is under the Ministry of Education, Youth, and Sport (MoEYS) “develop a sub-decree on banning the advertisement of alcohol, unhealthy food products, and drink at sports events and sport setting.” Although the program to reduce alcohol advertisements in public was set out in 2018, it has now been five years, and there have been no clear signs of its implementation. In contrast, different alcohol brands are still appearing on the public big screen. Not to mention, in 2022 and 2023 many emerging local beer companies namely HANUMAN, KRUD, and VATTANAC are displaying their alcohols everywhere ranging from public big screens in rural areas to cities. This also raises a question whether the sub-decree parallel with the executive actions.

Policy Recommendations

Despite the existing challenges of Cambodia's medical services in treating diabetes, prevention is always better than healing. Increasing the alcohol tax and sweet drinks is not enough to prevent diabetes. First, the RGC should either limit or impose more taxes and tariffs on alcohols and sweet drinks, especially from other countries. However, it is noteworthy that Cambodia has been

a member of the World Trade Organization (WTO) since 2004, and it has adhered to all regulations and principles of the organization. Thus, the prohibition of products imported to Cambodia may cause unfair trade practices, and imposing quantitative restrictions on alcohols and sweet drinks would distort international trade. This means that Cambodia would violate the international trade law.¹⁸ However, there are still general exceptions under the article. One of the general exceptions that are justifiable for Cambodia to impose import prohibition on such beverages is necessary to protect the health or welfare of humans, animals, or plants. Yet, Cambodia would need to provide statistical evidence that the ban is necessary to protect public health. More importantly, The country needs to use evidence such as the high rates of diabetes in the population and the link between sugary drinks and the development of the disease to support its case.

The MOEYs and the MoH, on the other hand, should have a joint commitment in regulating sweetened drinks and food in all both public and private schools by creating traffic light labeling. The traffic light labeling is a type of nutrition reminder and a front-of-package approach that tells consumers how much sugar, salt, and fat is in the food ranging from green as low, yellow as medium, and red as high. This approach will help consumers to consider how much they should be eating to maintain a healthy diet. Second, to help students make healthier choices, schools could provide alternatives such as water, milk, and 100 percent fruit juice. Schools could also encourage students to bring their water bottles or provide water fountains for refilling. Furthermore, it is crucial that the big banners and TV big screens give some space for a healthy life and diet advertisement by filming the risk of diabetes and how people should manage a healthy lifestyle. This can be done through cooperation from various development partners and NGOs whose works are particularly related to health and education.

18 *Quantitative Restrictions*. (n.d.). Meti. Available at: <https://www.meti.go.jp/english/report/downloadfiles/gCT0103e.pdf>



Photo: Juckr

CHAPTER 12

Strengthening Inclusive Education for Students with Disabilities in Primary Education in Cambodia

Leng Sreynich

Executive Summary

- Cambodia has been recorded among the countries with the most elevated rates of individuals with disabilities. Decades of landmine and explosive remnant of war and genocide regime along with traffic accidents, work accidents, congenital, and old age have resulted in 301,629 persons with disabilities, accounting for 2.06 percent of total population .
- Children with disabilities aged between 0-14 were 32,056 which was 1.63 percent of the total population. Children with disabilities have been facing many challenges in their daily lives including unsustainable livelihoods, poverty, discrimination, limited access to education and other social services. There was 98 percent of enrollment rates of children without disabilities, an increase from 87 percent between 2001 and 2015 while the school enrollment rates of marginalized children (children with disabilities included) were largely unknown .
- Even with the commitment of key actors such as relevant ministries, departments, Provincial office of Education (PoE)/ District office of Education (DoE), school Committee, school principal, teachers, Civil Society Organizations, parents, and community in exercising the rights to education of children with disabilities, it is believed that a large number of children with disabilities especially in rural areas were not attending school.
- To comply with the Constitution, Education Law, Law on the Protection and Promotion of the Rights of Persons with Disabilities and other related policies, Policy on Inclusive Education was developed by the Ministry of Education, Youth and Sport in 2018 in order to set out vision, goal, objectives, strategies and plan for improving better access to inclusive and equitable quality education of children with disabilities. Nevertheless, only 17 percent of children with disabilities attended school.¹ Children with disabilities' limited access to inclusive education is, therefore, largely resulting from the incomplete inclusive education policy action plan development and ineffectiveness of implementation of these education and disability rights instruments.
- Inclusive education for children with disabilities shall be achieved through a holistic approach of strengthening national data systems to collect information on children with disabilities, developing Inclusive Education Policy Action Plan and adopting a whole system approach toward disabilities inclusion translating through all aspects of system strengthening.

Introduction: Context and Significance of the Issue

Due to limited definitions and the absence of a standardized data collection methodology, the availability of data on children with impairments has long been a challenge. Behind every statistic is a story of a child, her hopes, his dreams, their ambitions. Each number serves as a reminder of the struggles that a disproportionate number of these children whose rights should be protected and upheld endure. Data about children with disabilities are frequently absent from official statistics. Because of this lack of data, invisibility, the challenges that impede access to and participation in education for children with disabilities remain unprioritized in government education, strategic planning and programming.

1 Overcoming Barriers and Embracing Diversity by UNICEF, 2019, as cited in Iem, C, 2021

As a matter of fact, in spite of the government's commitment and effort through the Ministry of Education, Youth and Sport (MoEYS) in developing policies that aimed to equip individuals with special needs with knowledge, skills, and attitude to become active citizens to live in a society of shared-prosperity, majority of the children with disabilities remain excluded from education. Some children with disabilities have never been enrolled, and those who have been enrolled were more likely to drop out in primary school. There are several reasons and factors that caused the low number of children with disabilities attending school including transportation and mobility difficulty, lack of qualified teachers who teach children with disabilities, lack of study materials and resources tailored for students with special needs, discrimination, and unaffordable school expenses. Other reasons for why students with disabilities dropped out involved the concern for child's safety, transportation, and associated school cost.

Parents' engagement plays a key role in children with disabilities' success in education; however, many Cambodian parents and caretakers of children with disabilities often misunderstand and resist the need for educating their children as they think their children cannot be educated. As a result, some children with mild to moderate disabilities seem to receive more support in education from their parents while parents of children with severe or multi-disabilities tend to focus on learning life skills. Furthermore, inadequate and unfriendly school infrastructures have made it even more challenging for students with physical disabilities or have difficulty with mobility to attend school. Recent assessment around Inclusive Education Policy conducted in Kampot province has shown that 50 percent of the 120 schools included in the assessment have students with disabilities while only 35 percent of the schools had toilet facilities, classrooms, and school grounds that were accessible to wheelchair users. Also, only 37 percent of students said the toilets were accessible to wheelchair users and for those with limited mobility.²

In addition, the same assessment result showed that most schools did not have staff and teachers who knew how to specifically support any disability related concerns. School principals and teachers said that they were mostly aware of the physical disabilities of students. According to PoE and DoE, there is more awareness and knowledge among principals and teachers about physical disabilities. Over the years, both awareness and training have been provided by NGOs including the Epic Arts. The capacity at the school to identify and assess the different types of disabilities and to ensure that persons with special needs have access to education is low. The support for educating children with disabilities and enhancing teachers' capacity for students with disabilities was extensively relied on by local and international organizations.

Critique of Policy Option

The analysis of the 2018 Policy on Inclusive Education and the Education Strategic Plan 2019-2023 has shown that whilst the 2018 law indicates the funds and their sources, it does not indicate the amount of funds allocated for disability-specific and disability-inclusive education programmes and services. It also does not define the duties and responsibilities of key stakeholders, such as how Organization of People with Disabilities (OPDs) may help support inclusive education, or the processes for monitoring and evaluating the policy. Finally, the policy's definition of disabilities fails to recognize the diversity of people with impairments, instead relying on "children with disabilities" as an umbrella phrase. In addition, the Education Strategic Plan 2019-2023 does not

² Assessment Report on Implementation of National Education Policies. See School Health Policy (SHP) and Inclusive Policy (ISP) in Kampot

disaggregate its outcome indicators by disability type. This, once again, demonstrates a lack of data collecting to inform the provision of education and reasonable accommodation assistance. Despite efforts to raise the enrollment and completion rates of children with disabilities and other groups, assessing it by type of disability at each level remains a challenge.

According to the Policy on Inclusive Education that aims to educate all persons with special needs to have knowledge, skills, and attitude so that they are able to contribute to the development of society, nine Strategies and five key Action Plan have been developed. Some of which focused on building capacity for teachers and school management, raising awareness on Policy on Inclusive Education, and strengthening knowledge, roles, responsibilities, and inclusive participation from all stakeholders including parents and community. However, the policy fails to offer a detailed, concrete action plan of how the policy should be implemented, monitored, as well as evaluated among multi-stakeholders, for instance, the activities to be conducted, the indicators to be achieved, the timeline, deadlines and institutions to be in charge of and the national budget to be allocated for ensuring inclusive learning and teaching environments.

The recent assessment on the Inclusive Policy implementation shows that awareness of school management, principals, teachers, and staff about guidelines on school health policy and inclusive education policy is low, and that clear mechanisms and steps taken to effectively implement these policies are not in place.³ To illustrate, teachers were unsure and had vague responses when asked if they had brought concerns or issues of students with disabilities. They encountered in the classroom with the school management committee or their colleagues to get input and seek a solution. There was strong agreement among school management, principals, and teachers that there are gaps or barriers to education and resources required to educate all persons with special needs. They emphasized the need for teaching and learning materials to improve teachers' knowledge and to meet student needs, especially students with special educational needs.

Just a few schools have had a collaboration with NGOs delivering disability services to improve school environment and infrastructure and to be more accessible to people with disabilities. However, the focus of these services is mainly on physical disabilities. These schools have had NGO staff visiting to monitor school environment and infrastructure to ensure accessibility to people with disabilities.

Policy Recommendations

It is clear that there are gaps and limitations with regard to Inclusive Education Policy Action Plan development and implementation as well as the up-to-date, quality and accurate data of children with disabilities which limit access of students with disabilities to quality and inclusive education. There is still a lack of accurate data on children with impairments in Cambodia, notably in terms of education. Inclusive data are very crucial for elimination of discrimination on disabilities and acceleration of joint efforts toward inclusive programming. From the design of research to the methodological approaches, inclusivity must be considered at all levels of the data generation process. This includes using data collection instruments and protocols that allow for the disaggregation of key indicators based on disability status, as well as developing and implementing accommodation strategies to ensure that people with disabilities can participate

³ Assessment Report on Implementation of National Education Policies. See School Health Policy (SHP) and Inclusive Policy (ISP) in Kamptot

in surveys, censuses, and data collection for program evaluations. The creation of inclusive data necessitates the inclusion of people with disabilities in the analysis and distribution of the results. This will help to ensure that their experiences and needs are effectively reflected in the evidence produced. One of the most recent data collection tools developed by UNICEF and the Washington Group on Disability Statistics called Child Functioning Module could be a research data collection method the MoEYS or OPDs use to identify the types and level of disabilities of the children between 2-17.⁴

Drawing on robust data systems to improve capacities for monitoring students with disabilities in terms of access, attendance, retention, and learning outcomes using the Education Management Information System (EMIS), where persons with disabilities, especially children and those who require intensive support, as well as parents or carers of disabled children, involve in monitoring, Inclusive Education Policy Action Plan shall be developed. The Policy Action Plan shall outline clearly the disabilities terminology and definition where different stakeholders can rely on, the mechanisms to be enforced ranging from detailed activities to indicators, timeline, responsible organizations or institutions, budget allocation, and evaluation and monitoring processes.

Once the Action Plan is developed, it shall be translated through all aspects of system strengthening starting from an enabling policy environment, school and teacher capacities, data availability and quality, and multisectoral and multistakeholder coordination, improving in-school and cross-sectoral support to ease transitions between school levels and prevent children from dropping out, providing learning support and social protection initiatives to address additional financial concerns for parents of disabled children, and to working with the social protection and health sectors to build the relationships required to best help children with disabilities. For instance, the Action Plan shall address and emphasize specifically how to provide the capacity building training to school management, principals, as well as teachers to assess gaps and barriers to education in their schools, identify what resources are required to improve and promote inclusive education and specific education resources for students with special needs, provide teaching and learning materials to improve teachers' knowledge and teaching practices, and clearly list roles and responsibilities of various stakeholders at PoE, DoE, school level, NGOs and how they contribute to the implementation of these policies. If they are listed already, then review and update as necessary. Moreover, the Action Plan shall provide capacity building trainings to relevant staff of PoE, DoE, schools and NGOs on monitoring and evaluation (M&E) of their activities and interventions that contribute to the implementation of the policy, and improve coordination and M&E information sharing among these institutions and organizations and emphasize the critical role each stakeholder plays in measuring and improving policy implementation.

In addition, there should be support for PoE, DoE, CSO's and other organizations to advocate to increase budget allocation to improve the implementation of inclusive school policy at the local level together with advocacy tools to ensure that school construction plans and update plans are compliant with accessibility guidelines to ensure that the school environment and infrastructure are fully accessible to students with disabilities. There should be refresher training for school management, principals, and teachers on inclusive concept integration in lesson plans, improve the capacity of school management to assess and remove barriers to inclusion in schools, and improve capacity of teachers and staff to better support students with disabilities.

4 Child Functioning Module by UNICEF East Asia and Pacific Regional Office (EAPRO, 2023)

Since PoE and DoE have competing priorities and other activities related to their plans, there should be support for PoE and DoE to improve their knowledge and capacity to maximize resources and set priorities, develop specific activities, and allocate resources to ensure policy implementation. There should also be technical support to improve the functioning of the Working Groups on Children with Disabilities is functioning at PoE, DoE and school level, or to use existing coordination mechanisms such as P-ESWG to share information about the specific activities and timeframes of activities/interventions of PoE, DoE, school level, NGOs that contribute to policy implementation, with the objective of maximizing resources, avoiding duplication of effort and to identify gaps and challenges. PoE and DoE and schools, together with DPOs, self-help groups, parents of children with disabilities, and local authorities should work with each other to build the awareness of parents of children with and without disabilities on the benefits of inclusive education and awareness of disability. Building upon the existing works in the community, POE and DOE and schools should look for ways to educate the general community on the importance of inclusive education.

Based on the assessment report, there was also a strong agreement among school management, principals, and teachers that there are gaps or barriers to education and resources required to educate all persons with special needs. Currently, the few schools that have collaboration with disability service delivery NGOs are focused on improving school environment and infrastructure is mostly focused on physical disabilities. Hence, it is better to provide support to PoE, DoE, and schools to form more collaborations and improve collaborations with disability service delivery NGOs to improve school environment and infrastructure, especially for students with physical disabilities, where specific needs and issues relating to accessibility of school environment, infrastructure and materials for children with all forms of disabilities, including visual or hearing impairments, would be assessed and addressed.



Photo: Getty Images

CHAPTER 13

Education As A Prevention Method For Child Labor Exploitations

Ngov Sodanet

Executive Summary

- Child labor exploitation remains a significant challenge to Cambodia’s society. It deprives children of their right to education. Instead of receiving education, they are responsible for earning a living for their family, forced to work in hazardous working conditions, and exploited under the name of the labor force.
- Children from the age of 5-18 play an essential role in a country’s development. The continuation of child labor exploitation has put both the children’s future and the society’s development in jeopardy. While engaging in labor activities and supporting their family, those children miss out on great opportunities like physical, emotional, and intellectual growth and education.
- Cambodia has worked towards eliminating child labor exploitation through implementing social protection initiatives, and policies and through convening campaigns and workshops. Despite these efforts, child labor exploitation remains persistent in the country. Children are seen on the sidewalks, streets, and in restaurants, trying to make ends meet. Thus, the government should double its efforts and take necessary measures to tackle child labor exploitation.
- With its several impacts on our society, child labor must be addressed urgently. Given the existing solutions, this paper aims to improve national initiatives by enhancing labor laws, providing education to children, and eliminating all forms of corruption from the bottom-up approach with the engagement of key stakeholders.

Introduction

Cambodia is one of the fastest-growing economies amongst the ten ASEAN member states. Many industries grow along the way and foster the economic growth for Cambodia including the construction industry leading to a higher demand for bricks and child labor. Along with this drastic growth, many people have fallen into debt bondage and labor work. Children are found working on rubber plantations in northeastern Cambodia to pay off their families’ debt while putting their personal growth at risk in exchange for money.¹ Child labor is a work that affects the child including their mental, and physical development, steals away their childhood, and can appear to be socially dangerous and harmful to children, interfering with their studies.² It does not only affect their physical growth but also their mental development because these children matter a lot because they are at the age of developing their social consciousness about their surroundings and are at the peak of cognitive and physical development. The main contributing factors that often lead to the decision for children to earn money are strongly associated with social environments, such as poverty, lack of education, and guardians from deprived areas who view child labor as a method for them to pay off debts.³ Opportunists in this liberal economy would use children as a way for them to make money.

1 U.S. Department of Labor. “21 Findings on the Worst Forms of Child Labor: Cambodia”, https://www.dol.gov/sites/dol-gov/files/ILAB/child_labor_reports/tda2021/Cambodia.pdf

2 What is child labor (IPEC)? “What Is Child Labour (IPEC),” 2023. <https://www.ilo.org/ipec/facts/lang--en/index.htm>.

3 Asian Development Bank. “Basic Statistics 2023,” April 2023. <https://www.adb.org/sites/default/files/publication/875291/basic-statistics-2023.pdf>

It is crucial that they are in school and well-taken care of rather than going out to work and earning a living for their family. Furthermore, Cambodian children are found to be working in various sectors and involved in different labor activities such as agriculture, manufacturing, scavenging, hunting for garbage, selling, and forced begging.⁴ Child labor is very much normalized in Cambodia as it has been seen that many children especially in the cities would go around to work within the forms of labor such as carrying bricks in the construction areas, cleaning car windshields on public roads, and begging for money, and selling drinks and flowers. One of the common examples is giving money to kids and it incentivizes children to continue these kinds of work. As a result, guardians and children see this as a positive result, it incentivizes them to continue doing these works and earn a living instead of going to school because they are able to bring money in to help out their family.

In 2019, more than 17.8 percent of Cambodians were found to live below the national poverty line.⁵ Approximately 14.2 percent of the employed population lived below USD 1.90 which is equivalent to 7,790 riels in terms of purchasing power parity (PPP) in 2022.⁶ This illustrates the number of people who earn less than USD 1.90 per day and shows that a significant number of people are still suffering from extreme poverty and economic challenges.⁷ Poverty plays a role in this issue, when people are in desperate need of basic necessities such as food, water, education, or healthcare; they are left with no choice but to earn money through any possible ways. This fuels people to do anything to bring money in and meet ends. Thus, this poverty has, indeed, also impacted the children.

The final report of the Cambodia socio-economy survey shows that the number of working children in Cambodia accounts for 17 percent of children who are currently trapped in labor activities putting their lives at risk each day as we breathe. The most common activities are car cleaning and selling fruits, water, and flowers. There are times when it becomes dangerous for these children to work on the road as vehicles might be speeding and therefore, causing traffic accidents or congestion on the road. Not only do we find children working on the streets during the day, but they are also found working in the machinery industry like brick factories and at construction places. Children are either seen working by unloading bricks from conveyor belts or playing around the brick factory as their siblings or parents are paving their way through poverty by doing hard labor.⁸

Therefore, this policy brief aims to explore alternative approaches to combating child slavery, illicit activities, and child labor exploitation through education, labor law enforcement, and corruption reduction. In addition, the policy brief also addresses the current initiatives, national policies, and efforts of the Royal Government of Cambodia (RGC) to prevent these issues. Lastly, the paper provides policy recommendations to effectively tackle this concerning issue as well.

4 U.S. Department of Labor. "21 Findings on the Worst Forms of Child Labor: Cambodia", https://www.dol.gov/sites/dolgov/files/ILAB/child_labor_reports/tda2021/Cambodia.pdf

5 U.S. Department of Labor. "21 Findings on the Worst Forms of Child Labor: Cambodia", https://www.dol.gov/sites/dolgov/files/ILAB/child_labor_reports/tda2021/Cambodia.pdf

6 Cambodia - National Plan of Action on the Elimination of the Worst Forms of Child Labour (NPA-WFCL) 2008-2012. January 1, 2012. https://www.ilo.org/dyn/natlex/natlex4.detail?p_lang=en&p_isn=93428&p_country=KHM&p_count=183.

7 Asian Development Bank. "Basic Statistics 2023," April 2023. <https://www.adb.org/publications/basic-statistics-2023>.

8 Cochrane, L. (2016, December 4). Cambodian Government cannot find cases of brick factory slaves, child labour. ABC. Retrieved October 29, 2023, from <https://www.abc.net.au/news/2016-12-05/cambodian-government-cannot-find-cases-of-child-labour/8093914>

Cambodia's Approaches to Tackling Child Labour

Cambodia has adopted many regulations to address child labor exploitation and spread public awareness of children's rights. The government has improved the law on the protection of the rights of the child and the minimum age for employment law specifying the legal period for labor. However, some children are still experiencing the worst forms of labor. In some cases, children are forced to do labor in brickmaking and other risky working conditions.

Article 173 of Cambodia's Labor Law states that the minimum age for working is fifteen (15) years old; however, for work that possibly is harmful to the health, safety, and mobility of an adolescent would be at the age of eighteen (18).⁹ Although the legal framework does provide children with some protections against these severe forms of child labor through age limits, opportunists can still fabricate the children's identification card and change the child's age to a legally permitted age for labor work according to the law. Lack of monitoring can also complicate the age restriction stipulated by law. As of now the national action plan of Cambodia is slowly aligning with Cambodia's new Pentagon strategy emphasizing economic growth. Child labor no longer acts at the forefront of Cambodia's social protection or priority; however, the issue continues to persist.

Moreover, the RGC has made remarkable progress by reducing the number of Child labor workers to only 7.5 percent now and toward achieving child labor rights and eliminating labor exploitation.¹⁰ Whilst also having the National Strategic Development Plan 2014-2018 prioritizing policies while strengthening the Ministry of Labor and Vocational Training through distributing all necessary legal information regarding child labor to all as well as conducting essential inspections in enterprises and institutions with the aim of guaranteeing meeting the minimum work standards and ban of child labor.¹¹

Additionally, the National Committee for Counter Trafficking (NCCT) with other line ministries, such as the Ministry of Women's Affairs, Ministry of Justice, Ministry of Foreign Affairs and International Cooperation, and Ministry of Labor and Social Affairs, Veterans, and Youth Rehabilitation, implement the third five-year National Plan of Action on the Suppression of Human Trafficking, Smuggling, Labor, and Sexual Exploitation (2019–2023). This action plan aims to comprehensively address the ongoing child trafficking and child sexual and labor exploitation with the focus on four areas: (1) strengthening cooperation in the implementation of laws, (2) promoting efforts to prevent human trafficking, (3) strengthening the criminal justice system, and (4) increasing social protection of victims. Furthermore, anti-human trafficking and child safety are to be integrated into public school curricula and promote the inclusion of vulnerable children in both formal and informal education.¹²

The Cambodian government has also cooperated with the private sector to fund a school feeding program, called the UN WFP Country Program (2020-2024). Some efforts were made in 2021

9 The Council for the Development of Cambodia. (1997). The Labor Law of Cambodia. https://cdc.gov.kh/wp-content/uploads/2022/05/THE-LABOR-LAW-OF-CAMBODIA_970313-.pdf

10 U.S. Department of Labor. "21 Findings on the Worst Forms of Child Labor: Cambodia", https://www.dol.gov/sites/dolgov/files/ILAB/child_labor_reports/tda2021/Cambodia.pdf

11 Ministry of Planning. (2014). National Strategic Development Plan 2014-2018. Ministry of Planning. <https://cambodia.unfpa.org/sites/default/files/pub-pdf/NSDP2014-2018.pdf>

12 U.S. Department of Labor. "21 Findings on the Worst Forms of Child Labor: Cambodia", https://www.dol.gov/sites/dolgov/files/ILAB/child_labor_reports/tda2021/Cambodia.pdf

to provide 300,000 vulnerable and poor children with support, cash assistance to 3,745 flood-affected households, and capacity building to national and sub-national authorities on emergency preparedness and response.¹³

One of the highlighted social protection policies would be the poor ID card, which is an identification card for poor and vulnerable families. The program was initiated by the government and implemented by the Ministry of Planning in collaboration with other relevant stakeholders since 2006. The Poor ID card aims to help identify vulnerable families through their registration for the card, providing them with free social services and assistance to the citizens.¹⁴ Furthermore, it also provides cash transfers to support the citizen's basic needs such as food, education, healthcare, and other necessary expenses.

Figure 1: ID Poor Card

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ROYAUME DU CAMBODGE
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SOCIAL PROTECTION IN CAMBODIA
ស្ថានភាពក្រីក្រ
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| ឃុំ/សង្កាត់ ៖ ផ្សារ | រាជធានី/ខេត្ត ៖ កំពង់ឆ្នាំង | |

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៤.ប្រសិនបើអ្នករើសបានបណ្ណនេះ សូមយកទៅប្រគល់ជូនក្រុមប្រឹក្សាឃុំ សង្កាត់ នៃឃុំ សង្កាត់ដែលមានបញ្ជាក់ ឈ្មោះនៅលើបណ្ណនេះ ឬយកទៅប្រគល់ជូនមន្ទីរផែនការពាណិជ្ជកម្ម។
៥.គ្រួសារក្រីក្រដែលបានផ្ទេរចាត់ ឬចាត់បង់បណ្ណនេះដោយប្រការណាមួយ ត្រូវរាយការណ៍ជូនក្រុមប្រឹក្សាឃុំ សង្កាត់ ឬមន្ទីរផែនការពាណិជ្ជកម្ម ដើម្បីពិនិត្យ និងផ្តល់បណ្ណជូន។
៦.ជនទាំងឡាយណាដែលក្លែងបន្លំផលិត ឬប្រើប្រាស់បណ្ណនេះនឹងត្រូវទទួលទោសចំពោះមុខច្បាប់។

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Policy Critiques

The Cambodian government, International Labor Organization (ILO), and NGOs emphasize that the number of labor inspectors in the country is insufficient and there needs to be more funding to further the efforts in the whole country. Most funds are primarily used for the inspectors to travel to the provinces to further the labor inspection in rural areas. However, due to the lack of funds, it is hindering the inspection efforts, and the inspection can mostly be carried out in Phnom Penh.

13 U.S. Department of Labor. "21 Findings on the Worst Forms of Child Labor: Cambodia", https://www.dol.gov/sites/dolgov/files/ILAB/child_labor_reports/tda2021/Cambodia.pdf
 14 Department of Identification of Poor Households. "About the Identification of Poor Households Programme in Cambodia | IDPoor," <https://idpoor.gov.kh/en/about/>.

Table 1: Criminal Law Enforcement Efforts Related to Child Labor

| Overview of Criminal Law Enforcement | 2020 | 2021 |
|----------------------------------------------------------------------------|---------|---------|
| Number of Investigations | 21 | Unknown |
| Number of Violations Found | 31 | Unknown |
| Number of Prosecutions Initiated | Unknown | Unknown |
| Number of Convictions | Unknown | Unknown |
| Imposed Penalties for Violations Related to the Worst Forms of Child Labor | Unknown | Unknown |

Source: U.S. Department of Labor, 2020

The table above illustrates the lack of data from inadequate monitoring and reports. The government must make immediate efforts to improve the reports as it gives the authorities a clear understanding of law enforcement and child labor situations. If the reports are not sufficient and credible, they will continue to hinder the efforts of the government itself, development partners, and NGOs to tackle child exploitation. Thus, the reports are crucial to determine the progress of Cambodia's social development.

Although the Poor ID card has, indeed, assisted the vulnerable and the poor in Cambodia over the years. Despite some of its successes, the program has had many challenges that should not be overlooked. To be identified as a vulnerable household, they must go through a lot of processes, starting from the submission of paperwork to their respective commune and district working groups.¹⁵ This limits the program itself from reaching the ones who are also in need, especially those who are from marginalized groups, or remote areas where the registration and services are hindering their ways of applying for the poor ID card. Another unintended consequence of the program is that it provides long-term social assistance and is designed to alleviate poverty. This often leads to a deceptiveness of the citizens' will to work and they might be over-dependent on the poor ID card because if their situation improves, they may no longer receive the poor ID care's services and benefits.

Policy Recommendations

To effectively combat child labor exploitation, it requires, first and foremost, the continuation of efforts from many stakeholders such as the Ministry of Labor and Vocational Training (MVL), the Ministry of Education, Youth and Sport (MOEYS), non-governmental organizations (NGOs), inter-governmental organizations (IGOs) and other line ministries and development partners. Setting up a strong law enforcement is crucial, for instance, Cambodia has set up a mandatory age for children to go to school such as at the age of 6. However, that is not the case for all Cambodian children. Many are living off the streets finding ways to maximize their family income, trying to

¹⁵ Department of Identification of Poor Households. "About the Identification of Poor Households Programme in Cambodia | IDPoor," <https://idpoor.gov.kh/en/about/>.

pay off debts, and helping their family members. It is important that officials do not overlook this problem and must investigate and monitor each household's progress whether these children are getting enrolled at that age or not.

Second, A majority of students study in state schools with an overall of 3,223,475 students enrolled across the country. In Cambodia, from primary to high school education, the education is free including the textbook which students can borrow from the school's library.¹⁶ However there are cases where students are asked to pay money for additional study materials such as review question papers costing around 1000 riel (USD 0.25) to 10 000 riel (USD 2.5) and extra classes that range between 60 000 to 80 000 riel (USD 15 - USD 25).¹⁷ Extra classes are said to be optional, but it is a way for students to further their studies for additional time besides their class. For instance, a mathematics class would occasionally happen 3 times per week. MOEYS' role in this particular issue is crucial, they must provide good paid salaries for teachers and undergo essential training to tackle corruption, and that teaches them the value of education and their importance in teaching. Teachers can still be allowed to have extra teaching classes, but they must not play favorites with their students and give out equal access to study materials for their students. If properly done, this can further enhance the education sector within the country and encourage many children to continue their studies without the concern of paying extra fees.

Third, Likewise, education is a powerful solution to combat child labor in the long run. Providing quality education equally to all children equips them with a basic understanding of their rights, particularly their right to education. Education can also be used as a preventative measure for tackling this persisting child labor. The Ministry of Education, Youth, and Sports is the leading actor for this because of its authorized power in making high school's curriculum. Moreover, a proper understanding of their rights can also be a means for children to avoid being exploited in the form of labor. With the cooperation of crucial stakeholders such as youth organizations, local NGOs, the Ministry of Labor and Vocational Training, and MOEYS.

Fourth, similar to South Korea's case of having a baby and will be subsidized by the government to relieve their expenses and to incentivize their citizens to have children as their country is concerned with going extinct.¹⁸ We can also apply this policy to our case as well by providing additional rewards for parents to get their kids into education. The primary cause of this is how families are in basic need and have to work to afford their living in this society. These bonuses, it can help encourage children to pursue education because they receive full benefits, both education and money equally. However, the amount of money may vary accordingly.

With regards to strengthening legal frameworks and punishments, the Ministry of Labor and Vocational Training (MLVT) is mainly responsible for addressing child labor-related issues and implementing effective regulations. The MLVT can further enhance its capability along with the General Department of Labor Inspection and the Arbitration Council to ensure compliance with labor laws

16 Kov, P. (2022, February 13). The Education Systems in Cambodia and Thailand: A Comparative Perspective. Cambodian Education Forum. Retrieved October 30, 2023, from <https://cefcambodia.com/2022/02/13/the-education-systems-in-cambodia-and-thailand-a-comparative-perspective/>

17 Hor, S. (2022, October 16). Use of 'extra classes' still widespread in public schools. Phnom Penh Post. Retrieved October 31, 2023, from <https://www.phnompenhpost.com/national/use-extra-classes-still-widespread-public-schools>

18 Rashid, R. (2023, April 12). South Korea has so few babies it is offering new parents \$10500. Al Jazeera. Retrieved October 31, 2023, from <https://www.aljazeera.com/news/2023/4/12/south-korea-splashes-the-cash-in-scrabble-to-fix-fertility-crisis>

and regulations. If the situation is severe, the MLVT can proceed to court. Other line ministries should be actively cooperating with the MLVT to ensure that Cambodia is free from child labor exploitation in the future.

Child labor exploitation is an ongoing issue in Cambodia. It is also hindering the development growth of both the Cambodian children's future and the country's growth, becoming an alarming issue in the country and affecting social development. If this problem continues to persist, human development will also continue to hinder the country's growth. As we aim to achieve economic prosperity by 2050, providing them equal access to quality education and putting an end to child labor should be the government's top priorities.

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