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# Urban Vulnerability in Phnom Penh



May 2019

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May 2019

World Food Programme  
Cambodia Country Office

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Following the drought associated with the 2015/2016 El Niño event, the World Food Programme (WFP), together with the United Nations Children’s Fund (UNICEF) and the Food and Agriculture Organization (FAO), and in collaboration with the National Committee for Disaster Management (NCDM), conducted a national household survey in May 2016. A subsequent round of the national household survey was conducted in December 2016 and a separate urban household survey was conducted in Phnom Penh. This report is based on the latter exercise and additional secondary information.

This report was prepared by Kimchoeun Pak, an independent researcher, based on analysis by Sodany Saing, an independent analyst. Additional analysis, inputs and review were provided by World Food Programme staff, namely Yav Long, Chanvibol Choeur, Jonathan Rivers, Kurt Burja, Indira Bose and Francesca Erdelmann. The report was designed by Chamroeun Chim and Ratanak Leng. Data collection was done by SBK Research and Development.

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## Executive summary

With fast economic growth and increasing rural-urban migration, Cambodia has gone through a fast-paced urbanization process in the last decade. Global experience shows that urbanization, while bringing opportunities, also poses challenges and can introduce new forms of vulnerability. Similar observations have been made in the case of Cambodia's growing urban centres, especially in the capital of Phnom Penh. However, literature on urbanization in Cambodia is still scant, especially with regard to the overall situation and vulnerability status of households in the capital.

This report seeks to provide a better understanding on the overall situation and drivers of vulnerability, food security, and migration in Phnom Penh. It is based on household survey data collected in December 2016, with a total of 1,200 households in Phnom Penh, in both the inner and outer zones. The findings of this report contribute to a better understanding of urbanization and urban vulnerability in Cambodia and also to the future strategy on food security and nutrition.

Cambodia is still largely a rural country, although it is rapidly urbanizing. According to a recent United Nations report, in 2014, about 21 percent of the population were living in cities. This is still a small proportion, compared to other countries in the region. A large portion of urbanization in Cambodia is concentrated in Phnom Penh, followed by Battambang and Siem Reap. As of 2012, Phnom Penh was estimated to have a population of 1.85 million and is expected to have reached 2.86 million by 2035. In-migration has been a significant factor in this growth.

Urbanization in Phnom Penh (and other cities in Cambodia) has been largely unplanned and unregulated, despite the existence of various plans and strategies. The situation has led to rising concerns over the current capacity of infrastructure and public services to meet growing political, social and economic demand. Traffic congestion and accidents, drainage system capacity and management, solid waste management, insufficiently regulated real estate development and urban poor communities are among the key concerns for the future development of the capital.

Within this broader context of urban development, the report, based on the household survey data, presents the situation of households in the inner and outer zones of Phnom Penh. It shows that households in these areas are similar in terms of family size (on average 5 members). Households in both zones have acceptable housing conditions if we consider the materials used for their roofs and exterior walls. However, a much higher percentage of households in the outer zones still report earth/clay/sand as the material of their floor. More data is needed, however, on housing conditions for the urban poor and those without a permanent residence, such as people living on the street.

All households in the survey report having access to electricity. A large majority of them have a television (92 percent), a mobile phone (94 percent), and a motorcycle (82 percent). However, more than twice the proportion of households in the inner zone have a refrigerator compared to those in the outer zone (59 percent and 24 percent, respectively). Households in the inner zone are more than twice as likely to have an account at a bank or micro-finance institution compared to those in the outer zone (41 percent and 18 percent, respectively). Access to clean water is very high for the inner zone (92 percent) but 66 percent in the outer zone. Access to toilets are high, but hygiene practices still require improvement, with only 72 percent of households in the inner zone and 76 percent of households in the outer zone having an observed hand-washing facility with soap.

Households in the outer zone earn less compared to households in the inner zone (7 million riels and 11 million riels per capita per year, respectively). However, households in both zones still earn much more than rural households (4 million riels per capita per year). The annual per capita expenditure for households in the outer zone (total including food and non-food) is only slightly (roughly 15 percent) lower than that of those in the inner zone. The share of food expenditure is roughly the same for both groups (around 38 percent of total expenditure). A more detailed breakdown of their expenditure demonstrates that both the inner and outer zones spend a similar proportion of their total expenditure on each food group, with the exception of alcohol for which households in the outer zone spend more. In terms of non-food expenditure a higher proportion is spent on health for the outer zone, whereas the inner zone spend more on transportation and education.

A higher percentage of households in the outer zone borrow money than those in the inner zone (39 percent and 11 percent, respectively). Yet, this is still lower than that of rural households (55 percent). The comparable loan amount between households in the inner and outer zones differ depending on whether the mean or median amount is used. The mean loan amount of households in the outer zone is larger than that of those in the inner zone (27 million riels and 16 million riels, respectively) and both are larger than that of rural households (9 million riels). However, when the median is used, a reverse picture is presented: the loan amount of households in the outer zone is about half that of those in the inner zone (6.8 million riels and 11.6 million riels, respectively) and about 70 percent higher than the median loan amount for rural households (4 million riels).

The food consumed by both groups is similar, although households in the outer zone consume *prohok* (fermented fish paste) slightly more often than those in the inner zone. Both groups rely overwhelmingly on market purchases to get their food, although a small proportion (17 percent) of households in the outer zone still report growing their own rice and vegetables. Given the variability of food safety standards in markets, the safety and quality of food could be of concern. About 14 percent (inner zone) and 21 percent (outer zone) of urban households have low dietary diversity,



indicating that access to a healthy and sufficient diet is still problematic for some. Existing studies indicate that malnutrition is still a public health concern, especially for pregnant women and children under five living in urban poor communities. More than half of the households in both zones prefer going to private clinics when they are sick rather than public hospitals, which may be an indication of low trust in the government public health services.

In-migrant households account for 35 percent of the total sample of households in this survey. They are divided about equally between the inner and outer zones. Due to the design of the survey it is not possible to provide disaggregated information on urban population sub-groups. Nevertheless, existing studies have shown that some groups have specific vulnerabilities. Garment workers, for instance, still have concerns with safety, health and access to public services. Other groups, including construction workers, domestic workers, small/informal street vendors, women working in entertainment places, tuk-tuk drivers, those living in urban poor communities and those living on the street, are also vulnerable, though there is little literature available on this topic.



# 1. Introduction

Cambodia has achieved significant growth since the mid-1990s, becoming a low middle-income country in 2016. About 14 percent of the population is estimated to be poor (in 2014), yet a significant portion of the population remains 'near poor', i.e., living just above the poverty line and thus economically vulnerable.<sup>1</sup> The country is ranked 146 out of 189 countries in the 2017 Human Development Index. With fast economic growth and increasing rural-urban migration, the country has gone through a fast-paced urbanization process in the last decade. Global experiences show that urbanization, while bringing opportunities, also poses challenges and new forms of vulnerability. Similar observations have been made in the case of Cambodia's growing urban centres, especially in the capital of Phnom Penh. However, literature on urbanization in Cambodia is still scant, especially on the overall situation and vulnerability status of households in the capital.

The World Food Programme (WFP), the United Nations Children's Fund (UNICEF), and Food and Agricultural Organization of the United Nations (FAO), in collaboration with the National Committee for Disaster Management (NCDM) and the Provincial Committees for Disaster Management (PCDMs), conducted a nationwide household resilience survey in May 2016. A subsequent round of the national household survey was conducted in December 2016.

As part of the second survey round in December 2016, a separate survey of 1,200 urban households was conducted in Phnom Penh to gain a better understanding on the overall situation and drivers of vulnerability, food security, and migration in the capital. It does so by comparing those who live in the inner and outer zones of the capital as classified by the Phnom Penh City Hall (see Box 1 below).

There is no clear definition on urban poor households. However, according to UN-Habitat, urban poor households refer to those living in unauthorized settlement areas inhabited almost exclusively by the poor. Also known as 'slum households', they refer to a group of individuals living under the same roof in an urban area who lack one or more of the following:

1. Durable housing of a permanent nature that protects against extreme climate conditions.
2. Sufficient living space which means not more than three people sharing the same roof.
3. Easy access to safe water in sufficient amounts at an affordable price.
4. Access to adequate sanitation in the form of a private or public toilet shared by a reasonable number of people.
5. Security of tenure that prevents forced evictions.

*Box 1: Urban poor households defined<sup>2</sup>*

<sup>1</sup> World Bank (2017) Cambodia: systematic country diagnostic

<sup>2</sup> UN-HABITAT (2008) Slums: Some Definitions. State of the World's Cities 2006/7

The study has the following objectives:

- » First, it will inform the review of key strategies in Cambodia relating to food security and nutrition, the development of the new United Nations Development Assistance Framework (UNDAF), and development partners' strategies and plans.
- » Second, the additional data on urban issues in Cambodia will be a direct contribution to the ongoing localization process of the Sustainable Development Goals (SDGs), one of which focuses on sustainable, safe and inclusive cities and communities (SDG 11).
- » Third, the findings will contribute to the knowledge base on urbanization and urban poverty in Phnom Penh.

In the following, the report presents the design and limitations of the household survey. The next section provides a broader context of urbanization in Phnom Penh, followed by the findings. The last section discusses specific issues based on the findings and existing literature and suggests topics for future research.

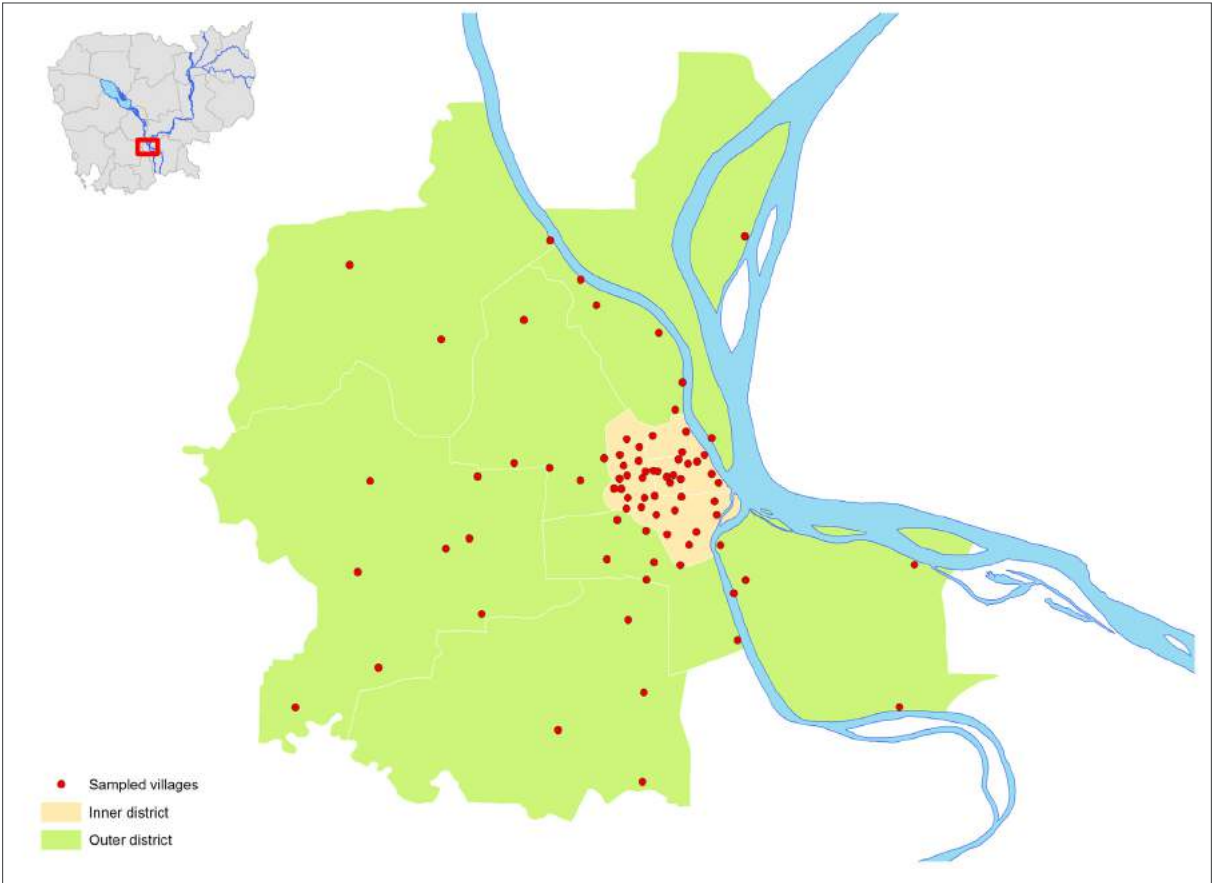


Figure 1: Geographic distribution of the sample

## 2. The survey, its limitations and the report structure

### 2.1. The survey

The household survey was conducted in December 2016, with a total of 1,200 households in Phnom Penh, divided into inner and outer zones (See Figure 1 and Table 1). The survey uses a stratified two-stage cluster design with probability proportional to size. Data collection was conducted via mobile devices, using the Kobo ToolBox mobile data collection application. Box 2 includes the survey modules.

Zone	Khan	Total population (2012) <sup>2</sup>	Sample size
Inner	Chamkar Mon	184,200	180
	Doun Penh	119,500	120
	Prampir Meakkakra	93,300	105
	Tuol Kouk	186,100	195
<b>Sub-total</b>			<b>600</b>
Outer	Dangkao	96,100	60
	Mean Chey	282,700	90
	Russey Keo	152,600	105
	Saensokh	198,600	75
	Pur Senchey	234,900	120
	Chraoy Chongvar	84,000	45
	Praek Pnov	59,700	30
	Chbar Ampov	160,500	75
<b>Sub-total</b>			<b>600</b>
<b>Total</b>		<b>1,852,200</b>	<b>1,200</b>

Table 1: Sample selection

- » Household demographics
- » Housing
- » Water sources
- » Sanitation
- » Household income
- » Household expenditures
- » Food security and vulnerability
- » Agriculture, livestock and fisheries
- » Migration behaviours (2010 – 2016)
- » Household impact and finances related to migration (Jan – Dec 2016)
- » Safety and protection (Jan – Dec 2016)
- » Child nutrition
- » Migration status in Phnom Penh
- » Access to services

Box 2: Survey modules

3 JICA (2014) The project for comprehensive urban transport plan in Phnom Penh Capital City (PPUTMP)

## 2.2 The limitations

There are three specific limitations to the survey.

- » First, while seeking to assess the poverty and vulnerability of households in Phnom Penh, the sampling of the survey does not specifically focus on urban poor communities as such. Instead, the sample was selected among all households in the capital, within which the urban poor is one population sub-group among them.
- » Second, because of the first limitation, and the relatively small sample size, the survey does not provide separate analysis on specific potentially vulnerable population sub-groups, such as migrant workers, factory workers, and others.
- » Third, with the household being the unit of analysis, the survey has by design left out vulnerable people who are not living in a household per se, namely, those people who do not have a residence and reside on the street, i.e., the 'homeless'. Other types of social science research, often purposefully sampled and qualitative in nature, are required.

## 2.3. The report structure

This report includes the following analysis and additional information:

- » A descriptive analysis and interpretation of the household survey data,
- » A review of relevant secondary information (published reports) to determine the extent to which the findings in this report triangulate with or differ from other related research, and
- » A discussion of specific research gaps that need to be filled in order to have a more complete picture of urban poverty and vulnerability in Phnom Penh and other urban centres.
- » This report also sometimes compares the results for the urban population to that of the rural population. Rural data comes from a survey conducted at the same time (December 2016) with a total of 2,341 rural households in 160 villages in 24 provinces in the country. The number of households was stratified by four ecological zones: the Plains, Tonle Sap, Plateau, and Coastal.

### 3. The context: Urbanization in Phnom Penh

The situation of households in Phnom Penh needs to be understood within the broader context of the overall progress and challenges of urbanization in the capital. Based on the existing literature, this section provides such context, focusing on (i) key urbanization trends, (ii) urban planning, infrastructure, and public services, and (iii) the urban poverty and vulnerability situation.

#### 3.1. Key urbanization trends

Cambodia is still largely a rural country, although it is fast urbanizing. According to a recent United Nations report, in 2014, about 21 percent of the population were living in cities. This is still a small proportion, compared to other countries in the region, such as Indonesia (53 percent), Thailand (49 percent) and Vietnam (33 percent). The report also suggests that the country will continue to urbanize at a rate of 2.5 percent in the next 35 years, which means in 2050, about 36 percent of the population will be urban.<sup>4</sup>

Urbanization in Cambodia is concentrated in Phnom Penh and larger provincial towns like Battambang and Siem Reap. Rapid development has forced the capital to spatially expand to include surrounding suburban areas, including 20 communes from Kandal province in 2010. Currently, there are a total of 12 *khans*<sup>5</sup> (96 *sangkats*<sup>6</sup> and 909 villages), covering a land area of 678.47 km<sup>2</sup>. Among the 12 *khans*, four are considered inner/central (Chamkar Mon, Doun Penh, Prampir Meakkakra, and Tuol Kork), while the other eight are considered outer (as shown in Table 1).

As shown in Figure 2, in 2012, Phnom Penh was estimated to have a population of about 1.85 million. This number is expected to reach 2.87 million by 2035.<sup>7</sup> Existing studies suggest that such population growth comes much less from natural growth (i.e. growth due to the natural birth rate of existing Phnom Penh inhabitants) but more due to in-migration.<sup>8</sup> This is also confirmed by a recent migration study which shows a large increase in migration from rural areas to Phnom Penh, starting especially from 2013.<sup>9</sup> This suggests that, as in other countries, to understand urbanization in Phnom Penh, migration must be considered a key factor.

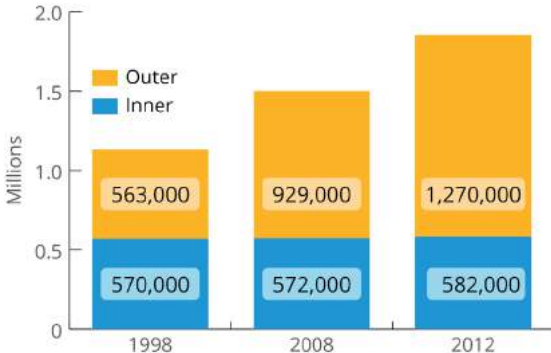


Figure 2: Phnom Penh population growth by inner and outer zones

4 United Nations (2014) World urbanization prospects  
 5 The term for districts in Phnom Penh  
 6 *Sangkats* are subdivisions of the *Khans*  
 7 JICA (2014) The project for comprehensive urban transport plan in Phnom Penh Capital City (PPUTMP)  
 8 NIS (2013). Cambodia Inter-Censal Population Survey 2013 Final Report. Phnom Penh: Cambodia: National Institute of Statistics (NIS), Ministry of Planning.  
 9 WFP (2019) Vulnerability and Migration in Cambodia

Phnom Penh is a political, economic, and industrial centre and tourist destination. It is a place where many rural people migrate to look for work and/or permanent settlement; where many garment factories, construction work and informal sector jobs are present. It is home to thousands of small informal enterprises which constitutes a significant segment of the economy of the city. Labour participation is strong, especially in the service sector, which absorbs about 87 percent of total employment. It is also a place where people can access various kinds of services, connections, technology and information.<sup>10</sup>

## 3.2. Urban planning, infrastructure and public services

Urbanization in Phnom Penh (and other cities in Cambodia) has been largely unplanned and unregulated. This has been the case despite the existence of the Phnom Penh Master Plan 2035, and many other national and sub-national laws, frameworks, and plans. Various sectoral plans and feasibility studies (e.g., on transport, drainage, water supply) have also been developed with the support of donor agencies, but there has been no entity to oversee urban planning in a comprehensive manner.<sup>11</sup> The situation has led to rising concerns over the current capacity of infrastructure and public services to meet the growing political, social and economic demand.

Traffic congestion is one growing concern which results from rapid motorization in the capital. From 1990 to 2012, the number of registered vehicles grew from 4,000 to 268,000 and the number of motorcycles from 44,000 to 951,000. The road network has not kept up with this growth: while 94 percent of roads in the central four *khans* are paved, only 27 percent of those in suburban areas are paved.<sup>12</sup> Traffic accidents are the leading cause of death in Cambodia. In 2015, traffic accidents killed 2,265 people and injured more than 15,000, 40 percent of whom were seriously injured.<sup>13</sup>

Its geographical location, at the convergence of two major rivers, together with a poor drainage system and the filling-in of natural lakes, rivers and streams in the city, has made Phnom Penh increasingly vulnerable to floods from high rainfall and episodic larger-scale floodplain events. The city experienced serious flooding in 2011 and 2013, and with the current drainage system, it is expected that flooding will continue to happen, and with higher frequency, especially for the outer zones. The problem is compounded by the fact that the city, as of now, still has no formal wastewater treatment system, a condition which poses a threat to the urban environment, particularly for residents living in low-income areas around canals and lakes.<sup>14</sup>

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10 World Bank (2017) Urban development in Phnom Penh

11 *ibid.*

12 JICA (2014) The project for comprehensive urban transport plan in Phnom Penh Capital City (PPUTMP)

13 <https://www.voanews.com/a/traffic-accidents-are-leading-cause-of-death-in-cambodia/3403777.html>

14 Global Green Growth Institute (2016) Phnom Penh Green City Strategic Plan 2017-2026



Water supply, however, is among the few success stories when it comes to infrastructure and public services in the capital. Under the management of the autonomous Phnom Penh Water Supply Authority (PPWSA), the piped water distribution network has been developed to cover all four inner zones and for a significant part of the eight outer ones.<sup>15</sup>

Solid waste management has proved to be a lot more challenging. With only one local private company managing the services and with limited roles and resources of sub-national administrations in addressing the matter, it is estimated that 100-200 tons of solid waste remain uncollected in Phnom Penh every day. The data shows that while most households in the inner zone use collection services, most of those in the outer zone do not. In areas underserved or not served by waste collection services, residents burn or bury waste, or dispose of it on open roads or in waterways. Disposal of waste into waterways further exacerbates the issues faced in drainage and flood protection.<sup>16</sup>

While the public infrastructure and services have made slow progress, population growth, the influx of foreign direct investment (FDI) and more available mortgage loans have boosted real estate development projects. While contributing to economic growth, the fact that such development has happened with insufficient regulation and not necessarily in compliance with the capital's Master Plan has raised a few concerns with relation to its impact on public space, infrastructure, and land governance, not to mention the risk of a housing market bubble. And even with such development, affordable housing is still a problem for low-and medium-income families, including the migrant ones.<sup>17</sup>

### 3.3. Urban poverty and vulnerability

Ensuring urbanization is inclusive is a priority in the SDGs, and a key concern for many cities in the region, including Phnom Penh. In those cities, many poor people are living and struggling with their daily lives.<sup>18</sup> For Phnom Penh, there are two primary classifications for identifying the poor and vulnerable in the Capital: (a) Identification of Poor Households (IDPoor), and (b) urban poor. IDPoor is a national poverty assessment methodology used to identify poor households for delivering targeted social protection programs. The term "urban poor," on the other hand, has been defined by the Phnom Penh City Hall (PPCH) as those communities that are largely informal or resettled from informal areas.<sup>19</sup>

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15 World Bank (2017) Urban development in Phnom Penh

16 *ibid.*

17 *ibid.*

18 World Bank (2017) East Asia report on urbanization

19 The Phnom Penh City Hall uses 11 different codes for identifying where urban poor communities are located, including on public and state land (railways, road side, sewage pipe, lake, river bank, roof of old buildings, pagoda, stupa), private land owned by the state, community land, private land, areas the government relocated, and private lands the government or communities rent (PPCH 2012).

According to the 2015 IDPoor assessment for Phnom Penh, the city-wide poverty rate was 9.5 percent, although the data was not collected for the four inner *khans*. The assessment shows that poor households are clustered in the north, south and eastern periphery of the city. A new IDPoor methodology is being piloted to better capture urban poverty dimensions, as the current methodology was designed, and is more suitable, for a rural setting. An assessment by the PPCH in 2015 found that there were 215 urban poor communities with 17,462 households scattered across the city. The number is down from 281 in 2012, a trend that might be due either to the relocation of households from public land, such as railways and canals with land security, or through the formalization of informal settlements by the incorporation into existing villages.

Existing studies indicate a number of challenges faced by people living in urban poor communities including poor quality housing, infrastructure gaps (i.e., water supply and waste collection), low skill, low pay jobs, and the lack of land tenure. Another significant challenge for those households is the informal nature of many of their income-generating opportunities: many of them work as factory workers and construction workers or operating as street vendors.<sup>20</sup>

Children who are living on the street are also a concern: existing studies found that there are about 3,500 living in seven cities in the country, 733 of whom (about 20 percent) are in Phnom Penh.<sup>21</sup>

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20 PPCH (2012) The Phnom Penh Urban Poor Community Need Assessment Report; STT (2014) The Phnom Penh survey: A study on urban poor settlements in Phnom Penh

21 Stark et al (2017) Estimating the size of the homeless adolescent population across seven cities in Cambodia

# 4. Findings

The literature review above provides the context in which the findings from this survey are presented. Where applicable, the findings are triangulated with the existing literature and/or with the rural situation.

## 4.1. Household characteristics

### 4.1.1. Demography

Households in the inner and outer zones are similar in terms of family size (on average 5 members), as shown in Table 2. Few households had two or less members (around 10 percent for the inner zone and less than 10 percent for the outer zone). For both groups, roughly 25 percent of them are headed by females, about 70 percent of whom are reportedly widows. About 40 percent of households in the outer zone have at least one child under five years old living with them (28 percent for the inner zone), and 31 percent with at least one elderly aged 60 years and older (37 percent for the inner zone). However, about 8 percent of the households in the outer zone report having at least one person with a disability living with them compared to 3 percent for those in the inner zone. Overall, more than half of urban households (about 57 percent and 59 percent for inner and outer zones, respectively) have 2 to 3 members contributing to household income.

Key characteristics	Inner zone	Outer zone	Urban <sup>21</sup>
Those with an average of 5 members	58%	57%	57%
Female headed households	24%	25%	25%
Living with at least one child <5 years	28%	40%	36%
Living with at least one elder >60 years	37%	31%	33%
Living with at least one person with a disability	3%	8%	7%
Those with 2-3 members contributing to household income	57%	59%	59%

Table 2: Demographic characteristics

<sup>22</sup> This is a population weighted average. The same applies for all urban figures presented in the report

## 4.1.2. Housing & assets

Nearly all households in the inner and outer zones have acceptable housing conditions if we consider the materials used for their roofs and exterior walls. However, a much higher percentage of households in the outer zone still have earth/clay/sand as their floor type compared to those in the inner zone (6.8 percent and 0.2 percent, respectively). More data is needed, however, in terms of housing conditions, which can be substantially worse for poor urban families. Additional data is required, including, for instance: whether the house is rented, the rental fee and the number of people staying in one room.

Existing studies suggest that the lack of affordable housing in Phnom Penh has pushed many people, especially migrants, to live in rented houses. A rental housing survey in 2014 found that a majority (86 percent) of those who rent houses are migrants working as street vendors, food and service workers, rubbish collectors and garment workers. Most rental units are 13 meter-square, with an average of four people sharing the unit, at an average cost of USD 26.5 per month. Most of them (98 percent) rent the houses without having any written agreements and they have to pay inflated electricity costs given to them by landlords.<sup>23</sup>

While it is important to assess the housing conditions, it is important to recognize also that some urban poor do not even live in a house to start with. Instead, they live on the street or in construction sites. There are many of these groups and their living conditions are particularly challenging.<sup>24</sup>

All households report having access to electricity, as shown in Table 3. A large majority of them have a television (92 percent), at least one mobile phone (94 percent) and a motorcycle (82 percent). However, more households in the inner zone have a refrigerator than those in the outer zone (59 percent and 24 percent, respectively). Overall, a quarter of urban households have an account at a bank/micro-finance institution, but those in the inner zone are more than twice as likely to have one compared to those in the outer zone (41 percent and 18 percent, respectively).

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23 STT (2014) Phnom Penh Rental Housing Survey: A study on poor rental housing in Phnom Penh

24 Stark et al (2017) Estimating the size of the homeless adolescent population across seven cities in Cambodia

Assets	Inner zone	Outer zone	Urban
Those with access to electricity	100%	100%	100%
Those who have a radio	49%	42%	44%
Those who have a television	96%	90%	92%
Those who have a mobile telephone	96%	94%	94%
Those who have a refrigerator	59%	24%	34%
Those who have a motorbike/ scooter	85%	80%	82%
Those with a bank or MFI account	41%	18%	25%

Table 3: Assets

### 4.1.3. Water and sanitation

Access to clean water varies across households in the inner and outer zone (see Table 4). 92 percent of households in the inner zone report having piped-water within their dwelling or backyard, while 66 percent of households in the outer zone report this. Ten percent of households in the outer zone rely mainly on rain water and water from a tanker-truck. For those households who have to travel to get piped-water, the average travel time was a 7.5-minute walk.

	Inner zone	Outer zone	Urban
Piped-water within their dwelling as the main source	92%	66%	73%
Piped-water within their backyard as the main source	0.3%	5%	3%
Rain-water & water from tanker-truck as the main source	0%	10%	7%
Walking time that one needs to travel to get water from the outside of own dwelling and yard/plot	9.5 minutes	7 minutes	7.5 minutes

Table 4: Access to clean water

All households in the inner zone report having access to a toilet, while 96 percent of the households in the outer zone report having access (see Table 5). Virtually all (97 percent) households in the inner zone use a 'flush to piped sewer system', compared to 67 percent of households in the outer zone. 24 percent of households in the outer zone use 'flush to septic tank' toilet and about 10 percent of the households in the outer zone report using shared toilets with at least one other household. More than 70 percent of households in both zones are observed to have a hand-washing facility with soap.

	Inner zone	Outer zone	Urban
Having access to toilet	100%	96%	97%
Using 'flush to piped sewer system'	97%	67%	76%
Using 'flush to septic tank'	3%	24%	17%
Sharing the toilet with at least one other family	2%	10%	8%
With observed hand-washing facility with soap	72%	76%	75%

Table 5: Toilet use and hand-washing practices

## 4.2. Economic situation, income, expenditure, and indebtedness

### 4.2.1. Income and economic activities

As displayed in Table 6, about 13 percent of households in the outer zone report having IDPoor cards (compared to 1 percent of the households in the inner zone) which is slightly higher than the result of the 2015 IDPoor assessment in the outer *khans* (9.5 percent). By comparison, the proportion of households in rural areas that report having an IDPoor card is 20 percent.<sup>25</sup> As previously mentioned, however, the IDPoor system was designed originally to capture rural poverty.

The distribution of reported incomes is highly skewed in Cambodia; as a result, the difference in mean and median annual per capita income is substantial. The mean annual per capita of households in the outer zone is around 7.1 million riels (USD 1,750 per year, or about USD 146 per month), which is much less than that of the households in the inner zone (11.2 million riels or USD 2,750 per year, or USD 230 per month). By contrast, the median annual income per capita amount for both households in the inner and outer zones is around half that of the mean estimate. However, whether we use the mean or median, the data shows that even the households in the outer zone in Phnom Penh earn more than twice as much income as rural households.<sup>26</sup>

	Inner zone	Outer zone	Urban	Rural
Households with IDPoor card	1%	13%	9%	20%
Annual income per capita (mean)	11,267,290	7,135,895	8,388,737	3,041,543
Annual income per capita (median)	6,080,000	3,744,000	4,400,000	1,823,750

Table 6: Poverty and income (riels)

<sup>25</sup> WFP (2019) Vulnerability and Migration in Cambodia

<sup>26</sup> *ibid.*

The income quintile analysis (see Figure 3) provides a picture of income distribution among households in the inner and outer zones, as also in comparison to the rural ones. Among all the three groups, the richest quintile accounts for 55 percent (in outer zone) to 68 percent (inner zone) of the income, while the poorest accounts for only from 1 percent (inner zone) to about 4 percent (outer zone). Overall, however, we can conclude that the income distribution in urban and rural zones are similar.

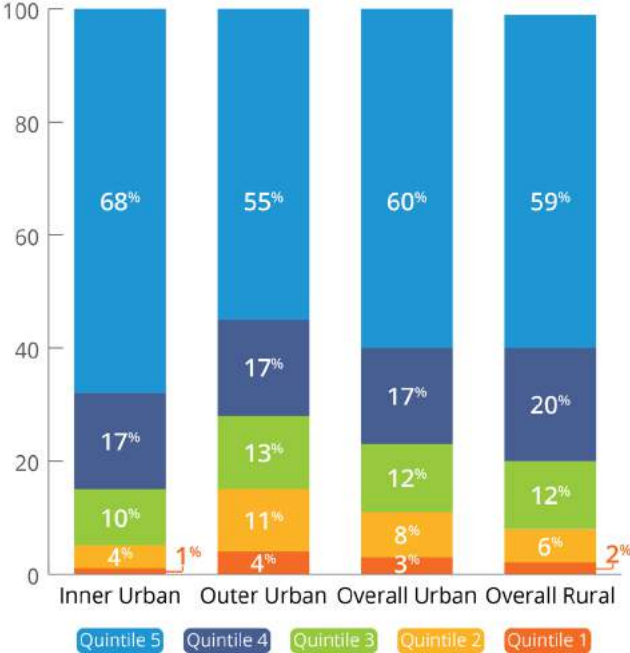


Figure 3: Percentage of share total income in each quintile group

Main income activities vary by location. More households in the inner zone have their members work as employees of private companies (28 percent) and government agencies (14 percent) and run their own businesses (16 percent). Those from households in the outer zone, on the other hand, are factory workers (15 percent), engage in petty trading (12 percent), and also work as employees of private companies (12 percent). The former result suggests that, despite fast urbanization, some parts of the outer zone in Phnom Penh still maintain rural livelihoods.

	Inner zone	Outer zone	Urban
Employee in private companies	28%	12%	17%
Employee in government institutions	14%	6%	8%
Run their own business/shop	16%	10%	12%
Factory worker	3%	15%	12%
Other non-agricultural labour job	4%	10%	8%
Petty trading/ street vendor	9%	12%	11%
Grow crops, raise animals, and fishing	0.2%	6%	4%
Others*	26%	29%	28%

Table 7: Main income activities

\* Non-government organization worker, agricultural labour, drivers, hair barber/beauty salon, mechanic, electrician, construction worker, handicraft seller, etc.

## 4.2.2. Expenditure

Using the mean, the data shows that the annual expenditure per capita for households in the inner zone, both for total expenditure and by food and non-food expenditures, is only slightly (roughly 15 percent) higher than that of households in the outer zone (see Table 8). The share of food expenditure is roughly the same for both groups, which is 38 percent of total expenditure. However, if compared to the mean annual per capital income presented above, the expenditure of households in the inner zone accounts for only 68 percent, while for the households in the outer zone, it is 93 percent, which points to the lower saving capacity of the latter group.

As shown in Table 8, the total expenditure incurred by households in the outer zone in Phnom Penh is roughly 70 percent higher than that of rural households.<sup>27</sup> This suggests that people in the outer zone in Phnom Penh can earn more, but they also spend proportionally more as well. By contrast to rural households, on average, urban households have nearly double the annual expenditure per capita and nearly triple the annual income per capita.

	Inner zone	Outer zone	Urban	Rural
Total annual per capita income	11,267,290	7,135,895	8,388,737	3,041,543
Total annual per capita expenditure	7,664,899	6,623,518	6,935,933	3,911,832
Food expenditure	2,919,085	2,490,923	2,619,372	1,725,457
Non-food expenditure	4,745,814	4,132,595	4,316,560	2,186,376

Table 8: Annual per capita expenditure (riels)

Using the mean, the total expenditure and its components (food and non-food) are similar for both male and female headed households, although female headed households appear to spend about 18 percent more than the male headed households.

However, the expenditure pattern differs between poor and non-poor households (as indicated by whether they have an IDPoor card), with the non-poor spending roughly 73 percent more than the poor (see Table 9). Even so, the share of food expenditure is still around 38 percent for both groups.

<sup>27</sup> WFP (2019) Vulnerability and Migration in Cambodia



	Total income	Total expenditure	Food expenditure	% of total	Non-food expenditure	% of total
<b>By gender of the household head</b>						
Male	8,148,995	6,645,660	2,623,248	39%	4,022,412	61%
Female	9,139,461	7,830,445	2,607,428	33%	5,223,017	67%
<b>By poverty</b>						
With IDPoor card	4,338,970	4,141,228	1,633,363	39%	2,507,865	61%
Without IDPoor card	8,781,602	7,231,223	2,723,776	38%	4,507,447	62%

Table 9: Annual per capita income and expenditure by gender of household head and poverty (riels)

As shown in Table 10, total food expenditure for households in the outer zone is less on average than households in the inner zone. Proportionally, both spend a similar share of their food expenditure on each of the food groups with the exception of alcohol where the outer zone spend more.

	Inner zone	Outer zone	Urban
<b>Total food expenditure/capita/year (riels)</b>	<b>2,919,085</b>	<b>2,490,923</b>	<b>2,619,372</b>
<b>Percentage of food expenditure broken down by food group</b>			
Rice	17%	17%	17%
Fish	15%	16%	15%
Meat and poultry	14%	12%	13%
Egg and diary	5%	5%	5%
Oil and fat	2%	2%	2%
Vegetable	8%	7%	8%
Tuber and pulse	2%	2%	2%
Fruit and nut	8%	6%	7%
Salt, sugar	5%	6%	5%
Non-alcohol beverage	8%	6%	7%
Food consumed outside the home	15%	15%	15%
Alcohol	2%	5%	4%

Table 10: Food expenditures

As shown in Table 11, in terms of non-food expenditure a higher proportion is spent on health for the outer zone (14 percent versus 10 percent), whereas the inner zone spend more on transportation (17 percent versus 14 percent) and education (4 percent versus 3 percent).

	Inner zone	Outer zone	Urban
<b>Total non-food expenditure/capita/year (riels)</b>	<b>4,745,814</b>	<b>4,132,595</b>	<b>4,316,561</b>
<b>Percentage of non-food expenditure broken down by item</b>			
Tobacco	1%	1%	1%
Health	10%	14%	13%
Transportation	17%	14%	15%
Furnishing, Salary	1%	1%	1%
Recreation	1%	1%	1%
Education	4%	3%	3%
Communications	4%	3%	3%
Clothing	3%	3%	3%
Miscellaneous goods	11%	12%	12%
Housing	48%	48%	48%

*Table 11: Non-food expenditures*

### 4.2.3. Indebtedness

A higher percentage of households in the outer zone borrow money than those in the inner zone (39 percent and 11 percent, respectively). By comparison, a much higher proportion (55 percent) of rural households report borrowing money. The reported purposes of the debt are similar for both households in the inner and outer zones (as shown in Table 12), although more households in the outer zone borrow money to pay for health-related issues, while more households in the inner zone borrow to support their children’s studies.

	Inner zone	Outer zone	Urban	Rural
Improve livelihood activities	34%	35%	35%	34%
Purchase food	6%	9%	9%	19%
Pay for health services/ birth delivery	8%	13%	12%	11%
Rent and/or purchase/ improvement of dwelling	30%	27%	27%	15%
Support to children study	10%	5%	5%	n/a
Pay interest, pay back existing debts	8%	8%	8%	4%
Others	6%	10%	10%	4%

Table 12: Purpose of loans

The comparable loan amounts between households in the inner and outer zones differ depending on whether the mean or median is used (see Table 13). When the mean is used, the loan amount of households in the outer zone is larger than that of those in the inner zone (26.7 million riels and 16.3 million riels, respectively) and both are larger than that of rural households (9 million riels). However, when the median is used, a reverse picture is presented: the loan amount of households in the outer zone is about half of that of those in the inner zone (6.8 million riels and 11.6 million riels, respectively) and more than 70 percent larger than the median loan amount for rural households.

	Inner zone	Outer zone	Urban	Rural
HH income per year (mean)	48,096,901	32,393,449	37,155,507	13,941,163
Total expenditure per year (mean)	32,659,051	28,987,870	30,089,224	17,229,494
Percentage of HHs borrowing loans	11%	39%	31%	55%
Average loan amount (mean)	16,361,791	26,738,751	25,621,574	9,041,155
Average loan amount (median)	11,680,000	6,832,000	8,000,000	4,000,000
Average loan amount (% of annual income)	34%	83%	69%	65%

Table 13: Indebtedness (riels)

### 4.3. Food security and nutrition

The composition of the diet consumed by households in the inner and outer zones is similar (as shown in Table 14). A slight difference is the consumption of *prohok*, a fermented fish paste and part of the traditional diet. Households in the outer zone consume *prohok* 1.4 times per week compared to households in the inner zone, who consume it 0.6 days per week. By comparison, *prohok* consumption by rural households is higher (1.6 days per week). In terms of sources of food, households in both inner and outer zones overwhelmingly rely on markets to purchase their food, although about 17 percent of households in the outer zone still produce their own cereals and grain; for households in the inner zone this is only 5.5 percent. A few households in the outer zone (6 percent) also report growing their own green leafy vegetables.

Food groups	Inner zone		Outer zone	
	# of days in the last 7 days	% bought from market	# of days in the last 7 days	% bought from market
Cereals and grain	7.0	93%	7.0	81%
Roots	0.7	99%	0.8	97%
Legumes/nuts	0.9	100%	0.6	98%
Orange vegetables	1.9	100%	1.7	98%
Green leafy vegetables	4.2	99%	4.3	92%
Other vegetables	2.4	99%	2.4	98%
Orange fruit	1.1	99%	1.1	95%
Other fruit	2.2	99%	2.0	95%
Organ meat	1.2	100%	1.0	99%
Meat/poultry	3.5	100%	3.4	99%
Fish	4.0	100%	4.4	95%
Egg	2.2	100%	2.3	98%
Milk	1.2	100%	1.2	97%
Oil and fat	3.6	100%	4.2	98%
Sugar	1.4	99%	1.7	98%
Condiments	6.5	99%	6.4	98%
<i>Prohok</i>	0.6	99%	1.4	91%
Insect	0.2	100%	0.1	98%

Table 14: Frequency of food consumption and sources of food

Most households in the inner and outer zones have acceptable food consumption (99.4 percent and 98.3 percent, respectively), see Table 15. While the prevalence of poor or borderline food consumption, an indication of current food insecurity, is low overall, it is about three times higher in households in the outer zone than those in the inner zone (1.7 percent and 0.6 percent, respectively).<sup>28</sup> Dietary diversity is a concern, with 14 percent of households in the inner zone and 21 percent in the outer zone classified as having low dietary diversity; by comparison, a quarter (24.5 percent) of rural households are classified as having low dietary diversity.<sup>29</sup>

28 Food consumption measures a households' food frequency and food quality in the last 7 days. Based on a weighted score that accounts for the relative nutritional value of each food group a household is classified into a food consumption group: poor, borderline or acceptable.

29 The dietary diversity score measures the number of food groups a household consumed in the last 7 days. Households are classified into three groups: low dietary diversity (0-4.4 food groups consumed/week), medium dietary diversity (4.5-6.0 food groups/week) and high dietary diversity (>6.0 food groups/week).

	Inner zone	Outer zone	Urban	Rural
<b>Food consumption group</b>				
Poor	0%	0.5%	0.3%	0.5%
Borderline	0.6%	1%	1%	1%
Acceptable	99%	98%	99%	98%
<b>Dietary diversity group</b>				
Low	14%	21%	19%	25%
Medium	69%	67%	68%	68%
High	17%	12%	13%	7%

Table 15: Food consumption and dietary diversity

Although this household survey did not measure undernutrition, a 2014 study found that the nutritional status of children under five in urban poor communities in Phnom Penh was poor and worse than Phnom Penh as a whole: the prevalence of wasting and stunting were 11.2 percent and 29.1 percent in children aged 6-59 months, where as in the 2014 Cambodia Demographic and Health Survey (CDHS) for Phnom Penh this was 8.4 percent and 17.9 percent, respectively. The mid-upper-arm circumference of pregnant women also indicated that up to 16 percent were at risk of having low birth weight children.<sup>30</sup>

The quality and safety of food is another issue. Although this was not assessed in this survey, other reports have cited this as a public health concern: globally, one out of 10 people fall sick every year from eating contaminated food, with the African and Southeast Asian regions having the highest incidence and highest mortality rates.<sup>31</sup> The public has become increasingly concerned about the food they eat, as incidents of people getting ill after eating unsafe food have frequently been posted and shared on social media.<sup>32</sup> Further study is required on the impact of consuming unsafe food in Cambodia.

#### 4.4. Access to health services

More than half of the households in the inner and outer zones report going to a private clinic when they get sick (56 percent and 52 percent, respectively), see Table 16. The rest go to a public health facility. Almost a quarter (23 percent) of households in the outer zone with an IDPoor card said they would go to a private clinic if they get sick.

30 UNICEF (2014) Phnom Penh: Multiple indicator assessment of the urban poor

31 <http://www.khmertimeskh.com/5086714/food-safety-concern-cambodia/>

32 *ibid.*

	Inner zone	Outer zone	IDPoor (outer zone only)
<b>Practices in accessing health services</b>			
Go to public health facilities	44%	48%	69%
Go to private health service provider	56%	52%	23%
<b>Experiences with payment for the services</b>			
Had to pay for the services	82%	82%	47%

Table 16: Access to public health services

About 82 percent of the households in the inner and outer zones said they had to pay for the services, and the median cost per visit was 50,000 riels. Almost half (47 percent) of the households with an IDPoor card report making a payment when going to hospitals. The data suggests that this is mostly for transportation, although some of these households also report paying for treatment and drugs, despite the fact that this should be covered under the Health Equity Fund.

## 4.5. Children's health and environment

A higher proportion of households with children under five in the outer zone report their child had diarrhea than those in the inner zone (21 percent and 12 percent, respectively), see Table 17. Overall, most households with children under five report disposal of the children's stool in a hygienic manner. However, some households in the inner and outer zones report disposing of the children's stool in the garbage (8 percent and 15 percent, respectively). Although not reported in the inner zone, some households in the outer report disposing of their children's stool by burying it (5 percent) and leaving it in the open (3 percent). Improper disposal of stools can create an unsafe environment and increase the transmittal of disease, particularly among young children.

	Inner zone	Outer zone	Urban
Child under five had diarrhea in the last two weeks	12%	21%	17.5%
<b>Means of disposal of the child's stool</b>			
Used a latrine/toilet	71%	55%	58%
Disposed the child's stool in a latrine/toilet	21%	22%	22%
Disposed the child's stool in a drain/ditch	0%	0.4%	0.3%
Throw the child's stool into the garbage	8%	15%	14%
Bury the child's stool	0%	5%	4%
Leave the child's stools in the open	0%	3%	2%

Table 17: Children's diarrhea incidence and stool disposal

## 4.6. Migrant status

Only 23 (<2 percent) of the 1,200 sampled households report having a member migrate elsewhere. This suggests that out-migration is not common for households in Phnom Penh. Instead, Phnom Penh, as a recent migration survey suggests, is the main destination for rural-urban migration in the country. This section will explore the situation of those in-migrants.

In this study, migrants are defined as those who respond ‘they were not born in Phnom Penh’ to our questionnaire. Whilst this is an assumption and a limitation to the analysis, the Khmer wording of the question which sounds similar to ‘Are you from Phnom Penh?’ makes it seem likely that this assumption is reasonable.

With the above classification, the data shows that the in-migrant households account for 35 percent of the total sample (see Table 18), roughly divided equally between the inner and outer zones. Mostly, those households are from the nearby provinces of Prey Veng, Kandal, Takeo and Kampong Cham. About 70 percent of them came with a family member, mostly their spouses, followed by their siblings and relatives. Ten percent of the households also report coming with their children under five years old.

	Inner zone	Outer zone	Urban
Households classified as in-migrants	35%	36%	35%
Those coming with a family member	66%	74%	70%
Those coming with a child <5 years	12%	9%	10%
Those who send money back home	20%	22%	20%
Those who intend to stay permanently in Phnom Penh	94%	91%	93%

Table 18: In-migrants living in Phnom Penh

Most of them (around 90 percent) came to Phnom Penh with some assistance of their families. This assistance includes helping them to find information about employment, supporting them to arrange transportation and accommodation, providing them with an orientation on urban-living, and also providing them with loans. However, only 20 percent of them said they send money back home. Among this 20 percent, the biggest group is factory workers (22 percent), but those who are petty traders and employees of private sectors also report sending money back home. However, given the small sample of this particular group and the sampling design of the survey, this finding is not conclusive and needs to be explored further.

More than 90 percent of the in-migrant households (in both the inner and outer zones) intend to stay in Phnom Penh permanently, which is consistent with the



findings by a recent migration study.<sup>33</sup> Based on this intention to permanently settle in the capital, it could be argued that those households see the family members that they brought and stay with in Phnom Penh as their ‘close family’, and might feel less responsible for providing support to their parents and extended families in the province.

Without substantial variation, households in both the inner and outer zones give four main reasons why they came to Phnom Penh: employment (51 percent), marriage (18 percent), permanent relocation (8 percent), and other family-related reasons (6 percent). Although only 3 percent mention education as the main reason, as was the case in the recent migration study, education can be an unstated or implicit reason why people migrate to Phnom Penh.<sup>34</sup>

Main reasons	Inner zone	Outer zone	Urban
Education	6%	1%	3%
Employment	58%	45%	51%
Marriage	16%	19%	18%
Permanent relocation	6%	11%	8%
Family-related reasons	3%	9%	6%
Other (join relative’s families, health service, etc.)	11%	15%	14%

Table 19: Main reasons for migrating to Phnom Penh

33 WFP (2019) Vulnerability and Migration in Cambodia

34 *ibid.*

## 4.7. Factory workers and other non-skilled labourers

Most factory workers and non-skilled labourers live in the outer zone (about 85 percent). Yet, a majority of them (more than 60 percent) said they were born in Phnom Penh, which, according to our assumption, suggests that they are not migrants. This is somewhat contradictory to existing studies and other anecdotes which suggest a much higher percentage of migrants among factor workers.<sup>35</sup> The explanation for this finding may lie in the fact that this study, in its sampling design, does not specifically target these demographic groups and that the sample for this sub-group is too small.

The overall characteristics of these sub-groups are similar to those of other households in the outer zone (as presented earlier), i.e. in terms of housing, assets (including mobile phones), water, child health, an account at a bank/micro-finance institution. However, there is one data point which seems to suggest that their sanitation conditions might be worse than other households in the outer zone: about 8 percent of them report having no toilet, compared to only 4 percent for the overall households in the outer zone. Due to the sampling limitation, however, this finding should not be taken as conclusive. That said, this finding is in line with a 2014 study which found that 12 percent of households in urban poor communities in Phnom Penh did not have toilet facilities.<sup>36</sup>

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35 Ministry of Planning (2012) Women and migration in Cambodia

36 UNICEF (2014) Phnom Penh: Multiple indicator assessment of the urban poor

## 5. Discussion and future research areas

Building on the findings above, this section reflects on the overall situation of households living in Phnom Penh and suggests areas of future research, particularly on specific vulnerable groups.

### 5.1. Overall situation of households in Phnom Penh

Phnom Penh has expanded rapidly in recent years, driven by fast-paced economic and population growth. Central to this is the co-existence of the two zones which, while similar in some respects, are quite distinctive in some others: the inner zone is richer, more expensive and advanced in terms of infrastructure and overall management, and the outer zone is less well managed, poorer, and has more migrants. What is important to note is that based on changes and trends in geographic and population size, it is the poorer, outer zone that has expanded in the last decade, while the inner zone has been more static.

At the household level, households in the inner and outer zones are similar in terms of household size, percentage of women-headed families, and number of income earners. However, the outer zone has a higher percentage of households with people with disabilities, but a smaller percentage of those with children under five years. In general, the housing conditions for households in both zones are similar, but other studies suggest that that might not be the case for certain vulnerable groups, including migrant workers, those in urban poor community and street children, most of whom live in the outer zone.

The two groups are also similar in terms of access to electricity and their possession of key assets, including radio, television, mobile phones, and motorbikes. This is an interesting finding and suggests that while people in the outer zones are poorer, they do benefit from improved connectivity and mobility, thanks largely to the high penetration of internet and mobile phone services and access to transport motorization in the capital.

Access to clean piped water is high for the inner zone (92%) but only 66% in the outer zone, but as this and other studies have found, sanitation and hygiene are still serious issues. These issues exist and persist less as the result of income generation capacity or the attitude of the households (although these might play some role), but more due to poor public infrastructure and public service availability and quality (e.g., poor drainage, waste collection) within the areas they are living in.

Households in the outer zone earn less compared to those in the inner zone. However, even so, their income is still much higher than that of rural households. This partially explains why more people keep coming to Phnom Penh for employment. Although households in the outer zone earn more they also spend more than those in rural areas. Taken together, however, the data shows that households in the outer zone

may still manage to save money, although the saving margin is small. Income data is notoriously unreliable, so these findings must be interpreted with caution.

The small savings-margin could be a major source of daily stress and economic vulnerability of households in the outer zone in Phnom Penh. Those households need to continuously work and earn money or their living expenses will surpass their income. Households in Phnom Penh, unlike those in rural areas, need to buy most of their consumption items from the market, including rice, vegetables and other food items that they eat. Small savings also mean that households in the outer zone may struggle to start new investments to generate alternative income. More research is needed to better understand this economic situation and vulnerability.

The annual expenditure per capita for households in the outer zone (by total, food and non-food) is slightly (roughly 15 percent) lower than that for households in the inner zone. The share of food expenditure is roughly the same for both groups (around 38 percent of total expenditure). However, a closer look at expenditures raises some concerns for households in the outer zone: they spend a greater proportion on alcohol. They also spend a greater proportion on health, which could be indicative of greater health issues, but further research is required to understand this finding.

Households in the outer zone borrow more than those in the inner zone. Yet, this amount is still lower than that of rural households. It is not clear what explains this difference besides the speculation that it might be because households in the outer zone can generate more regular income and thus have less need to borrow. At the same time, their average loan amounts are much bigger than that of rural households.

The food consumed by both groups is similar, although the households in the outer zone consume *prohok* more often than those in inner zone. Both groups rely overwhelmingly on market purchases to get their food, although a small proportion (17 percent) of households in the outer zone still report growing their own rice and vegetables. Dietary diversity is a concern and other studies have shown that undernutrition in Phnom Penh, especially in poor urban communities, is still an issue of public health significance, particularly for pregnant women and children under five. The safety and quality of the food people buy from the market, much of which is imported with the exception of rice, requires more research.

Households in both zones are more likely to go to private clinics than public hospitals when they are sick, although this is more common in the inner zone than the outer zone. More than 80 percent of households said they have to pay for treatment and drugs. Diarrheal incidence among children under five is more common in households in the outer zone, as is unhygienic disposal of children's stool, which contributes to an unsanitary and unsafe environment in the areas that they live in.

In-migrant households account for 35 percent of the total sample of households in this survey and these were equally divided between the inner and outer zones.

## 5.2. Vulnerability in Phnom Penh – Gaps for future research

This study provides a snapshot of conditions in Phnom Penh overall as well as a comparison between the inner and outer zones. Although this study does not provide a detailed picture of the living conditions of factory workers and non-skilled labourers in Phnom Penh, existing studies suggest that these groups face a number of challenges, including safety concerns (e.g., when they go to get clean water, use of a shared bathroom, travel to work), health issues (e.g., food quality, hygiene in their surrounding environment, sexual and reproductive health), public service access, and economic vulnerability (including indebtedness).<sup>37</sup>

Other vulnerable groups have been identified and for which there is little detailed information. These include construction workers, domestic workers, small street vendors, women working in entertainment sector, and tuk-tuk drivers, some of whom reside in urban poor communities. Commonly, these workers are migrants working in the informal sector, they have low skills and face unstable employment, they are exposed to different work-related hazards and they are often not protected by specific labour laws and social protection measures.<sup>38</sup> Urban landlessness, rising rural-urban migration, and weak urban management have led to more people living on the street. A recent study found very poor living conditions for this group, especially for children.<sup>39</sup> Future studies should look at these vulnerable groups in order to provide a fuller picture of urban vulnerability in Phnom Penh.

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37 CARE (2015) Protections for marginalized urban women: Duty bearers and GBV; USAID et al (2016) Workplace health and the garment sector in Cambodia.

38 ILO (2017) Enhancing Occupational Safety and Health Standards in Construction Sector in Cambodia; Phnom Penh Post (2017) Construction labor lament pay gap, labor laws; UN Women. (2015). Out from Behind Closed Doors, A Study on Domestic Workers in Cambodia.

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