

LIVELIHOODS IN MOTION: A CASE STUDY OF HOUSEKEEPERS AS INFORMAL  
WORKERS IN BANGKOK



A Thesis Submitted in Partial Fulfillment of the Requirements  
for the Degree of Master of Science in Urban Strategies  
Department of Urban and Regional Planning  
Faculty Of Architecture  
Chulalongkorn University  
Academic Year 2023

ความเป็นอยู่จากการเคลื่อนที่ของแรงงานนอกระบบ: กรณีศึกษาลูกจ้างทำงานบ้านใน  
กรุงเทพมหานคร



วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาวิทยาศาสตรมหาบัณฑิต  
สาขาวิชายุทธศาสตร์เมือง ภาควิชาการวางแผนภาคและเมือง  
คณะสถาปัตยกรรมศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย  
ปีการศึกษา 2566

Thesis Title LIVELIHOODS IN MOTION: A CASE STUDY OF HOUSEKEEPERS  
AS INFORMAL WORKERS IN BANGKOK  
By Mr. Kittipon Phummisuttikul  
Field of Study Urban Strategies  
Thesis Advisor Assistant Professor PEAMSOOK SANIT, Ph.D.

---

Accepted by the FACULTY OF ARCHITECTURE, Chulalongkorn University in Partial  
Fulfillment of the Requirement for the Master of Science

THESIS COMMITTEE

..... Dean of the FACULTY OF  
ARCHITECTURE  
(Assistant Professor SARAYUT SUPSOOK)

..... Chairman  
(Associate Professor APIWAT RATANAWARAHA, Ph.D.)

..... Thesis Advisor  
(Assistant Professor PEAMSOOK SANIT, Ph.D.)

..... External Examiner  
(Associate Professor Pawinee lamtrakul, Ph.D.)

จุฬาลงกรณ์มหาวิทยาลัย  
CHULALONGKORN UNIVERSITY

กิตติภณ ภูมิสุทธิกุล : ความเป็นอยู่จากการเคลื่อนที่ของแรงงานนอกระบบ: กรณีศึกษาลูกจ้าง  
ทำงานบ้านในกรุงเทพมหานคร. ( LIVELIHOODS IN MOTION: A CASE STUDY OF  
HOUSEKEEPERS AS INFORMAL WORKERS IN BANGKOK) อ.ที่ปรึกษาหลัก : ผศ. ดร.  
เปี่ยมสุข สนิท

งานวิจัยการวางแผนการขนส่งโดยส่วนใหญ่ไม่ได้มีการศึกษาถึงพฤติกรรมการเดินทางหรือความ  
ต้องการของกลุ่มลูกจ้างทำงานบ้าน การศึกษานี้จึงหยิบยกกลุ่มอาชีพแม่บ้านที่ต้องเดินทางไปทำงานในพื้นที่  
กรุงเทพ มาเป็นกรณีศึกษาถึงลักษณะการเดินทาง ลักษณะการทำงาน และสถานะทางเศรษฐกิจที่มีผลต่อ  
ชีวิตความเป็นอยู่ของคนกลุ่มนี้ การศึกษาใช้วิธีการสุ่มกลุ่มตัวอย่างแบบไม่ใช้ความน่าจะเป็นผ่านการเลือก  
แบบมีจุดประสงค์ การเลือกแบบบังเอิญ และการเลือกแบบลูกโซ่ โดยได้กลุ่มตัวอย่างทั้งหมด จำนวน 61 คน  
มีเครื่องมือที่ใช้ในการวิจัยเป็นแบบสอบถาม ประกอบกับการสัมภาษณ์เชิงลึกชนิดกึ่งโครงสร้าง และถูก  
วิเคราะห์โดยใช้สถิติพรรณนา การแจกแจงแบบตารางไขว้ สถิติเชิงอนุมาน (ANOVA) และการวิเคราะห์  
Word Cloud

ผลการศึกษาพบว่า แม่บ้านในกรุงเทพเผชิญกับความเสี่ยงและไม่แน่นอนที่สูงเทียบเท่าการเป็น  
แรงงานนอกระบบทั้งในด้านเศรษฐกิจและสภาพการทำงาน ซึ่งมีผลกระทบต่อพฤติกรรมการเดินทางและ  
ความเป็นอยู่ที่เกี่ยวข้องกับเวลาและพื้นที่ที่ใช้ในการพักผ่อนระหว่างหรือหลังจากการทำงาน ทั้งนี้ แม่บ้านบางคน  
ได้ใช้แพลตฟอร์มออนไลน์เพื่อหารายได้เพิ่มเติม แต่การทำงานบนแพลตฟอร์มเหล่านี้นำมาซึ่งลักษณะการ  
ทำงานที่มีความซับซ้อน และต้องมีการเดินทางมากขึ้นในหนึ่งวัน ซึ่งอาจจะส่งผลกระทบต่อความเป็นอยู่ที่ดี  
ในระหว่างหรือหลังการทำงานอย่างมีนัยสำคัญ

ข้อค้นพบที่ได้จากการวิจัยนี้ได้สรุปข้อเสนอแนะทางนโยบายออกเป็น 2 ส่วน โดยส่วนแรกเน้นให้  
ความสำคัญกับการคุ้มครองทางสังคมของแม่บ้านอย่างครอบคลุม และส่วนที่สองมาตการทางการจัดการ  
ขนส่งเพื่อแก้ไขปัญหาการเดินทางของกลุ่มแม่บ้าน ซึ่งมุ่งหวังที่จะปรับปรุงคุณภาพชีวิตของแม่บ้านในเมืองให้  
ดียิ่งขึ้น

สาขาวิชา ยุทธศาสตร์เมือง

ปีการศึกษา 2566

ลายมือชื่อ นิสิต .....

ลายมือชื่อ อ.ที่ปรึกษาหลัก .....

# # 6578001325 : MAJOR URBAN STRATEGIES

KEYWORD: Mobility, Livelihood, Informal Workers, Domestic Workers, Live-Out  
Housekeepers

Kittipon Phummisuttikul : LIVELIHOODS IN MOTION: A CASE STUDY OF  
HOUSEKEEPERS AS INFORMAL WORKERS IN BANGKOK. Advisor: Asst. Prof.  
PEAMSOOK SANIT, Ph.D.

Transportation planning research often overlooks the distinct needs of informal domestic workers. This study focuses on live-out housekeepers in Bangkok and examines how their mobility, work characteristics, and socioeconomic status affect their livelihoods. The study used non-probability sampling methods, including convenience, snowball, and purposive sampling. Data from 61 respondents were collected through surveys and semi-structured in-depth interviews and were analyzed using descriptive statistics, crosstabulation, inferential statistics (ANOVA), and word cloud analysis.

The study found that live-out housekeepers in Bangkok face high mobility, adaptability, and uncertainty levels. The research highlights the challenges that housekeepers face as informal workers, emphasizing the impact of their travel habits and livelihoods based on their duration and spaces during and after work. Some live-out housekeepers have also turned to online platforms to find more job opportunities. However, despite the potential for increased hourly income on these platforms, the complexities of online or hybrid work still negatively affect their work conditions, travel behavior, and overall well-being.

The insights from this research have significant implications for policymaking. Firstly, it advocates for prioritizing the rights of inclusive housekeepers as a form of decent work on a national scale. Secondly, it suggests some transportation measures to address commuting challenges, aiming to improve the quality of life for housekeepers in the city.

Field of Study: Urban Strategies

Student's Signature .....

Academic Year: 2023

Advisor's Signature .....

## ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to my academic advisor, Assistant Professor Dr. Peamsook Sanit, for her unwavering support, guidance, and invaluable insights throughout my research journey. I sincerely appreciate my thesis committee members, Associate Professor Dr. Apiwat Ratanawaraha and Associate Professor Dr. Pawinee lamtrakul, for their constructive feedback and profound expertise.

I want to express my gratitude to the Department of Urban and Regional Planning at the Faculty of Architecture for their generous financial support, without which this research project would not have been possible. I am also grateful to Chulalongkorn University for providing me with access to research facilities and invaluable resources. Additionally, I would like to acknowledge the invaluable assistance and support the Urban Strategies program offers.

I want to extend my heartfelt thanks to Associate Professor Dr. Chulanee Thianthai, a professor in Sociology and Anthropology at the Faculty of Political Science at Chulalongkorn University, for her invaluable guidance and mentorship regarding research skills. Additionally, I appreciate the guidance that Ramkhamhaeng University professors Supathida Sooksai and Asst. Prof. Titinan Pewnill provided during the data collection phase.

I am immensely grateful to all the housekeepers who generously participated in this study, sharing their experiences and insights. Your contributions have been crucial in shaping this research. I would also like to express my gratitude for the constant support and coordination provided by Mrs. Suthila Luenkam, the online housekeeper's Facebook page administrator, who played a vital role in facilitating access to extensive data resources.

My profound appreciation goes to my parents for their unwavering support and belief in my abilities. I also thank my family and relatives for their encouragement and assistance in data collection. This journey has been a testament to the power of persistence and the importance of a robust support system. It has reaffirmed that even the most challenging paths can be navigated with the guidance and encouragement of mentors and loved ones.

Kittipon Phummisuttikul

## TABLE OF CONTENTS

	Page
.....	iii
ABSTRACT (THAI).....	iii
.....	iv
ABSTRACT (ENGLISH) .....	iv
ACKNOWLEDGEMENTS.....	v
TABLE OF CONTENTS.....	vi
LIST OF TABLES.....	ix
LIST OF FIGURES .....	x
Chapter 1: Introduction .....	1
1.1 Background.....	1
1.2 Problem Statement.....	2
1.3 Purpose of Study.....	3
1.4 Definition of key terms.....	4
1.5 Expected Finding .....	5
Chapter 2: Literature Review.....	6
2.1 An overview of housekeepers as informal domestic workers. ....	6
Definitions of housekeepers as domestic workers .....	6
Domestic work and the employment relationship.....	7
Non-standard employment and its overlap with Informality .....	8
Domestic work in Thailand .....	9
Gender and Age group of domestic workers in Thailand .....	10

Employment status of housekeepers in Thailand .....	11
Recruitment practices of housekeepers in Thailand .....	12
Income .....	12
Working hours.....	13
Arrival or Transient Spaces in Bangkok for Informal Domestic Workers.....	13
Review of previous studies on housekeepers as domestic workers .....	15
2.2 Transport System .....	18
Modes of Transportation .....	18
Utility maximization on mode choice selection .....	20
2.3 Review of the Livelihood Concept .....	22
Work as a job and livelihood .....	22
Work, Rest, and Recreation.....	23
2.4 Conceptual Framework.....	25
Chapter 3: Research Methodology .....	29
3.1 Geographical Context of The Study .....	29
3.2 Research Design .....	30
3.3 Data Analysis .....	31
Chapter 4 Research Findings .....	33
Part 1: A Profile of Live-out Housekeepers, Commuter Patterns, and Livelihoods.....	33
1.1 Work Characteristics of live-out housekeepers .....	33
1.2 Socioeconomic Characteristics of live-out housekeepers.....	34
1.3 Mobility and Trip Characteristics of live-out housekeepers.....	36
1.5 Livelihood formation of live-out housekeepers .....	40



1.6 Analysis and Discussions.....	44
Part 2: A Shift to Work Online Platforms, Commuter Patterns, and Livelihoods .....	50
2.1 Offline/ Online/ Hybrid Housekeepers and Nature of Work.....	50
2.2 Socioeconomic Characteristics of Offline/Online/ Hybrid Housekeepers.....	53
2.3 Commuter Patterns of Offline/Online/Hybrid Housekeepers .....	56
2.4 Livelihood Formations of Offline/Online/Hybrid Housekeepers.....	58
2.5 Analysis and Discussion .....	61
Chapter 5 Conclusions and Recommendations.....	63
5.1 Research Conclusion.....	63
5.2 Key Findings .....	66
5.2 Implications and Recommendations for Future Research and Urban Strategies .	67
5.3 Limitations of the study .....	68
REFERENCES.....	70
Appendix A.....	82
VITA .....	85

## LIST OF TABLES

	Page
Table 1 Average monthly income by home location. ....	36
Table 2 Descriptive Statistics on Travel Time and Cost .....	36
Table 3 Reasons for Choosing Mode of Transportation .....	38
Table 4 Criteria and Duration for Rest and Recreation.....	41
Table 5 Average Monthly income by Age Categories and Education Attainment.....	45
Table 6 Relationship Between Spatial Characteristics and Socioeconomic Characteristics.....	46
Table 7 Compares Means of Income, Cost, and Travel Time .....	47
Table 8 Different Work Characteristics Among Offline, Online, and Hybrid Housekeepers .....	51
Table 9 Similar Work Characteristics Among Offline, Online, and Hybrid Housekeepers .....	52
Table 10 Relationship Between Work Characteristics and Socioeconomic Characteristics.....	53
Table 11 Home and Work Locations by Work Characteristics .....	55
Table 12 Home and Work Locations, Work Characteristics, Income.....	55
Table 13 Offline/Online/Hybrid Housekeepers by Travel Cost and Time .....	57
Table 14 Offline/Online/Hybrid Housekeepers by Trip characteristics .....	57
Table 15 Livelihood formations of Offline/Online/Hybrid Housekeepers .....	60
Table 16 ANOVA test between Work Characteristics and Livelihood Formation.....	60

## LIST OF FIGURES

	Page
Figure 1 Overlap of Non-Standard Employment with Informality .....	8
Figure 2 Domestic Workers by UN Women Survey 2022 .....	10
Figure 3 Recruitment Practices from UN Women Survey 2022.....	12
Figure 4 Conceptual Framework.....	27
Figure 5 Bangkok Areas Categorized by CBRE Thailand .....	29
Figure 6 The Distribution of Transport Mode Among Live-Out Housekeepers .....	37
Figure 7 Work Trips Characteristics of Live-Out Housekeepers .....	39
Figure 8 Word Cloud Analysis on Mode Choice Selection and Reasons .....	39
Figure 9 Livelihood Formation by Duration for Rest and Recreation.....	41
Figure 10 Livelihood Formation by Spaces for Rest and Recreation .....	42
Figure 11 Word Cloud Analysis on Locations and Activities for Rest and Recreation During Work.....	43
Figure 12 Word Cloud Analysis on Locations and Activities for Rest and Recreation After Work .....	43

## Chapter 1: Introduction

### 1.1 Background

'The domestic worker' is described as a worker in the service sector and any person providing household labor for cleaning, cooking, laundry, caring, and other home activities (ILO, 2010b). The International Labor Organization (ILO) reported around 52.5 million domestic workers globally, primarily women - precisely about 83% (Luebker, 2013). 'Housekeepers' are a subset of domestic employees primarily responsible for cleaning and maintenance (López, 2023). The ILO acknowledges that domestic workers, including housekeepers, frequently operate in isolated and precarious situations with limited access to labor protections and social benefits (Hobden & Bonnet, 2021). This is because many housekeepers are dependent contractors, meaning that their employment arrangements often leave them without adequate job-related social protection coverage or worker benefits, which is reflective of the situation of many informal workers (Chen & Carré, 2020).

The domestic work sector is often informal and contributes to informality, particularly for women. In Thailand, the number of domestic workers has increased by almost one-third in recent years. According to the 2018 Informal Economy Survey (IES) report, there were approximately 290,000 domestic workers in the country, with seven out of ten being women (López, 2023). This type of work has three specific characteristics within the informal economy: it takes place in private spheres, can be unclear or hidden due to social norms and personal contexts, and is not regulated by conventional frameworks in many countries (ILO, 2016). As a result, many domestic workers struggle to improve their living conditions and sources of income, as they are often in low-skilled, low-paying, and unpredictable employment situations (Munro, 2011; Wannarat, 2014).

Transportation is essential for those working in the informal sector. Mobility restrictions can lead to social isolation, poverty, and transportation inequalities, especially for those with lower incomes (Allen & Farber, 2019; Cui et al., 2019; He et al., 2018; Hernandez, 2018). Some domestic workers have to travel longer distances to work in affluent suburbs for higher pay (Erman & Kara, 2018). However, housekeepers, who are considered informal workers in the city, are often neglected when it comes to their mobility (Kasemsukworarat, 1990; Phun et al., 2019). Even though Thailand has implemented transportation policies to provide cost-effective and free public transport services to impoverished city residents, it has become increasingly challenging for housekeepers to choose their preferred mode of transportation for their daily commutes. Affordable public transportation is not always reliable, limiting their choices. This has led to transportation difficulties for low-income urban workers who struggle to commute to their workplaces. Unfortunately, current policies have not

adequately addressed this issue (Ratanawaraha & Chalermpong, 2016) Currently, the work characteristics of housekeepers have some similarities with gig workers, such as non-static environments, flexibility, and independence. This trend has rapidly increased since 2014; online platform-based housekeepers may face complex work locations and requirements, thus decreasing their chances of success (López-Sáez et al., 2014; Wantanasombut & Teerakowitkajorn, 2018). Moreover, housekeepers' vulnerability can lead to restricted mobility during work trips, leading to distinct travel habits and options, including limited access to good livelihood in the city. Therefore, it is intriguing to explore how the shift from offline to online platforms affects the travel behavior of housekeepers and how this, in turn, impacts their livelihoods.

Importantly, housekeepers are frequently forced to move around the city and engage in multiple income-generating activities to make ends meet. Although they can get more economic opportunities, most housekeepers are still considered urban poor because they are deprived of comprehensive legal protections, work long hours with low wages, and have precarious working conditions subjected to exploitation and abuse (Bryceson et al., 2003; Naybor et al., 2016; Wantanasombut & Teerakowitkajorn, 2018). Unfortunately, housekeepers are often overlooked and marginalized, hindering their ability to access jobs, resources, and places, which can negatively impact their livelihoods (Behrens, 2003; Leenoi, 2021; Wantanasombut & Teerakowitkajorn, 2018).

Consequently, housekeepers face high mobility, adaptability, and uncertainty levels. This study aims to investigate their travel patterns within the urban context of Bangkok, where mobility is crucial for generating income and sustaining livelihoods. The study focuses on three groups of housekeepers: those who work offline, those who work online, and those with a hybrid work situation. It examines how their work characteristics influence their socioeconomic status and mode of transportation and how this affects their livelihood through mobility. By studying mode selection among these groups, the study aims to identify their pain points in livelihood through mobility and establish possible improvements. This can help in advocating for the prioritization of housekeepers' rights as a form of decent work on a national scale. The study also suggests urban strategies related to transportation planning to enhance the quality of life for housekeepers in the city.

## 1.2 Problem Statement

In the past decades, numerous studies have explored the working conditions of domestic workers, focusing on their access to social security benefits and decent employment. Although many researchers have contributed to this field, little research has been done on housekeepers' daily commutes and livelihoods (Hsieh et al., 2016; Jiropas, 2015; Siaw, 2018; Siripatthanakosol, 2016; Subsing et al., 2022; Tangpantham & Suriyaapha, 2016).

Additionally, Ratanawaraha and Chalermpong (2016) examined the travel habits of low-income households and occupation groups in Bangkok, Thailand. Their research finds that public transport availability, job location, and home community location significantly affect the travel behavior of the urban poor. The study also emphasizes the significance of affordable public transportation for vulnerable subgroups of the urban poor. While maids are low-wage earners in various work locations, they were not well-represented in the study due to their work in privately accessible places (Ratanawaraha & Chalermpong, 2016).

Transportation planning research often overlooks the needs of informal domestic workers. This study focuses specifically on housekeepers as a case study to comprehend their travel behavior during work trips. Exploring housekeepers' travel behavior and livelihoods is an intriguing topic regarding urban mobility. Housekeepers must travel extensively throughout the day due to the nature of their work. Their mobility depends not solely on earning a living but also on changes in their work characteristics. There is a growing demand for housekeepers, but fewer people enter the field due to increased mandatory education and more employment opportunities in other sectors. As a result, wages have risen, and work characteristics have shifted towards live-out positions, part-time household chores, daily wages, and more jobs in a single day (Boontinand, 2010; Wantanasombut & Teerakowitkajorn, 2018). This trend towards live-out housekeepers has also led to a rise in third-party involvement in the industry, including traditional recruitment agencies and digital platforms, which has been rapidly increasing since 2014 (López, 2023). Wantanasombut and Teerakowitkajorn (2018) point out that housekeepers have not confirmed their better quality of life with the growth in income and evolving job requirements. This is because they wish to avoid high travel expenses, which have become a significant cost. Therefore, this research expands the scope of transportation planning studies by examining housekeepers how they live and work, and how their trouble of travel behavior affects their livelihoods. It is particularly important to investigate how the travel behavior of housekeepers who migrate to work through online platforms impacts their livelihoods.

### 1.3 Purpose of Study

The purpose of this study is to explore the travel patterns of housekeepers during their work trips. The goal is to gain insight into the effect of the unique nature of housekeepers' informal occupation and socioeconomic status on mode choice selection when commuting to work and to analyze the impact of work-related mobility on housekeepers' livelihood. As a result, the research questions have started with the following questions:

1. How are housekeepers' work characteristics and socioeconomic status related to the transportation modes for work?

2. What are housekeepers' travel behavior patterns on their work trips?
3. How are the livelihoods of housekeepers formed through their mobility for work?

According to the research questions, three hypotheses are formulated as follows:

1. Housekeepers' different work and socioeconomic characteristics are directly related to their various modes of transportation commuting to work.
2. Housekeepers' different home and work locations will be different travel behavior patterns.
3. More income-generating housekeepers will probably have worse livelihoods through their mobility.

#### 1.4 Definition of key terms

##### 1. Informal worker

Individuals work for formal firms or households without receiving insufficient social protections or employment benefits due to their work arrangement. Informal workers are typically not covered by employment-related social protection, leaving them vulnerable to a variety of risks and less likely to have access to essential services such as healthcare, education, housing, and infrastructure (Chen & Carré, 2020).

##### 2. Housekeepers

Housekeepers are hired to perform various domestic tasks and are paid in exchange. Although not all of them are informal workers, they often face numerous challenges due to insufficient support from welfare policies and uncertain working conditions. Consequently, the precarious situation of housekeepers can reflect the circumstances of informal workers, which means that they may not receive adequate job-related social protection coverage.

##### 3. Mobility

Mobility refers to the ability of transportation to cover the distance between starting points and destinations (Saferspaces, 2018). There are various ways to get around, including buses, taxis, bicycles, cars, trains, and walking. To improve the quality of life of community members, transportation planning and development rely on this essential tool to connect communities and provide access to workplaces, healthcare, and other opportunities in the city (Gonçalves et al., 2017). The mobility aspects include the number, distance, cost, duration, and mode of travel (Malone et al., 2017).

##### 4. Livelihood

This research study defines livelihood as the duration and space that allows for rest and recreation during and after work. Livelihood denotes how housekeepers use their time and space to balance their lives amidst their many tasks, ensuring they have 8 hours of work and 8 hours of recreation

to lead a healthy and fulfilling life. (National Council of Educational Research and Training, 2023-24).

### 1.5 Expected Finding

Linked to their mobility and income-generating activities, the narrative concerning the livelihood of housekeepers in Bangkok frequently relocates between different work locations and neighborhoods, primarily relying on public transportation to minimize travel costs. Furthermore, this study will propose policy recommendations at two levels. Firstly, it will advocate for prioritizing housekeepers' rights as a form of decent work on the national scale. Secondly, it will suggest transportation measures, aiming to alleviate the vulnerable livelihoods of housekeepers and support their mobility for work as a part of the empowerment of housekeepers.





## Chapter 2: Literature Review

### 2.1 An overview of housekeepers as informal domestic workers.

The overall situation of domestic work in the informal sector shows that domestic work as a service sector continues to expand due to supply and demand considerations. Demographic developments such as aging populations, the fall in welfare provision, the rising labor force participation of women, and the difficulties of balancing work and family life in urban regions and developed nations all contribute to an increase in the need for domestic workers (ILO, 2010a).

#### Definitions of housekeepers as domestic workers

The Domestic Workers Convention, 2011 (No. 189) defines *domestic work* as labor conducted in or for a household or home in the context of an employment relationship and on a work-related base. *Domestic workers* are generally responsible for cleaning, cooking, caring for children, the elderly, and people with disabilities, gardening, driving, and guarding private residences. Consequently, *housekeepers* are a subset of domestic employees primarily responsible for cleaning and maintaining a household. Aside from that, the ILO acknowledges that domestic workers, including housekeepers, frequently operate in isolated and precarious situations with limited access to labor protections and social benefits (ILO, 2010; Hobden & Bonnet, 2021).

In Thailand, domestic work is not clearly defined under Thai Labor Law. Domestic workers are called 'Look Jang Tam Ngan Ban' or 'household employees' whose tasks are primarily performed within the household. The Thai Ministry of Labour regards domestic work as an informal sector job in which workers are largely excluded from the country's social protection system (Boontinand, 2010).

Domestic work is classified into two categories under the ILO's International Standard Classification of Occupations (ISCO): housekeeping, which includes housekeepers, cooks, and related workers, and personal care and related workers, which includes childcare workers and home-based personal care workers. Classification 9 (913) pertains to domestic and related helpers, such as cleaners and launderers. It encompasses private households, hotels, offices, hospitals, other establishments, and vehicles that maintain clean interiors and fixtures. The classification encompasses domestic helpers, cleaners, hand launderers, and pressers. According to ILO's ISCO, domestic work can occur in various settings beyond households, such as offices, hotels, and hospitals. Nevertheless, the tasks carried out in these settings are still considered housekeeping work (ILO, 2010a).

The 2018 Resolution of the 20th International Conference of Labor Statisticians (ICLS) classifies domestic workers based on their employment status. The classification of *dependent or independent* workers is based on *the type of authority* (worker's level of control and dependence on others for work and market access) and *economic risk* (the likelihood of income insecurity due to job stability and protection against life cycle risks). Therefore, The ICLS divides workers into those employed for pay and those employed for profit, with the former receiving remuneration for their time and service and the latter being dependent on the economic unit they work for and do not receive compensation for their time, making them vulnerable to loss (ILO, 2018).

In conclusion, housekeepers are a category of domestic workers, but not all are housekeepers. Domestic workers include babysitters, carers, cooks, and other home employees. The primary differentiation between domestic employees and housekeepers is based on their duties because they differ across countries and time. Given this diversity of responsibilities, it was decided that the household would be the distinguishing characteristic of domestic employment (López, 2023).

#### **Domestic work and the employment relationship**

Employment relationships are a vital indicator of domestic work due to the significance that the unique characteristics of domestic employment relationships played in their exclusion from labor and social protections. Unique employment relationships characterize the various employment statuses in domestic work. Domestic employees have traditionally held direct employment links with a specific family. *However, contemporary domestic workers can have as many employment statuses as they have jobs.* They may simultaneously hold multiple employment relationships, such as working part-time directly for a household and performing piece work for other families through a service provider with varying levels of involvement, ranging from employing workers to simply matching them with households. With the advent of the digital economy, these modalities are becoming more prevalent and sophisticated. Unless all these job relationships are recognized and incorporated into national law, it is possible that their total revenue and contribution to the economy will not be adequately addressed (Hobden & Bonnet, 2021; López, 2023).

It can indicate that housekeepers as domestic workers may regularly work for a household, and so be part-time employees, regardless of whether they are compensated by the hour or service. In addition, they may perform on-call odd jobs for extra families. Whether a worker is classified as an employee, or an independent contractor depends on the level of authority and risk involved. It means housekeepers may have as many employment relationships as their number of jobs. Consequently, their access to social protection and other work rights depends on whether national law recognizes this employment relationship.

### Non-standard employment and its overlap with Informality

Domestic workers, whether with one or multiple employers, may fall under non-standard employment, which lacks legal protection (ILO, 2016). Chen and Carré (2020) note that the definition of **economic informality** relates to the informal economy as all units, activities, and workers so defined and their output; the informal sector as the production and employment that occurs in unincorporated or unregistered enterprises; and informal employment, which refers to employment without social protection through work—both inside and outside the informal sector (Chen & Carré, 2020).

Additionally, several development agencies have developed and applied their understanding of "informal employment" in recent years. They include the Organization for Economic Cooperation and Development (OECD), the International Labor Organization (ILO), the World Bank, and Women in Informal Employment: Globalizing and Organizing (WIEGO). Each agency has defined the informal labor force with different emphases; however, all share the same primary concerns with precarity and the lack of social protection, as the OECD stresses the labor force in the unofficial market system. In contrast, the ILO places a greater priority on coverage of the working conditions of informal workers. The World Bank emphasizes that the labor force performs economic activities without the coverage of the legal system (Subsing et al., 2022). WIEGO advocates for a broad definition that includes all employees not covered by or insufficiently protected by formal arrangements, whether in the formal or informal sector (Vanek, 2020).

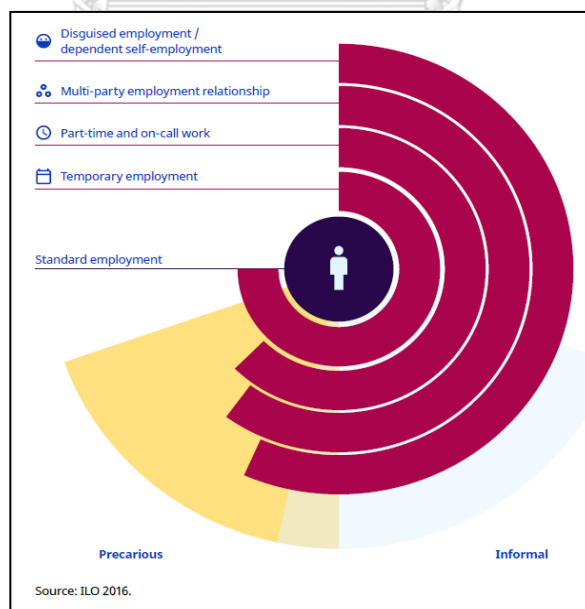


Figure 1 Overlap of Non-Standard Employment with Informality

Figure 1 shows that the informal labor force can significantly facilitate the creation of numerous jobs. Nevertheless, informal laborers are often paid low wages, lack job stability, and lack legal safeguards. Employers who use informal laborers to dodge labor rules, tax regulations, and government oversight may also exploit them. As a result, informal employees are frequently subjected to unsafe and insufficient working conditions, making it difficult to make ends meet (Subsing et al., 2022). In this case, Housekeepers are informal domestic workers with many employment statuses, including the self-employed, private workers, subcontractors, part-time workers, daily wage laborers, and committed laborers. In addition, the number of jobs they have work in the informal economy is still considered the source of this informality in their work, including legal exclusion, lack of implementation, and insufficient levels of legal protection led to make them more precarious and vulnerable (Husmanns, 2004a, 2004b).

#### **Domestic work in Thailand**

Domestic work in Thailand is not systematically recorded as it is classified as informal economy work. However, according to the National Statistics Office (NSO), 287,200 Thai workers are employed in private households across the country, with 94,000 employed in Bangkok (National Statistics Office, 2012). Internal migrants from other provinces make up 50% of Bangkok's workforce, with the majority of domestic workers aged between 40-49 (Ministry of Labour, 2009).

The Informal Economy Survey (IES) reported that in 2018, Thailand had nearly 290,000 domestic workers, with seven out of ten being women. This marks a 30% increase in domestic workers in recent years. It can be implied that the informal sector is an essential source of income-generating activities, particularly for women performing a more comprehensive range of tasks as lifelong employment in Thailand. The 2018 IES also reveals that in Thailand, domestic workers identify tremendously as dependent employees (99%), while those who identify as own-account workers are still dependent but in a multi-party relationship. The data shows that third-party involvement in the sector has rapidly increased since 2014, including traditional recruitment agencies and digital platforms (ILO, 2022).

However, many domestic workers are still excluded from the labor force and employment surveys for various reasons, resulting in an undercount compared to an estimated 1.4 million from the earlier government studies. These substantial variations are not just a statistical inconvenience; they have critical implications for understanding and responding to the vulnerabilities and needs of this group of workers (López, 2023).

### Gender and Age group of domestic workers in Thailand

Domestic work is a crucial employment opportunity for both women and men. However, in Thailand, 69% of domestic workers are women as of 2018. Since fewer women are in the labor market, the domestic work sector has become a source of employment for women, resulting in a higher employment rate than men. Additionally, the data indicates that domestic work is a crucial source of paid employment for older workers, particularly women. Almost 80% of domestic workers aged 65 and above were female (Thailand, NSO, IES, 2014-18, cited in López, 2023).

The UN Women survey found that women domestic workers in Thailand are typically given a more comprehensive range of tasks than men, with the majority providing indirect care services such as cleaning (60%), cooking, driving, and other maintenance tasks (16%). Gender distribution among different occupations is unbalanced. Housekeepers and direct care providers are predominately female, while women comprise just under half of the workforce. Using task-based definitions to define domestic work is not advisable due to its diverse nature and evolving scope. Such definitions may exclude female workers. Instead, international practice based on Convention No. 189 focuses on the place of work as a common characteristic (Hobden & Bonnet, 2021; UN Women, 2022).

It is worth noting that many people turn to domestic work as a temporary solution for survival. However, due to their low level of education and lack of options in the job market, they become trapped in a cycle of domesticity and suffer from economic exploitation and social immobility. Thai domestic workers often change jobs, with many women transitioning from live-in to live-out work to gain freedom (d'Souza, 2010).

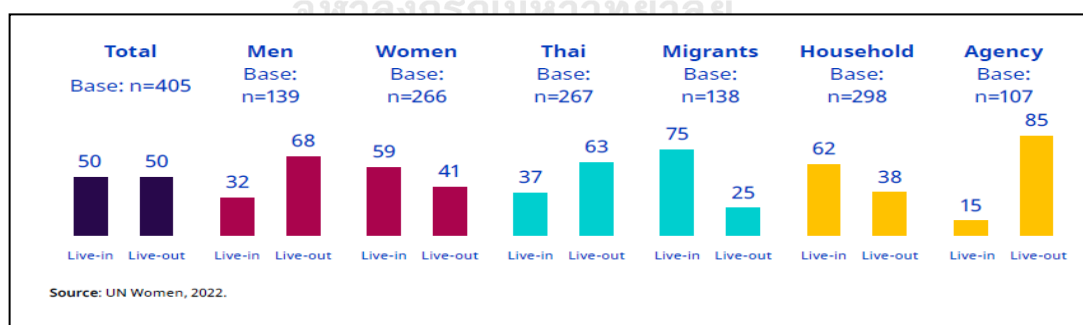


Figure 2 Domestic Workers by UN Women Survey 2022

According to Figure 2 of the UN Women survey, an equal number of workers live on-site and off-site. Agency-employed workers are more likely to live off-site (85%), while household-employed workers are more likely to live on-site (62%). Additionally, migrants and women are more likely to live on-site than Thais and men, respectively (75% and 59% compared to 37% and 32%). Therefore, these

results highlight that reaching live-in workers is crucial for protecting vulnerable groups, including women and migrant workers (UN Women, 2022). For instance, a study of Myanmar migrant domestic workers in Thailand found that live-in arrangements lead to longer working hours due to blurred lines between working and non-working hours, resulting in unpaid overtime (Punpuing et al., 2005).

By contrast, live-out domestic workers generally tend to have a more distinct boundary between their working and non-working hours. *Live-out domestic workers may either work full-time for a single household and return to their own home in the evening, or they may work for multiple households with specific working hours for each household. Therefore, live-out domestic workers have more control over their working time but may still work long hours and have unpredictable schedules based on their employer's demands. Travel time to the employer's residence also adds to the working day* (d'Souza, 2010). This UN women survey also highlights the awareness of live-out workers regarding their high mobility and its impact on the limitations of the social security system. However, it neglects to address the mobility challenges female live-out workers face, particularly those with multiple jobs in a day.

#### **Employment status of housekeepers in Thailand**

Domestic workers are primarily dependent workers hired for labor, with less than 1% self-reporting as own-account workers in 2018. However, those who identified as such are employed by service providers. In Thailand, approximately one-third of domestic workers are involved in polyamorous relationships, and domestic workers may be employed directly by households or through third parties. According to the IES, 34% of domestic workers in Thailand were not directly employed by households. This means that even when working through a third party, most domestic workers still consider themselves employees, implying a relationship of dependency. However, detailed information on service providers and employment relations is lacking, though third-party involvement in the sector has proliferated since 2014 (Thailand, NSO, IES, 2018, cited in López, 2023).

Indeed, domestic workers hired through service providers in 2018 were more likely to be insured with the SSF (41%) than those working directly for a household (21%). Recruitment agencies play a vital role in Thailand's domestic work sector, making it challenging to determine employer obligations (Anderson, 2016). In addition, a study on digital platforms for domestic work in South and Southeast Asia identified three platforms: on-demand platforms, digital placement agencies, and companies that monitor workers through digital tools. These platforms have diverse models, unlike the Uberization model (Tandon & Rathi, 2021).

Digital placement agencies assist employers in finding workers for various types of jobs (full-time or part-time jobs), negotiate wages and work conditions for the workers, and are only involved in day-to-day job operations if there is a complaint from either party. Workers can be contracted as direct

domestic or self-employed (ILO, 2022). Notably, third-party digital platforms can leave workers without labor protection. For instance, BeNeat pays workers 180 Thai baht per hour and transfers all expenses, including transport, equipment, and detergents, to them (Tassanakunlapan, 2019).

### Recruitment practices of housekeepers in Thailand

Recruitment in Thailand heavily relies on social media, as the UN Women survey found. Domestic workers are the most common users of this platform, with 40% using it to find jobs. However, migrants are less likely to use social media due to language barriers or lack of knowledge. Figures 3 show that 40% of employers use referrals from relatives and friends, while domestic workers connect to this network through social media. Social media can be used to inform them of their rights and social security benefits (UN Women, 2022).

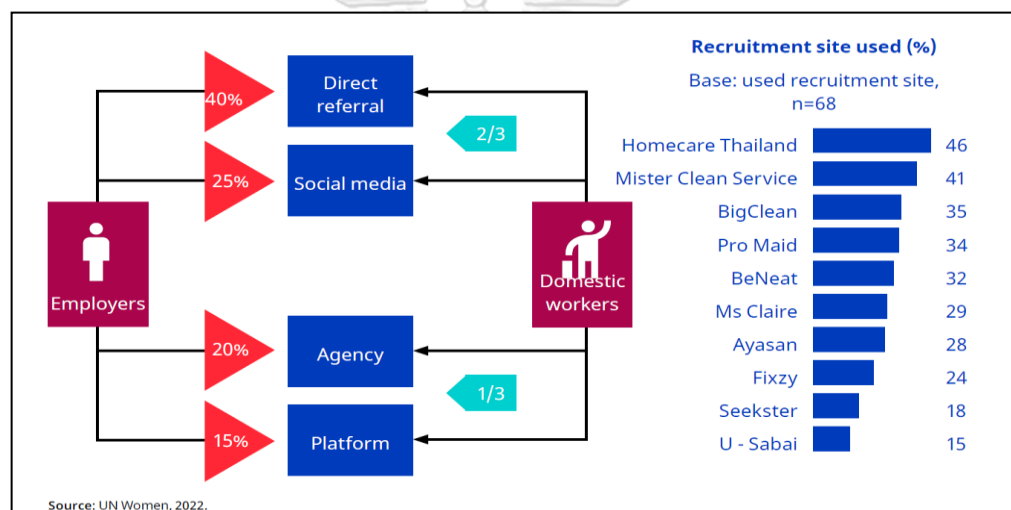


Figure 3 Recruitment Practices from UN Women Survey 2022

### Income

Generally, a significant wage gap exists between domestic employees and other workers in Thailand. Domestic workers in Thailand currently do not have minimum wage guarantees, leading to some of the lowest salaries in the country. The Institute for Employment Studies (IES) only gathers data on employee earnings, so this analysis is restricted to domestic employees. It does not cover the variations between independent and dependent workers. Almost half of the domestic employees in Thailand earn below the minimum wage, and 76% of those workers are women<sup>1</sup>. In 2018, domestic employees earned an average monthly wage of 10,145 baht, 33% less than non-domestic workers who earned 15,069 baht monthly (López, 2023).

<sup>1</sup> In 2018 the minimum wage was 325 baht a day for Bangkok and the surrounding area. The average paid days/month are 26.08 days, so the legal minimum wage was 325-baht x 26.08 = 8,476 baht monthly.

As of October 1, 2565, the Minimum Wage Rate for all 77 provinces in Thailand is 337 baht per day, except for Bangkok and the surrounding area, which is 353 baht per day. Employers must pay at least the minimum wage rate set by the Wage Committee, which is determined based on factors such as cost of living, prices of goods and services, business capabilities, labor productivity, economic conditions, and societal factors (Ministry of Labour, 2022).

However, domestic employees are not necessarily protected from poverty by wage employment. Around 28% of domestic employees belong to the lowest income quintile, compared to 21% of other wage earners. Female domestic workers are especially vulnerable to low wages (Anderson, 2016). Female domestic workers with minimal education and older age experience the most significant wage gaps, particularly in male-dominated occupations such as driving. It can be inferred that wages decrease as domestic employees get older. Those between 25 and 44 years old have the highest monthly wages, while those 65 and older have the lowest. Most workers over 65 are engaged in low-paying jobs such as cleaning, cooking, security, gardening, and building maintenance. A higher education level is associated with higher earnings. In 2018, domestic employees with less than primary education earned 9,072 baht per month, while those with tertiary education earned 12,462 baht (UN Women, 2022).

### **Working hours**

Many domestic workers, especially women and those with low incomes, earn less than minimum wage and work longer hours without unemployment protection or insurance for employment injuries and sickness. In Thailand, domestic workers tend to work longer hours than other workers. On average, domestic employees work 46.7 hours per week, with 24% working more than 48 hours per week (Anderson, 2016; López, 2023).

According to a survey by UN Women, all groups worked an average of 6.3 days per week with consistent hours, including domestic and migrant workers, women and men, and those employed by households and service providers. The survey also showed that working long hours compounded the already low wages of domestic workers. Long working hours in domestic work are widespread, and planned measures to address overtime may not fully solve the problem. Ministerial Regulation No. 14 will expand LPA limits on regular working hours. However, it will not include other essential provisions, such as the computation of paid working hours or compensation for overtime hours. Any hours beyond the set limits may become unpaid overtime (UN Women, 2022).

### **Arrival or Transient Spaces in Bangkok for Informal Domestic Workers**

The expanding economy in Thailand has resulted in a rise in women's outside-the-home full-time employment. As a result, young women from Thailand's Northeast and Northern provinces are being



recruited to work as domestic assistants in urban areas to meet the need for household help. Over the past 10-15 years, societal and economic forces have altered the landscape of domestic work in Thailand, and young Thai women no longer seek employment in households. However, the need for domestic helpers remains high, especially for childcare and elder care, and housekeeping and cleaning tasks are now being performed in non-household sites like office buildings. As a result, the recruitment of Thai domestic workers for these functions has become more commercialized (Boontinand, 2010). Furthermore, a study by the Social Research Institute discovered that approximately half of Bangkok's domestic workers come from outside the city due to not having their houses registered in the city. Meanwhile, in the four regions, nearly all domestic workers are residents since they have their house registration in the same province where they work (Social Research Institute Chulalongkorn University, 2008).

It is interesting to observe Thai domestic workers' lively urban arrival space in Bangkok, implying that many are internal migrants from other provinces and whether Bangkok is the arrival city for these employed informal domestic workers. According to the contributions of the Chicago School of Social Ecology in the 1930s, urban arrival spaces cannot be defined by physical structures alone but also by people, practices, and social structures (Miellet, 2019). It can also be traced back to the definition of "arrival cities," where new migrants settle. These cities are often viewed negatively as overcrowded and dirty, but Saunders sees them as a source of new opportunities. The book *Arrival Cities* by Saunders (2010) discusses the concept of arrival cities, presenting a positive view of these areas. Saunders argues that 'arrival cities' are not a temporary phenomenon but a global norm. They are fragments within urban neighborhoods characterized by high immigration flows and diversity (Saunders, 2010). Other contributions on migrant settlements, neighborhoods, and ethnic minority neighborhoods describe these urban arrival spaces as multicultural, diverse, and complex fragments within an urban accumulation, delimited from other urban spaces that have experienced far fewer inflows of people, ideas, goods, social practices, identities (Abu-Lughod, 1961; Conzen, 1979; Logan, 2006; Marcuse, 1996; Moore, 2018; Nee et al., 1994; Neuwirth, 2016; Solis, 1971; Wilson & Portes, 1980).

Amendments were made in response to Saunderson's conception. However, scholars like Amin (2013) and Smith (2005) criticized the limitation of arrival spaces to specific urban areas, arguing that migrants navigate through and within the city and that social encounters and coexistence occur through space and time (Amin, 2013; Smith, 2005). According to Massey (2005), spaces are products of interrelations, shaped by diverse historicities, cultures, and geographic settings, as well as politics of mobility (Massey, 2005, 2008). This results in migrant subjects' 'differential inclusion' (Ye, 2017). In addition, the arrival spaces literature also lacks attention to the complex relationality between people

and places through trans-local connections elsewhere (Bork-Hüffer et al., 2016; Peth et al., 2018; Steinbrink, 2009).

Bork-Hüffer et al. (2016) created the term 'transient urban spaces' to describe various social and material spaces in cities that are created and transformed by people's everyday practices and interactions, both local and trans-local (Bork-Hüffer et al., 2016). They discuss the concept of arrival spaces and advocate for a unique viewpoint on the intricate and interrelated processes of spatial and social arrival. This viewpoint considers the relationships, translocality, and technological co-creation of these spaces, referred to as "transient urban spaces." This allows their study to distinguish how different factors influence migrants' arrival experiences, settlement, interactions, and future. It can be helpful to use four analytical dimensions to understand the process of migration: experiences of migrants upon arrival (dimension 1: arriving), (not) being emotionally and physically connected to a space (dimension 2: settling), interactions occurring both locally and beyond the local area (dimension 3: mingling and connecting), and their perspectives, plans, and strategies of staying or moving again (dimension 4: planning ahead) (Bork-Hüffer & Peth, 2020).

#### **Review of previous studies on housekeepers as domestic workers**

Domestic work has gradually become a component of the global division of labor and is now intimately intertwined. As a result, research on domestic workers has expanded substantially over the past decade (Gothoskar, 2013). Most of them have emphasized aspects of labor protections around wages, hours, and overall working conditions for domestic workers. For instance, given the urban focus of much of WIEGO's work, the compilation of city-level statistics on informal employment and groupings of urban workers, including domestic workers, is a top priority in WIEGO research on job-related social protection coverage (Vaneek, 2020). With the International Labor Organization (ILO) and Delhi Group in India, minimum wages, dispute settlement, working conditions, social security, and occupational injuries of domestic employees, including migrant domestic workers, have been discussed to make decent work a reality for domestic workers (Hobden & Bonnet, 2021); in addition, Europe investigates the interaction of employment law and migration law regimes applicable to migrant domestic workers in the United Kingdom, France, and Ireland (Murphy, 2013).

From various studies on housekeepers in the past decade, the majority relate to issues in a relationship with a group of housekeepers in the workplace (hotels, companies, and universities), family conditions, and working environments exposed to an excess of disproportionately high work-related hazards that can lead to adverse health outcomes (Hsieh et al., 2016). Frequent research focuses on the working circumstances of domestic workers as defined by the concept of decent

employment, as well as their experiences utilizing their social security entitlements (Jiropas, 2015; Siripatthanakosol, 2016; Siaw, 2018; Subsing et al., 2022). Other completed studies focused on the self-identity construction of female housekeepers and the job motivation factors of housekeepers from the following perspectives: job security, career advancement, workers' relationships, salary and benefits, work environment, supervisor relationships, nature of work, and social acceptance (Tangpantham, 2016). In addition, studies on personal criteria, such as age, income, level of education, working hours, and kind of workplace management, revealed that housekeepers need self-development in general (Chantima, 2018).

Some studies have focused on the socioeconomic situation of housemaids as a case study in India, revealing that their pay is the lowest among all women employed in the informal sector and that they confront a more significant number of difficulties than others. Regardless of their level of education, women in India have been observed to be making progress toward economic engagement. Domestic workers make up the majority of India's poor, uneducated, or semi-illiterate female family members (Sandhya, 2019). Women employees are less educated than men and are less aware of their rights and entitlements. Domestic workers deal with various small and significant hidden and unnoticed problems (Kakati & Tamuli, 2022). Due to their financial situation and the stigma associated with being domestic workers under India's caste system, these women are frequently obliged to work long hours and engage in several sources of revenue to make ends meet. Additionally, their circumstances restrict their rights or their access to resources. A few Indian states have introduced legislation to protect domestic workers as more respectable jobs due to the National Domestic Workers Movement's effort to recognize domestic workers as a kind of labor. However, it has not been appropriately applied (Daraei & Mohajery, 2013).

Another study by Vasanthi (2011) highlights the need for improved classification of domestic work, distinguishing between work performed in private homes versus public spaces. Regardless of the location, domestic workers face individual vulnerabilities. However, labor standards have often overlooked that the home is a workplace for paid domestic employment. Many countries struggle to classify domestic work and understand the diverse skills, responsibilities, and working conditions. In India, a classification system has emerged to reflect the differences in vulnerability, resulting in varying wages, workplace conditions, employer responsibilities, privacy rights for live-in employees, and health and social security benefits. To support workers effectively, it is essential to understand their unique vulnerabilities and develop tailored impact programs (Callister et al., 2009; Vasanthi, 2011). In

addition, some studies have indicated that high mobility can increase vulnerability, particularly among women. This is due to inadequate transportation options and cultural restrictions that limit their access to personal vehicles (Ellis, 2000; Naybor et al., 2016).

Most of the mentioned editorials highlight two matters of commonality concerning the problems related to the workplace and socioeconomic status addressed by the group of domestic workers. They are all related to vulnerability due to work conditions and a lack of proper legal protection. First, research on domestic workers typically focuses on poverty or economic difficulties for female domestic workers, forcing them into the informal economy as their primary source of income and employment. Second, female domestic workers face numerous risks at home and work due to mainly social stratification, limited access to resources, and, most importantly, low socioeconomic status, making it challenging to raise awareness and provide benefits for themselves.

According to those authors, the context of geographic location probably affects the characteristics and classification of domestic workers based on the observation from the methodology in each study that some locations can identify the sample size of the population. In contrast, another location cannot find the specific sample size due to the highly scattered and unorganized domestic workers. However, the shared vulnerability among terrestrial differences is that labor standards have not adhered to the fact that the home was not recognized as a workplace. Despite recognizing home as a workplace, most domestic workers still struggle with their work and varying degrees of vulnerability, resulting in wages, work conditions, workplace amenities, the responsibilities of employers, the right to privacy for live-in employees, and health and social security benefits.

The research gap in those articles that needs further study in the future concerns that domestic workers share similar work characteristics with short gig workers, particularly in terms of working in non-static environments, having flexibility, and independence. Depending on the number of jobs, they may hold multiple employment statuses and have a direct relationship with the households they serve. Although they are not technically employees, own-account domestic workers still interact directly with households and may have multiple employers (ILO, 2018; López, 2023; Wantanasombut & Teerakowitkajorn, 2018). However, there is still little research and documentation that housekeepers, considered informal workers in the city, take for granted regarding their mobility and livelihoods. It is necessary to conduct more research to examine how domestic employees form their livelihood through mobility.

## 2.2 Transport System

Transport is the movement of passengers and goods from one location to another, and it is related to societal, economic, and technological development (Enoch, 2016; Profillidis & Botzoris, 2019; Rodrigue, 2020). Transportation has various effects on people's lives, both positive and negative. Studies show that a lack of transportation can result in poverty, social exclusion, travel inequities, and limited opportunities (Hernandez, 2018; Pyrialakou et al., 2016). Transport networks impact how people navigate a city, where they live, shop, and work. The transport system comprises several components that are interconnected with other urban aspects. Transport infrastructure, vehicles, and operations are the three primary components of the transport system (Rodrigue, 2020). Therefore, a review of the transport system in this part will be related to a focal study on informal workers known as the urban poor to explore how they commute to work in Bangkok, Thailand, and the factors that influence their transport modes during work trips.

### Modes of Transportation

A mode of transport can be described as the mobile component in the transport system (Duri, 2020). The choice of transportation mode is vital for planning a journey or shipping goods, as each mode possesses unique characteristics (Profillidis & Botzoris, 2019). The choice of transportation mode depends on infrastructure and other factors. It is essential to analyze the factors influencing modal choice in urban management and transport planning to comprehend the travel demands of diverse population groups and transport users (Cheng et al., 2019).

Previous research has identified factors as influences on mode choice in various ways; hence, many classifying factors affect modes of transportation. Olsson (2003) shows that various factors that influence mode choice are categorized as hard (quantifiable) and soft (psychological). Internal factors include attitudes, socio-economic factors, habits, and perceived level of control, while external factors include traveling time and cost. Factors impacting public transport include objective (quantifiable) and subjective (individual perceptions) categories. Transport-related attributes are categorized into timetable, comfort and service factors, quality satisfaction, and safety (Olsson, 2003).

Therefore, it means that the decision to choose a travel mode is impacted by various factors, such as transport-specific components and individual attitudes and habits (Profillidis & Botzoris, 2019; Ye & Titheridge, 2019). The key to solving urban transport problems is understanding how people choose transportation. This section classifies factors affecting mode choice into practical, socio-demographic, psychosocial, and structural categories in detail described below.

#### Practical factors on mode choice

The category of practical considerations includes transportation aspects such as comfort, route, distance, cost, safety, and security (López-Sáez et al., 2014; Madhuwanthi et al., 2016). *Distance* is a significant dimension for influencing transportation mode choice. Short distances are often walked or biked, while longer ones require other transportation. According to Kerr's (2017) research in South Africa, low-income workers must travel longer distances on foot or bike to work because they live far away from their workplace. They trade off saving transport money for spending more time traveling (Kerr, 2017).

*Travel costs are a factor that may burden low-income populations* when they cannot afford transportation, resorting to walking or cycling to access work and other destinations. Longer distance travel increases transport costs, leading to unemployment and poverty (Erman & Kara, 2018; Guzman & Oviedo, 2018; Ye & Titheridge, 2019).

*Safety and security* are also critical factors in transportation mode choice. The International Transport Forum (ITF) (2018:20) defines safety as accident avoidance and security as crime and abuse prevention (ITF, 2018). Maslow's hierarchy of needs highlights safety and security as fundamental human needs (Maslow, 1943). Fear for personal safety and security can influence mode choices of transportation, especially for vulnerable populations such as women, children, and the elderly, who may be at risk for violence or abuse while using public transportation (Madhuwanthi et al., 2016; Matthews, 2017).

According to the World Bank (2016), women are often targeted for harassment and abuse in public transport due to the assumption that they are more "open," making them more vulnerable than men (World Bank, 2016). To ensure women's safety and security while using public transportation, cities like Rio de Janeiro, Brazil, and Dubai, UAE, have implemented various measures, including women-only transport, which other countries like Mexico have adopted. However, some argue that women-only transport does not address the root cause of violence and harassment against women in public transportation (Dunckel-Graglia, 2013). Graglia (2016) also suggested that safe, affordable, and reliable public transport can build confidence in women who travel, especially domestic workers who may have long working hours and face safety concerns while commuting (Budlender, 2016; Dunckel Graglia, 2016).

#### **Socio-demographic factors on mode choice**

Socio-demographic factors include age, educational level, income level, and household structure (Cheng et al., 2019; Lopez-Saez et al., 2014). *The age factor* from previous studies has shown that 83% of young people up to 25 use public transport for their daily commute, while only 58% of people over 25 do so (Olsson, 2003).

*Income level* is a critical factor that affects transportation choices. High-income earners have more options, while low-wage workers have limited options. Domestic workers who earn low wages are particularly affected by this. Income also directly influences access to good transport, and wealthier individuals have access to better transport infrastructure (Duri, 2020).

*The household structure* also impacts mode choice. For example, the number of adults or children and the size of the family determines the mode of transportation used. Dependent children from high-income households tend to opt for cars, while low-income children often use public transport (Cheng et al., 2019; Madhuwanthi et al., 2016; McCarthy et al., 2017).

#### **Psychosocial factors on mode choice**

Psychosocial factors include perceptions, attitudes, social norms, and intentions (Lopez-Saez et al., 2014; McCarthy et al., 2017). The Theory of Planned Behavior (Ajzen, 1991). states that people's attitudes, norms, and perceptions are key factors influencing their transportation decisions. According to Cheng et al. (2019), people's attitudes better predict mode choice than traditional objective measures like travel time and frequency. The use of specific modes of transportation may stem from beliefs. Transport users may develop positive or negative attitudes towards specific modes of transport. For instance, cars can symbolize wealth, walking can be dangerous in certain areas, and public transport may be seen as dirty (Cheng et al., 2019).

#### **Structural factors on mode choice**

The way we live, work, and shop affects our transportation choices. Encouraging mixed land use that incorporates commercial, residential, recreational, and institutional spaces and high-density living can promote active transportation and reduce travel costs (Litman, 2019). In addition, transport infrastructure affects commuter choices. Walking and cycling infrastructure encourage non-motorized transport and improves safety. Non-motorized transport is cheaper and beneficial for low-income populations. Low-income communities need improved infrastructure for safety and security (Lopez-Saez et al., 2014).

#### **Utility maximization on mode choice selection**

There are different theories on how people choose their mode of transportation. However, the section concludes with a review of methods based on utility maximization. Economic theories assume people act and choose rationally to maximize their utility.

Travelers select their preferred mode of transportation, whether car, bus, train, or bicycle, based on the benefits they perceive from each option and their availability. Economists assume that individuals choose the option that provides the highest personal benefit. The benefit of a journey is influenced by factors such as travel time, fare, comfort level, and quality. Choosing a mode of travel is considered a rational decision, weighing the personal benefits of each option. The supply standard, including travel times and proximity to stops and stations, can be easily measured. Personal preferences and perceptions of benefits vary, and not everyone will choose the same products, lifestyle, or means of transport (Olsson, 2003). The quantitative analysis methods used for infrastructure planning often overlook soft factors like attitudes, which are more challenging to quantify than complex factors such as traveling time, frequency of service, and fares (Loncar-Lucassi, 1998, cited in Olsson, 2003).

In addition, there are still studies of livelihoods with mobility, income-generating activities, and socioeconomic status described below.

Scoones (1998) defined economic and financial capital as the basic infrastructure, production equipment, and technology, assigning transport to the first in the form of the basic infrastructure and producer commodities required to support livelihoods (DfID, 1999; Scoones, 1998). In addition, Maunder et al. (2001) highlight that transport modes may be accessible but unaffordable for specific individuals, particularly the poor. Therefore, the difference between a person's control over the utilization of transport infrastructure and 'equipment' (transport mode) capital may be crucial to their ability to make a living, develop sources of livelihood (employment), or support livelihood activities. Other completed studies by Sohail's (2000) urban study centered on providing transportation services for Karachi's commuters. The influence of transport services on livelihoods was analyzed primarily by evaluating accessibility and quality characteristics as decided by user interviews, along with a comprehensive analysis of the conditions under which the industry has formed and operates. The monthly transportation expenses and trip time were quantified (Maunder et al., 2001).

An essential foundation for comprehending the interplay between mobility and means of sub-Saharan livelihood is provided by the study of Naybor et al. (2016). The study emphasizes how limited livelihood choices and disadvantaged time usage in space affect mobility, particularly for those who cannot afford transportation. This immobility can harm one's ability to seek healthcare and general well-being. Additionally, various circumstances, such as poverty, poor road conditions, and cultural restrictions, particularly gender-related, may restrict access to affordable transportation (Naybor et al., 2016).

Dimitriou (2011) discusses the mobilities and livelihoods of low-income populations living in diverse, rapidly developing urban contexts across the Global South. Every growing city has a unique,



complicated socio-spatial system considering regional settings or a community's mobility needs (Dimitriou, 2011). Guaranteeing that its people have adequate, long-term access to goods, services, and activities requires a properly contextualized understanding of the socioeconomic ramifications of various mobility options for diverse population sectors (Lucas & Porter, 2016).

### 2.3 Review of the Livelihood Concept

Working for a living primarily generates income to achieve desired outcomes, like supporting one's family or finding personal fulfillment. The study suggests that a high income may not necessarily ensure a good quality of life for housekeepers who often rely on public transportation for their multi-work trips, leading to trade-offs that impact their well-being. As a result, the concept of livelihood in motion in this research goes beyond the traditional livelihoods framework, which only considers five forms of capital (human, social, physical, natural, and financial) (Esson et al., 2016).

Instead, this study defines livelihood as work, rest, and recreation. Humans choose to work based on their circumstances or necessity. The kind and amount of work are closely related to working conditions, which affects productivity and outcomes. To ensure better output and productivity, it is necessary to rest, relax, recoup from fatigue, and refresh oneself. Promoting fun, enjoyment, and well-being is vital to ensure a good quality of life and well-being, making time for rest and leisure activities that provide rest, pleasure, and involvement. Everyone has the right to rest and leisure, including reasonable working hours and periodic holidays with pay. Rest and recreation are essential for relaxing from work, allowing the brain to stop thinking and worrying, and giving the nerves and muscles a chance to rest and become energized. The slogan "Eight hours of labor, eight hours of recreation, and eight hours of rest" emerged to promote balance. The eight-hour day movement is part of the early history that led to the celebration of Labor Day or May Day in many nations and cultures (National Council of Educational Research and Training, 2023-24).

#### Work as a job and livelihood

Work refers to a set of actions that aim to achieve specific outcomes. It is not limited to paid employment and can include activities such as entrepreneurship, consulting, volunteering, contractual work, and social work for community welfare. Livelihood, on the other hand, pertains to the means and employment that a person engages in to support themselves and maintain their lifestyle. This involves selecting a profession and career path and designing a work-life balance. Work is a crucial aspect of livelihood as it generates income to achieve desired goals, such as providing for one's family or finding personal fulfillment. Work holds great importance in the lives of all individuals. Factors like education, health, age, opportunities, globalization, location, finances, and family background influence the work

undertaken. Motivations for work vary, including financial support, family care, and leisure pursuits. Work is pivotal in personal growth, self-confidence, and financial gains. It also benefits organizations by improving products, reputation, and profits. Ultimately, our work significantly shapes the quality of life in our global community (National Council of Educational Research and Training, 2023-24).

When work profoundly shapes one's quality of life, domestic workers, who put in immense effort to earn a livelihood, find themselves trapped in a situation where their pursuit is primarily for financial gains, lacking the balance between work and personal life that other workers enjoy. Work hours are an area where domestic workers often face weaker safeguards than their counterparts. Despite the principles outlined in the Domestic Workers Convention, 2011 (No. 189), equal treatment remains elusive. As per national laws, more than half of domestic workers are not subject to restrictions on weekly working hours, and around 45 percent lack access to rest periods and paid annual leave (Luebker, 2013). Consequently, although they earn less, domestic workers are disproportionately prone to working longer hours than others. Prolonged working hours impact their earnings and jeopardize their physical and mental well-being (López, 2023), contradicting the notion of decent work.

#### **Work, Rest, and Recreation**

In short, it means to live a balanced life with **8 hours of work, 8 hours of recreation, and 8 hours of sleep** because the quantity and arrangement of working hours, along with rest periods, hold substantial influence over work quality and overall life quality (Golecha, 2021). Research confirms that long work hours, night shifts, and irregular schedules detrimentally impact workers' health the most (Tucker & Folkard, 2012). Those facing work-related pressure and lacking control over hours are more likely to suffer adverse health effects (ILO, 2004, 2011b). The Universal Declaration of Human Rights Article 24, endorsed by the UN in 1948, acknowledges everyone's right to rest and leisure, including reasonable working hour limits and paid holidays.

However, rules governing working hours for domestic workers differ. While most countries set work hour limits and assure minimum rest and leave for workers, domestic workers often face exemptions. Even when labor laws nominally cover them, specific working hour exceptions are standard. These arise due to the distinct nature of domestic work, seen as unfit for standard regulation due to unique work patterns (Esim & Smith, 2004; Gallotti, 2009; ILO, 2011a; Kundu, 2008; Punpuing et al., 2005; Rodríguez, 2007; Sabban, 2002; Tous et al., 2010).

**Weekly working hours** are a pivotal aspect of regulations, defining the standard workweek before overtime. Nearly all countries set limits, usually **40 to 48 hours per week**, although some, like France and Belgium, have lower bounds (ILO, 2010c). Besides weekly hour limits, defining **weekly rest** periods is vital in regulations. The Weekly Rest (Industry) Convention, 1921 (No. 14), and the Weekly

Rest (Commerce and Offices) Convention, 1957 (No. 106), require covered workers to have *at least 24 consecutive hours of rest per week*, often on Sundays or holidays. Adequate rest significantly impacts well-being and performance. In line with ILO Conventions, the Domestic Workers Convention, 2011 (No. 189) demands at least 24 consecutive hours of weekly rest. In addition, *paid annual leave*, weekly hour limits, and rest are vital in regulations. *It benefits domestic workers by providing leisure and rest time*, addressing their unique employment. It is not just about entitlement but personal freedom to choose when and how to take holidays, *recognizing their distinct work characteristics* (Luebker, 2013).

The Livelihoods in Motion and Rethinking are in third place, and Mobile is in second place for work.

A vital aspect of this work is addressing concerns that diversified livelihoods as a means of living for housekeepers require them to be highly mobile and will likely make them more susceptible (Ellis, 2000, cited in Naybo et al., 2016). However, Lyons and Urry (2005) recognize the blurring of boundaries previously made between 'travel time and activity time' and between 'home and away,' so it might be claimed that persons reside within mobilities. New information and communications technology allows passengers to feel "at home" on public transportation by allowing them to "make more flexible and extensive use of their time during their trips" (Lyons & Urry, 2005). As a result, people are increasingly making excellent and entertaining use of their time on the road (O'Hare, 2019). According to Humphreys (2010), the availability of mobile phones dramatically expands commuters' opportunities for social networking while traveling. In addition, mobile social networks enable public transportation users to meet up with acquaintances and facilitate the formation of friendships amongst accidental traveling companions. This enables people to access a 'placeless' digital third place beyond the mobile third place where they are on trips (Humphreys, 2010; O'Hare, 2019).

Another essential consideration, as the third place in transit, is that it allows the passenger some freedom and flexibility in using local streets as third places. Using mobile phones and real-time digital display boards, information technology empowers individuals to make more informed decisions regarding the times, routes, and activities offered for journeys. Access to real-time information on the location and arrival time of a bus allows people to choose whether to hustle or enjoy their walk to the station (It enables a positive effect on how these spaces function because it allows people to be spontaneous and use the space in ways that are not necessarily planned or structured, which can lead to more dynamic and engaging experiences. Higher degrees of contentment and even commuting enjoyment are associated with user control over their trip and environment (Páez & Whalen, 2010; Walker, 2012).

Consequently, livelihoods in terms of income-generating activities, people can consider the intersections of mobility and livelihoods to elaborate on how time is used in their lives amidst their multitude of tasks. In addition, the transformation of the third place in the present day between work and other activities—and other locations—is no longer as distinct as when Oldenburg first theorized about the third place. New technologies and shifting labor patterns have made work more mobile; therefore, it is not uncommon for some work to occur anywhere in addition to other activities (Oldenburg, 1997).

## 2.4 Conceptual Framework

Considering the existing literature, a conceptual framework has been established for the study. The travel behavior of informal housekeepers on work trips in Bangkok is intricate and significantly impacts their livelihood. A conceptual framework has been created for the study to better understand this phenomenon, depicted in Figure 4.

The study explores how socioeconomic, work, and transportation characteristics impact the trip characteristics of housekeepers (as shown in Figure 2-4). This helps understand how work, mobility, socioeconomic status, and trip characteristics affect their livelihood. The study underlines the intricate relationship between housekeepers as informal domestic workers, transportation, mobility, and their livelihood. Therefore, the conceptual framework displays the independent variables associated with socioeconomic work, and transportation characteristics, while dependent variables consist of trip characteristics and livelihood formed through their mobility.

The literature acknowledges that domestic work possesses distinctive characteristics, including unique work patterns, making it unsuitable for standard regulations (Luebker, 2013). Consequently, employment relationships are a crucial marker of domestic work, as the distinct characteristics of domestic employment led to their exclusion from labor regulations and defined various employment statuses within this sector (López, 2023). Despite earning less, domestic workers often work excessively compared to others, a situation detrimental to decent work standards due to its adverse impact on physical and mental health (UN Women, 2022). To examine the unique work traits of housekeepers as a case study, factors like recruitment practices, workplace, employment status, work hours, wages, and daily job count are used for their categorization.

In Thailand, around one-third of domestic workers are engaged in polyamorous relationships, and they may either be directly employed by households or through intermediaries (López, 2023). Consequently, transportation is essential for live-out domestic workers to reach their workplaces and expand their job opportunities. Transport plays a pivotal role in the daily lives of domestic workers, facilitating their daily tasks. However, Thailand's transportation policies have been crafted without

considering how urban poor individuals commute to work (Ratanawaraha & Chalermpong, 2016). This scenario leads to challenges like high transportation costs, limited options, and harassment during public commutes, resulting in transport disadvantages. These disadvantages typically involve access, location, and individual characteristics (Duri, 2020).

Olsson (2003) categorizes various factors influencing mode choice as either hard (quantifiable) or soft (psychological). Internal factors encompass attitudes, socio-economic conditions, habits, and perceived control, while external factors involve travel time and cost. Public transportation factors can be divided into objective (quantifiable) and subjective (individual perceptions) categories. Transport-related attributes fall into the timetable, comfort, service quality, satisfaction, and safety categories (Olsson, 2003; Profillidis & Botzoris, 2019; Ye & Titheridge, 2019). The key to comprehending the characteristics of mobility and work trips lies in understanding how individuals decide on transportation. Various factors influence mode choice in diverse ways, resulting in numerous factors that classify and affect transportation modes.

Socioeconomic characteristics such as age and education attainment play a significant role in wage employment, particularly with older individuals experiencing more significant wage gaps. This suggests that wages tend to decrease as domestic employees grow older. Higher education levels are also associated with higher earnings (UN Women, 2022). Similarly, age, income level, and household structure also influence travel mode choice (Duri, 2020; Olsson, 2003).

Work primarily generates income to achieve specific objectives like supporting family or personal satisfaction. However, significant income might not ensure a good quality of life for housekeepers relying heavily on public transportation for their work-related journeys. This leads to the concept of "livelihood in motion," expanding the conventional livelihood framework of five forms of capital (human, social, physical, natural, and financial) (Esson et al., 2016). In this study, "livelihood in motion" refers to a balanced life with 8 hours of work, 8 hours of recreation, and 8 hours of sleep. The quantity and arrangement of working hours and rest periods significantly affect work quality and overall life quality (Golecha, 2021). Working unpredictable schedules and long hours can harm workers' health. Lack of control and pressure at work worsen the situation. The Universal Declaration of Human Rights recognizes the right to rest and leisure, including reasonable working hour limits and paid vacation time (ILO, 2004, 2011a, 2011b; Tucker & Folkard, 2012). This study aims to understand how housekeepers shape their livelihoods considering distinct work characteristics, diverse travel patterns for work trips, and varying socioeconomic backgrounds.

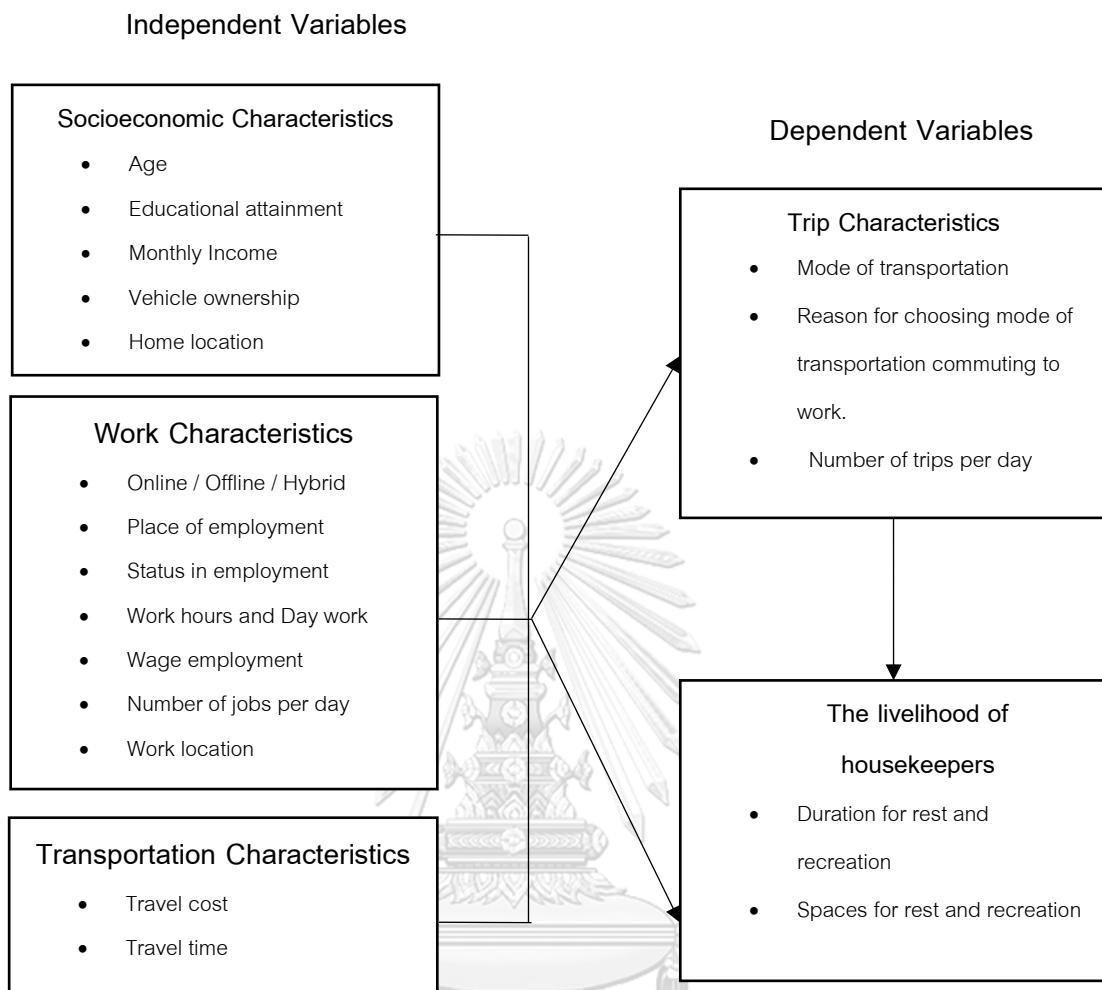


Figure 4 Conceptual Framework

## Conclusion

The focus of Chapter 2 is to conceptualize the interplay between work characteristics, mobility patterns, and socioeconomic status in shaping the work trip characteristics of housekeepers. This exploration contributes to understanding the intricate relationships between informal domestic work, transportation, mobility, and livelihood. The conceptual framework outlines independent variables related to work, transportation, and socioeconomic factors, while dependent variables encompass trip characteristics and the livelihood formed through mobility.

Domestic work's unique characteristics, including non-standard work patterns, have led to its exclusion from standard regulations. Employment relationships are a vital indicator in this sector, defining various employment statuses and reflecting the distinct nature of domestic employment. Despite lower pay, domestic workers often work excessively, harming their well-being. The case study

of housekeepers delves into factors like recruitment, workplace, employment status, hours, wages, and daily workload to explore their unique work traits.

In Thailand, around a third of domestic workers are involved in polyamorous relationships and may be employed directly or through third parties, including digital platforms. Transportation is essential for live-out domestic workers, aiding their daily tasks and job opportunities. However, Thailand's transport policies overlook the commuting challenges of the urban poor, leading to high costs and limited options. Decision-to-mode choice selection can be influenced by complex (quantifiable) or soft (psychological) determinants, encompassing factors such as attitudes, socioeconomic conditions, habits, etc. These factors play a role in shaping transportation decisions, reflecting diverse individual perceptions. Socioeconomic factors, like age and education, affect wage employment, with older individuals experiencing wage gaps and higher education linked to higher earnings. Similarly, age and income influence travel mode preferences.

While work generates income for housekeepers, relying heavily on public transportation may not guarantee a good quality of life. The notion of "livelihood in motion" expands beyond conventional frameworks, promoting balanced lives with work, leisure, and rest. Long hours and irregular schedules harm health, emphasizing the importance of rest and leisure. Livelihood refers to how individuals sustain themselves through their occupation and utilize their time and space outside of work. In conclusion, the study delves into the complex dynamics of work characteristics, mobility, socioeconomic factors, and work trip characteristics among housekeepers. Understanding this interplay sheds light on how they shape their livelihoods amidst unique work patterns and diverse backgrounds.

## Chapter 3: Research Methodology

The chapter outlines the research methodology employed in the study, building on the research problem and objectives introduced in Chapter 1 and formulating a conceptual framework based on the literature in Chapter 2. Primarily, this study aims to explore how the unique work characteristics of Thai housekeepers who do not live with their employers influence their mobility patterns and livelihood. The study will also narrate the mobility characteristics of housekeepers linked to their work as a job and livelihood that is mainly a source of income enabling desired outcomes, such as supporting one's family or finding satisfaction primarily from the income earned, but probably trade-offs exist for their well-being through higher mobility commuting to work. Although many studies have examined transport mobility in cities, little research has focused on the transport mobility patterns and livelihoods of informal domestic workers in Bangkok. Understanding different social groups' transport mobility and livelihoods can improve city policies.

### 3.1 Geographical Context of The Study

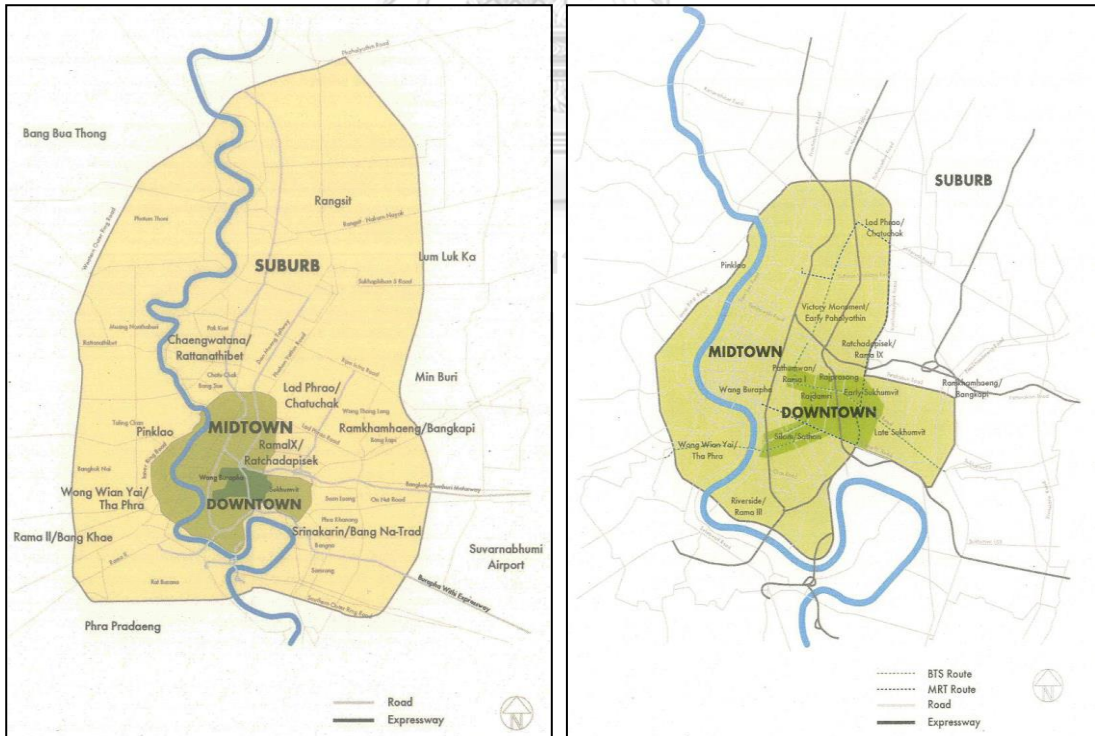


Figure 5 Bangkok Areas Categorized by CBRE Thailand



Figure 5 shows the site study based on Coldwell Banker Richard Ellis (CBRE) Thailand geographically classifying Bangkok into three central regions, which are: **(1) Downtown:** Important locations for business and retail projects, including Silom, Sathorn, Rama I, Pathum Wan, Ratchadamri, and upper Sukhumvit (up to Soi 24), generally accessible by mass transit system such as BTS, MRT, buses, etc.; **(2) Midtown:** Secondary locations in Bangkok bounded by the inner Ring Road, including major residential areas and secondary business centers, which covers Lad Phrao, late Sukhumvit (from Soi 24 to 63), Ramkhamhaeng, Bang Kapi, Chatuchak, Phaholyothin, Ratchadapisek, Rama IX Road, Victory Monument, Pinklao, Riverside, Rama III, Wong Wien Yai, Wangburapa; **(3) Suburbs:** The outlying areas of Bangkok with easy access to the city center form the gateway to the five neighboring provinces. These locations include Lak si, Don Muang, Rangsit, Ramindra, Sukhapibal 1-3, Srinakarini, Bangna-Trad, Samrong, Thepharak, Rama II, Bang Khae, Bang Bua Thong, Bang Yai, Rattana Thibet and Chaengwattana (CBRE, 2022; Klinchuanchun, 2019).

### 3.2 Research Design

According to Creswell (2014), research design refers to the approach taken in a study, which can fall into one of three categories: quantitative, qualitative, or mixed methods (Creswell & Creswell, 2017). It has been argued that there is no perfect research method (Choy, 2014).

Mixed methods research combines both quantitative and qualitative methods in a single study. This approach can lead to more accurate conclusions. However, it requires researchers to have skills in both quantitative and qualitative methods and enough time and resources for data collection and analysis (Creswell & Clark, 2017).

This study will use a mixed methods research approach, collecting primary data through a survey questionnaire and interviews. This will provide insight into various aspects of travel diaries from the informants. Quantitative research allows for quicker analysis and generalization of findings, while qualitative interviews and questionnaires provide information on what participants value and how they travel. Combining both methods captures unexpected insights that may not have been considered initially.

#### Sampling Plan

Due to practical limitations, surveying the entire research population is not feasible. Therefore, 61 participants for this study are collected from non-probability sampling methods available, including convenience sampling, snowball sampling, and purposive sampling.

In this study, a researcher will use questionnaires to collect data from housekeepers working in Bangkok. The questionnaire was compiled to address the study's central question and based on the literature reviewed in Chapter 2.

The questionnaire is divided into four sections (1-4), which can be found in Appendix A. The questions in **Section 1** pertain to the work characteristics of "live-out" housekeepers who are informal domestic workers. These questions cover topics such as recruitment practices, workplace conditions, employment status, work hours, wages, the number of jobs held per day, and any secondary jobs. **Section 2** focuses on gathering mobility and trip information from participants. The variables critical to this study include home location, work location, the number of work trips taken per day, travel cost, and travel time. These factors can impact the choice of transportation mode, usage frequency, the number of transportation modes used to commute to work, and the reasons behind mode choice selection. **Section 3** asks questions about the livelihood of housekeepers, covering topics like the duration, activity, space, and cost of rest and recreation before and after work. Finally, **Section 4** deals with socioeconomic factors related to work characteristics that can influence transportation modal choice and livelihood. This section asks about transient workers' issues and factors such as age, educational attainment, income level, and family structure. Although this survey consists of semi-structured interview questions, open-ended questions have been converted into quantitative responses, and theme analysis for qualitative responses has been used to capture some significant findings.

#### Sampling Selection

The selection criteria for respondents in this study are focused on live-out housekeepers who travel to work, meaning they do not reside with their employer (ILO, 2018). The participants were categorized into three groups depending on their work characteristics: offline, online, and hybrid. This was done to examine various aspects of recruitment practices, employment status, wages, and number of jobs per day, and how these factors affect their commuting patterns and ultimately their livelihoods.

#### Fieldwork

The data collection was conducted in September 2023 in Bangkok. The researcher approached them at their convenience, on any day of the week (Monday through Sunday), in order to obtain information. During the interview, the researchers will record the participant's responses to questions regarding the combination of semi-structured interviews structured according to the sections in the questionnaire and open-ended questions that arise spontaneously.

### 3.3 Data Analysis

This study will use descriptive statistics, crosstabulations, and the SPSS statistical software package to analyze the quantitative data. **Cross-tabulation tables** are used to analyze the relationship

between multiple categorical variables. *Descriptive statistics* like frequency, percentage, and mean are used to analyze the general information of the sample group. To test hypotheses and determine whether there are significant differences in the trip characteristics and livelihood of housekeepers, *inference statistics* are employed, such as ANOVA or chi-squared tests. Additionally, *thematic analysis* is used to analyze qualitative data, which involves identifying common themes, ideas, and patterns of meaning that recur in an interview or transcript. Some qualitative data was analyzed using word cloud techniques to summarize and visualize significant findings. This method effectively summarized and highlighted key terms, making it easier for viewers to identify important information. Finally, Chapter 5 presents the conclusion and recommendations drawn from the results.

### Conclusion

This section covers the research design and methodology used in the study. Firstly, it provides background research and geographical data. Then, in September 2023, primary data will be collected from informal domestic workers, specifically housekeepers in Bangkok. Since this population has no sampling frame, data will be collected as much as possible using purposive and snowball sampling methods. For data analysis, descriptive statistics, cross-tabulations, inference statistics, and the SPSS statistical software package will be used for quantitative data, while thematic analysis will be used for qualitative data. The research findings will be presented in Chapter 4.

## Chapter 4 Research Findings

In Chapter 4 of this study presents the research findings based on based on this study's research objectives consists of three objectives as follows

1. To understand the effect of the unique nature of housekeepers' informal occupation and socioeconomic status on mode choice selection commuting to work
2. To explore the travel patterns of housekeepers during their work trips.
3. To analyze the impact of work-related mobility on housekeepers' livelihood.

This chapter is divided into two parts. The first part will show the results regarding work characteristics, socio-economic status, and travel behaviors, and how they affect the livelihoods of housekeepers. The second part will focus on how the shift to online platforms impacts the travel behavior of housekeepers and, in turn, their livelihoods.

### Part 1: A Profile of Live-out Housekeepers, Commuter Patterns, and Livelihoods

#### 1.1 Work Characteristics of live-out housekeepers

Most live-out housekeepers (78.7%) find their jobs through traditional methods, such as referrals from friends and relatives or recruitment agencies. Only 11.5% work online, while 9.8% have a hybrid work arrangement. Surprisingly, employers still prefer these conventional job search methods over social media platforms to find workers. The study also found that non-freelance housekeepers typically have a fixed schedule and workplace. They usually work full-time from 7 a.m. to 7 p.m. (63.9%) or part-time employees from 6 a.m. to 4 p.m. (14.8%). On the other hand, freelance housekeepers have more flexibility regarding their working hours and location. They have a variety of employment statuses, including full-time freelancers (14.8%) and part-time freelancers (6.6%).

The study shows that live-out housekeepers are primarily full-time and non-freelanced, which means they still have a low independent status in employment and face high economic risk. To reduce their high financial risk, some live-out housekeepers struggle to engage with various employment relationships to increase job opportunities and income. This means a worker could be employed full-time or part-time in one place and do piecework for other employers through a service provider or other households.

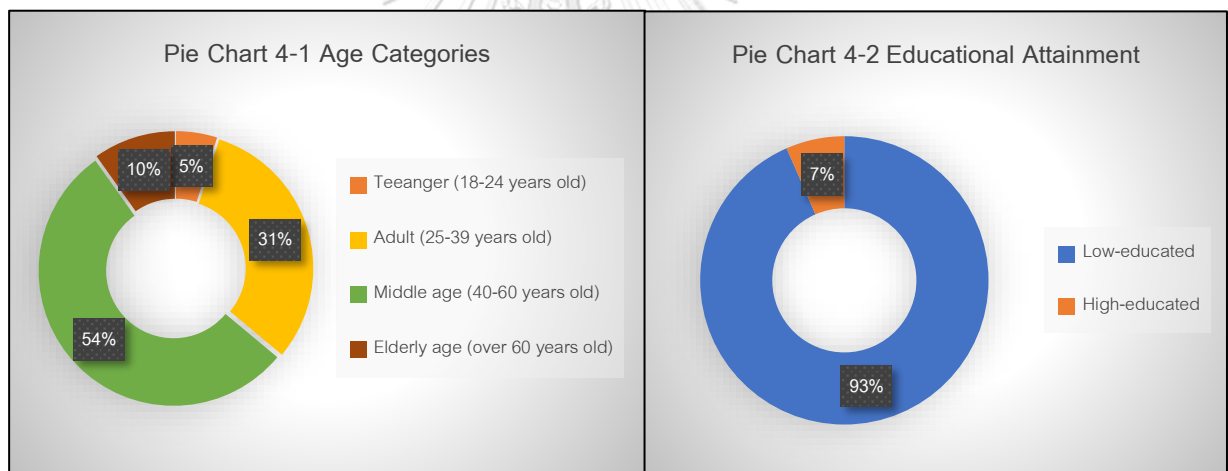
Regarding work hours, data still confirms that most live-out housekeepers work for more than 48 hours per week but still earn low-wage employment. This income level may not be sufficient to cover the cost of living in Bangkok. In addition, it has been found that a significant number of

workers tend to work for over 48 hours per week. Despite working long hours, these workers are typically paid the lowest income. They, therefore, are considered a hindrance to achieving decent work, as their physical and mental health can be negatively impacted.

Moreover, most live-out housekeepers are not entitled to overtime pay, which may not always result in a higher quality of life or monthly income, even if they are eligible. Sometimes, the paid group may not earn significantly more than the unpaid group. It is worth noting that even though housekeepers are entitled to a minimum daily wage as per the Labor Law Act, they still happen to earn a low monthly income. However, only a tiny percentage of live-out housekeepers earn higher income because most live-out housekeepers, who work for more than 8 hours a day, are paid no more than 15,000 Baht per month. This amount is not enough to cover their living expenses in Bangkok.

## 1.2 Socioeconomic Characteristics of live-out housekeepers

Below are the details of sociodemographic characteristics that will be described in many aspects, such as age, education, monthly income, vehicle ownership, and home location.



### - Age categories and educational attainment of live-out housekeepers

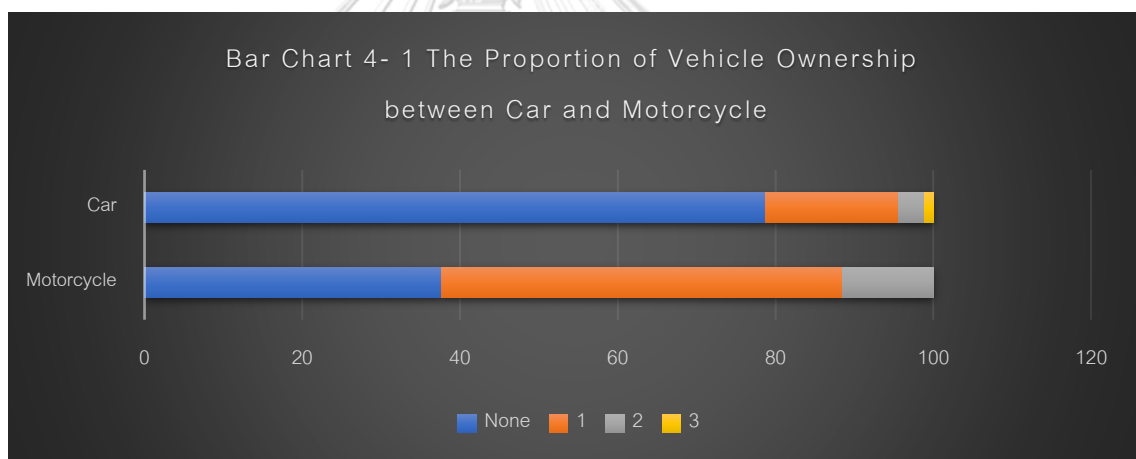
The study was conducted on actively working individuals and included participants between 18 and 70. Pie Chart 4-1 shows the age and education level distribution of live-out housekeepers participating in the study. Levinson's Theory on the Stages of Adult Life (1986) introduces the concept of "life structure," which refers to the fundamental patterns of a person's life at a particular time. The theory states that the middle adult phase starts at 40 and continues until 60 when it transitions to the elderly stage (Levinson, 1986).

Therefore, the study used this age criterion to reveal the results: most respondents were middle-aged (40-60 years), accounting for 54% of the participants. Furthermore, 31% of the

respondents were adults aged between 25 and 40 years, 10% were elderly individuals aged over 60 years, and the smallest group of participants, comprising around 5%, were teenagers aged between 18-24 years old. The results align with The IES data, indicating that domestic workers are evenly distributed by age, with a slight rise in the number of workers as they age. This contrasts with the general trend in the labor market, which shows a decline in female labor market participation as they grow older (ILO, 2021).

Noticeably, most live-out housekeepers have low education levels, with less than a bachelor's degree (93%). The smallest group of respondents is highly educated and has a bachelor's degree (7%). The data also suggests that predominantly, live-out housekeepers in this study are female Thai nationals with low levels of education, especially the older female workers with less than primary education. Among them, the largest group falls between 40 and 60 and has education levels below a bachelor's degree.

#### - Vehicle ownership



Bar Chart 4-1 also highlights that even though most housekeepers in Bangkok (78.69%) do not own a car, more than half of them own motorcycles at least 1 motorcycle. Most live-out housekeepers share their concerns that most of them cannot afford to own a car. There are several factors that contribute to the higher prevalence of motorcycle ownership compared to car ownership among housekeepers. Some of these factors include as follows.

Motorcycles are a more affordable mode of transportation compared to cars, both in terms of initial purchase price and ongoing maintenance. This makes them a more accessible option for individuals with limited financial resources. Additionally, motorcycles are often more fuel-efficient than cars, which makes them a cost-effective choice for daily commuting. This is especially important for

people with limited incomes who need to optimize their transportation expenses. They enable individuals to transport goods, reach customers quickly, and cover a larger area for business.

Motorcycles are a convenient mode of transportation that they can use motorcycles to transport goods and conduct business activities, making it easier for them to earn a livelihood. Additionally, financing options for motorcycles may be more accessible to the housekeepers compared to car loans, making it easier for them to purchase a motorcycle.

#### - Home location

Table 1 Average monthly income by home location.

Home Location	Mean	% of Total N
Midtown	10,785.71	57.4%
Suburbs	14,090.08	42.6%
Total	12,194.13	100.0%

According to the data in Table 4-1, the home location of the respondents is correlated to their monthly income on average. The data suggests that live-out housekeepers who live in the suburbs tend to have a higher average income per month compared to those living in Midtown. This implies that housekeepers living in midtown may have a lower socioeconomic status than those living in suburban areas. Limited employment opportunities in Midtown areas may be the reason why they tend to be more commercial or densely populated, with a higher concentration of businesses and offices. However, these areas may also have higher competition for low-skilled jobs, which could result in fewer job opportunities or wage disparities for housekeepers.

### 1.3 Mobility and Trip Characteristics of live-out housekeepers

#### - Travel time and Travel Cost on work trips of live-out housekeepers

Table 4-2 presents valuable information on the travel time and costs associated with live-out housekeepers, providing an overview of the average, minimum, and maximum values for each parameter. Based on the data, it can be concluded that live-out housekeepers spend around 10-12% of their average monthly income on travel costs and spend more than 1.5 hours traveling per day for work purposes. Furthermore, the data shows that the fare cost for travel is higher than the fuel cost for these housekeepers.

Table 2 Descriptive Statistics on Travel Time and Cost

Statistics Travel Time and Cost of Live-Out Housekeepers					
		Daily Travel Time (Minutes)	Monthly Fare Cost (Baht)	Monthly Fuel Cost (Baht)	Monthly Travel Cost (Baht)
N	Valid	61	61	61	61
	Missing	0	0	0	0
Mean		97.87	778.39	548.52	1,326.92
Minimum		20	0	0	0
Maximum		180	3,000	3,000	3,000

- Mode Choice Selection on Work Trips of Live-Out Housekeepers

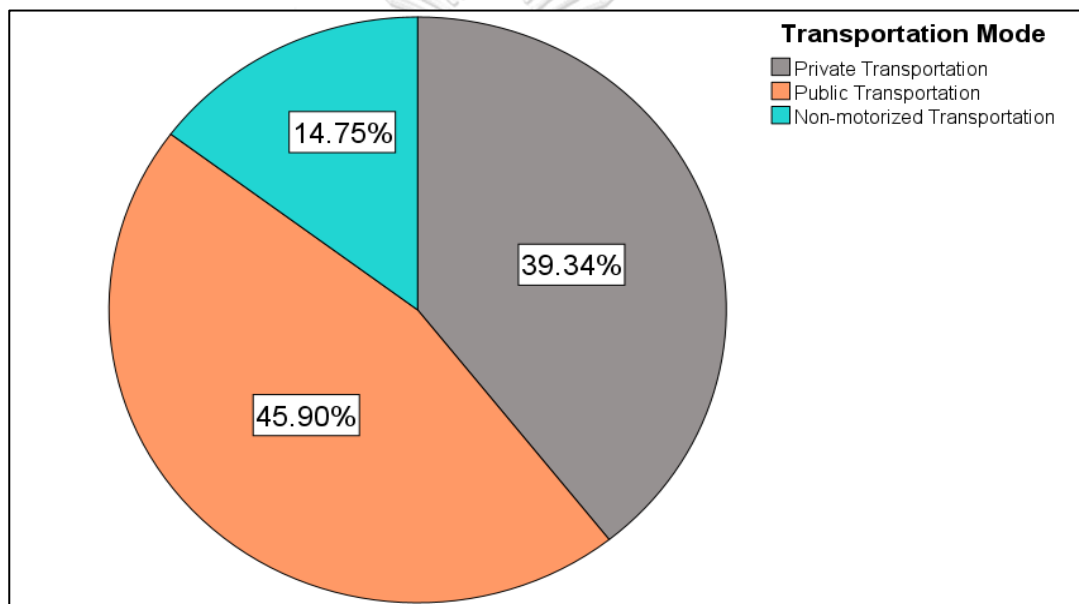


Figure 6 The Distribution of Transport Mode Among Live-Out Housekeepers

The Pie Chart in Figure 6 presents an overview of the transportation modes of live-out housekeepers. The data indicates that housekeepers use three categories of transportation modes on their work trips. Most of them, 45.9%, rely on public transportation, which includes Bus, BTS, MRT, Wyn, and Songthaew. However, due to the high taxi fares, most housekeepers cannot afford to use taxis as a mode of transportation, and they also cannot afford to own a car. As a result, cars and taxis are not commonly used by them. The percentage of housekeepers using private transportation is smaller after public transportation, constituting 39.3%. This category includes motorcycles, which provide a personalized commuting experience for work trips. Interestingly, 14.8% of housekeepers



prefer non-motorized transportation methods such as walking or cycling, showcasing their conscious effort to save their travel costs as much as possible.

#### - Reasons for choosing mode of transportation commuting to work

Regarding reasons to select mode choice, safety is not a significant concern among live-out housekeepers, as convenience and affordability are their top priorities. They are often low-income people who want to find job opportunities and save on their travel costs as much as possible. Insights into reason in figure 4-1, it is clear from the data that live-out housekeepers prefer to keep their monthly travel expenses to a minimum, significantly influencing their choice of transportation modes. Their general inclination is towards cost-efficient travel options, highlighting the importance of financial considerations.

Table 3 Reasons for Choosing Mode of Transportation

Reasons Frequencies				
		Responses		Percent of Cases
		N	Percent	
Reasons	Affordability	42	38.5%	68.9%
	Availability	11	10.1%	18.0%
	Accessibility	8	7.3%	13.1%
	Convenience	45	41.3%	73.8%
	Safety	3	2.8%	4.9%
Total		109	100.0%	178.7%
a. Dichotomy group tabulated at value 1.				

#### - Number of work trips per day of live-out housekeepers

It has been found that most live-out housekeepers, about 78.7% of them, tend to have a single work trip. This implies that a significant number of housekeepers stick to a regular routine with a singular destination, which can result in more predictable work experience. On the other hand, a significant 21.3% of live-out housekeepers were found to have multiple work trips. This suggests a level of complexity in their daily routines, which might involve visiting several locations to fulfill their work responsibilities. The existence of this group underscores the diverse nature of employment for some housekeepers, where multiple work trips may be necessary to carry out their occupational duties.

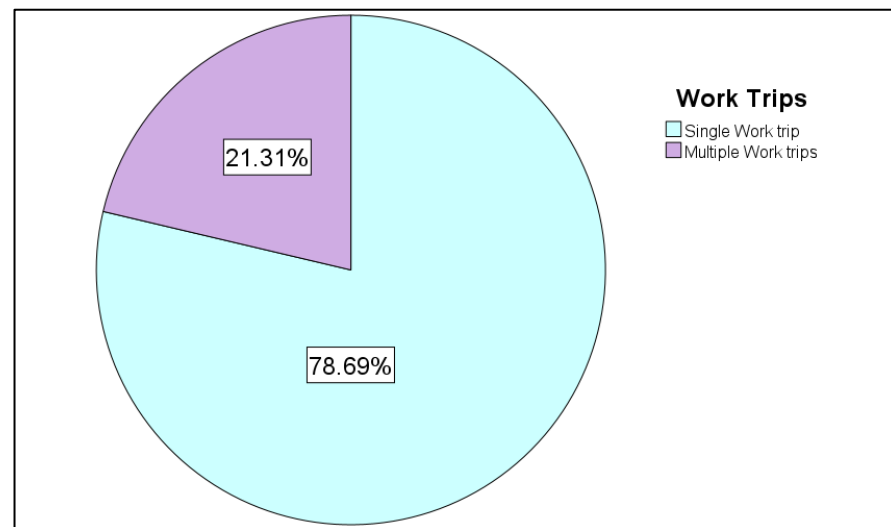


Figure 7 Work Trips Characteristics of Live-Out Housekeepers

To sum up, the information on work trips offers valuable insights into the mobility patterns of live-out housekeepers, highlighting the prevalence of both singular and multiple work trip approaches. This data sheds light on the fact that live-out housekeepers use different modes of transportation for their work trips, depending on their needs and circumstances. Most live-out housekeepers use at least two modes of transportation for their work trips, whether single or multiple trips (as shown in Table 4). Figure 8 also confirms that live-out housekeepers use different modes of transportation for their work trips. Those with numerous work trips per day tend to use mixed modes of transportation, including public transit, informal transportation, non-motorized, or private transportation. This can lead to higher travel expenses and more time spent than those who use a single mode of transportation for a single work trip. Regarding the reason for choosing mode choice, safety is not a significant concern among live-out housekeepers, as affordability and convenience are their top priorities. They are often low-income people who want to find job opportunities and save on their travel costs as much as possible.



Figure 8 Word Cloud Analysis on Mode Choice Selection and Reasons

### 1.5 Livelihood formation of live-out housekeepers

This section is to analyze how the livelihoods of housekeepers are formed through their mobility for work. To examine this hypothesis, the study will consider live-out housekeepers' duration and spaces during and after work for rest and recreation and aims to analyze the impact of work-related mobility on housekeepers' livelihood.

#### - Duration for Rest and Recreation of Live-out Housekeepers

The data from the pie charts in Figure 9 provide insights into respondents' preferences regarding the duration and spaces for rest and recreation during work, before, and during sleep. They help understand how individuals allocate their time and select locations for relaxation and recreation in various contexts. The distribution of respondents' preferences for the duration of rest and recreation during work shows that the majority (59.02%) allocate 1 hour for rest. A smaller group takes less than 1 hour (31.15%) or more than 1 hour (9.84%). On the other hand, long work hours give them less time than 8 hours of rest and recreation after work. The duration of rest and recreation after work shows that most respondents (57.38%) allocate 8 hours for rest and recreation during sleep, while a smaller group (42.62%) has less than 8 hours of sleep.

Table 4 outlines the key factors that affect the livelihoods of live-out housekeepers based on the duration of their rest and recreation. It has been observed that the period of rest and recreation is influenced by travel time and work hours. Longer daily travel times on work trips and longer work hours lead to less time during and after work for relaxation. However, some can manage their time efficiently and complete their work tasks within the specified time frame to gain more break time during work hours.

Most live-out housekeepers get consecutive 1-hour breaks during work following the Labor Act but still work longer than 48 hours. While live-out housekeepers with multiple jobs often have less than 1 hour for breaks, mostly workers with only one job daily, as full-time non-freelancers usually take 1-hour breaks because of their routine work with fixed workplaces. Regarding rest time, housekeepers with freelancers tend to have less rest time during their careers, possibly due to busier schedules with at least two jobs per day. This leads to less than 8 hours of rest before sleep. Live-out housekeepers generally secure 8 hours of sleep, but the situation differs for those individuals who work every day with no overtime pay and tend to trade off sleep time to get higher-income.

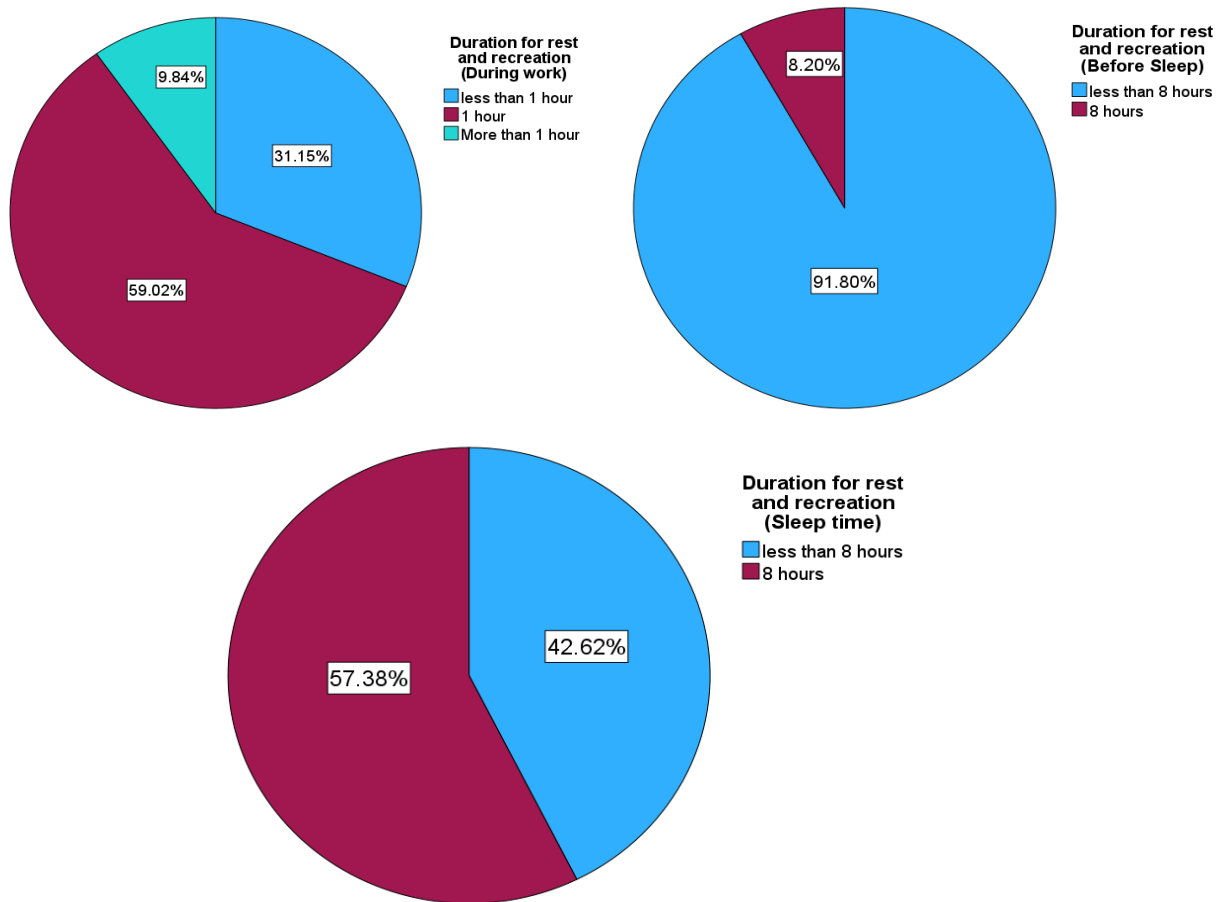


Figure 9 Livelihood Formation by Duration for Rest and Recreation

Table 4 Criteria and Duration for Rest and Recreation

Livelihood formation Criteria	Duration for rest and recreation						
	During work			Before Sleep time		Sleep time	
	< 1 hour	1 hour	> 1 hour	< 8 hours	8 hours	< 8 hours	8 hours
Average daily travel time on work trips (Minutes)	126.76	85.27	94.29	100.54	68.00	125.00	79.03
Average number of transport modes on work trips	2.47	2.35	2.00	2.34	2.40	2.20	2.44
Average weekly work hours	58.94	61.43	55.14	60.52	54.40	62.24	58.47
Status in employment							
Full-time, Freelance	14.8%	0.0%	0.0%	14.8%	0.0%	11.5%	3.3%
Full-time, Non-Freelance	8.2%	47.5%	8.2%	57.4%	6.6%	19.7%	44.3%
Part-time, Freelance	6.6%	0.0%	0.0%	6.6%	0.0%	6.6%	0.0%

Livelihood formation  Criteria	Duration for rest and recreation						
	During work			Before Sleep time		Sleep time	
	< 1 hour	1 hour	> 1 hour	< 8 hours	8 hours	< 8 hours	8 hours
Part-time, Non-Freelance	1.6%	11.5%	1.6%	13.1%	1.6%	4.9%	9.8%
Total	31.1%	59.0%	9.8%	91.8%	8.2%	42.6%	57.4%
<b>Place of work</b>							
In-home/Condominium (11.5%)	11.5%	0.0%	0.0%	11.5%	0.0%	11.5%	0.0%
In the Workplace (78.7%)	9.8%	59.0%	9.8%	70.5%	8.2%	24.6%	54.1%
Hybrid (9.8%)	9.8%	0.0%	0.0%	9.8%	0.0%	6.6%	3.3%
Total	31.1%	59.0%	9.8%	91.8%	8.2%	42.6%	57.4%
<b>Number of daily jobs</b>							
One job	9.8%	55.7%	8.2%	65.6%	8.2%	26.2%	47.5%
Two jobs	14.8%	3.3%	1.6%	19.7%	0.0%	9.8%	9.8%
More than two jobs	6.6%	0.0%	0.0%	6.6%	0.0%	6.6%	0.0%
Total	31.1%	59.0%	9.8%	91.8%	8.2%	42.6%	57.4%

**- Spaces and Activities for Rest and Recreation of Live-out Housekeepers**

Regarding spaces for rest and recreation during work, the majority (70.49%) use a private space, while some use a public space (29.51%). The data describes a private space where most respondents prefer rest and recreation during work. Consistent with the location preferences for rest and recreation after work, the majority (85.25%) use a private space, while some use a public space (14.75%). Noticeably, the respondents tend to use both spaces more after work.

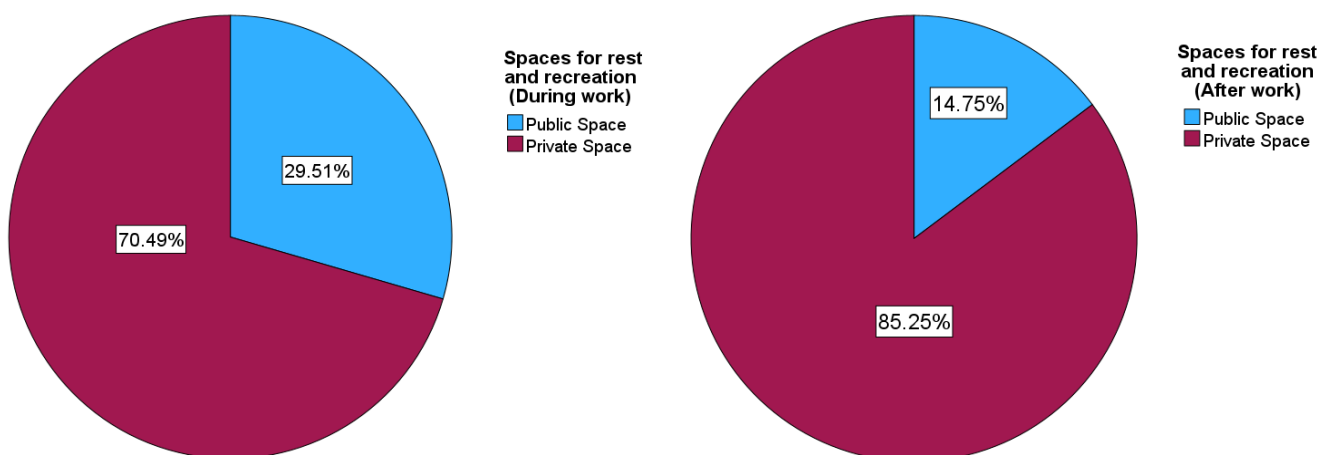


Figure 10 Livelihood Formation by Spaces for Rest and Recreation

Figures 4-2 and 4-3 provide an overview of how live-out housekeepers shape their livelihoods by choosing preferred locations and activities for rest and recreation based on a word cloud analysis. During work, live-out housekeepers typically take breaks in private areas, such as staff rooms, canteens, fire escapes, pantry rooms, or even in front of toilets. However, some also use public spaces for their breaks, like pavement or bus stop areas. After work, most live-out housekeepers prefer to relax in private areas, such as their own homes, while a minority also use public areas for relaxation, such as public parks, temples, night markets, or even public transportation like buses, MRTs, and songthaews.

When people take a break from work, they often turn to social media platforms like TikTok and Facebook for relaxation. This is especially true for live-out housekeepers who use social media to connect with virtual communities during work breaks. However, some employers provide physical spaces like nap rooms or break rooms for their workers to relax in, which some employees use instead of social media. After work, many people prefer to engage in physical activities to unwind, such as watching TV with their family, getting some sleep, or even praying at a temple. Despite these physical activities, many people still use social media for rest and recreation after work.



Figure 11 Word Cloud Analysis on Locations and Activities for Rest and Recreation During Work



Figure 12 Word Cloud Analysis on Locations and Activities for Rest and Recreation After Work

## 1.6 Analysis and Discussions

The study underscores the live-out housekeepers as a case study of informal workers in Bangkok for a closer exploration and understanding of their work, socioeconomic status, and mobility, affecting their livelihood. Therefore, the analysis can conclude the three key findings as follows.

### 1. Live-out housekeepers often face financial risks due to the precarious job structures and lack of independence.

This issue has been highlighted in previous studies such as Hobden and Bonnet (2021), Luebker (2013), and López (2023). Although various employment relationships within households or workplaces offer better pay and more job opportunities; it does not necessarily guarantee a better quality of life or less vulnerability for housekeepers. It should be noted that while many housekeepers work in formal places of work, they still face informal employment situations, such as unclear salary transactions or dependence on contractors, which puts them at risk in the event of termination of the contractual relationship and inadequate coverage of social protection.

Noticeably, most live-out housekeepers have low education levels, with less than a bachelor's degree (93%). The smallest group of respondents is highly educated and has a bachelor's degree (7%). The data also suggests that predominantly, live-out housekeepers in this study are female Thai nationals with low levels of education, especially the older female workers with less than primary education. Among them, the largest group falls between 40 and 60 and has education levels below a bachelor's degree.

In Table 5, income on average of the respondents earn less than 15,000 baht per month, even though most receive the minimum daily wage. In 2018, IES showed the average monthly salary for domestic employees in Thailand was 10,145 baht (López, 2023), but this study shows that they earn slightly higher. Lopez's (2023) research confirmed that wages typically decrease with age, and this study also shows that the average earnings of domestic employees over 60 years old tend to be lower than those of younger ones. However, wage employment does not guarantee a good quality of life for domestic employees as their salary may not be sufficient to sustain their living costs in Bangkok.

In addition, Lopez's research also depicts that higher wages were associated with higher levels of education. The result could also demonstrate some highly educated workers received slightly higher income on average than their less educated counterparts.

According to the National Statistical Office (NSO), Thai people are divided into five income groups, ranging from the poorest 20% to the wealthiest 20%. Each group consists of 20% of the population and has an average income as follows: the most deficient 20% earns an average of 11,135 baht, the second-lowest group makes an average of 16,852 baht, the middle 20% earns an average of 22,106 baht, the second-highest group earns an average of 29,211 baht, and the wealthiest 20%

earns an average of 57,461 baht. Moreover, in collaboration with the Trade Policy and Strategy Office, the National Statistics Office reported that approximately 40% of the Thai population earned less than 17,000 Baht monthly in 2020, while the average monthly expenditure amounted to 18,145 Baht per month (Brand Inside, 2022). This implies that the financial burden for low-income people must struggle to sustain their lives under Thailand's high cost of living, particularly Bangkok.

Housekeepers can be identified as poor or low-income, with monthly earnings ranging from 11,135 to 16,852 Baht. Only a tiny group of housekeepers can be considered middle-income, consistent with the categories defined by NSO. The study also suggests that most housekeepers can earn the minimum daily wage stipulated by the Labor Law Act. However, this daily wage alone may not be sufficient to maintain a decent quality of life in Bangkok.

Table 5 Average Monthly income by Age Categories and Education Attainment

Age	Mean	% of Total N
Teenager (18-24 years old)	12,000.00	4.9%
Adult (25-39 years old)	10,825.16	31.1%
Middle age (40 – 60 years old)	13,459.52	54.1%
Elderly age (more than 60 years old)	9,666.67	9.8%
Total	12,194.13	100.0%
Educational Attainment	Mean	% of Total N
Low-educated	12,163.89	93.4%
High-educated	12,625.00	6.6%
Total	12,194.13	100.0%

## 2. Home and Job location significantly affect socioeconomic status and the travel behavior of live-out housekeepers.

*Distance* is a significant dimension for influencing transportation mode choice. Short distances are often walked or biked, while longer ones require other transportation (Kerr, 2017). This trend leads many live-out housekeepers to live in urban areas, where proximity to work can result in substantial savings in both money and time. However, they cannot practically minimize travel costs on every work trip because they need flexibility to align with the interplay between work-related travel, living arrangements, and mode characteristics. As a result, live-out housekeepers' travel behavior patterns for multi-work trip workers cannot be only primary to minimize travel costs. However, the findings suggest that location plays a significant role in these factors and ultimately influences individuals' mode characteristics and transportation choices.

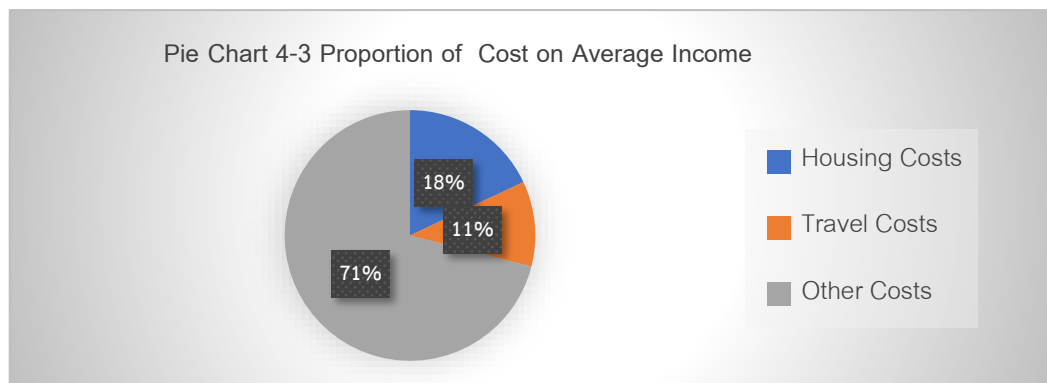


Based on the findings in Table 6, it appears that one's location can significantly impact their socioeconomic status, as determined by their monthly income. Specifically, *housekeepers who reside in the suburbs have a higher socioeconomic status than those who live in Midtown*. Additionally, *individuals who work in various locations tend to have a higher socioeconomic status than those who work in a single location*. To further illustrate this point, the group of housekeepers who *reside in the suburbs and work in various locations have the highest monthly income*, while the group of housekeepers who *both live and work in Midtown have the lowest monthly income*.

Table 6 Relationship Between Spatial Characteristics and Socioeconomic Characteristics

Home and Work Location *Monthly income			
Home Location	Work Location	Mean	% of Total N
Midtown	Midtown	10,017.86	45.9%
	Everywhere	13,857.14	11.5%
	Total	10,785.71	57.4%
Suburbs	Midtown	12,833.33	19.7%
	Suburbs	12,667.75	13.1%
	Everywhere	18,500.00	9.8%
	Total	14,090.08	42.6%
Total	Midtown	10,862.50	65.6%
	Suburbs	12,667.75	13.1%
	Everywhere	16,000.00	21.3%
	Total	12,194.13	100.0%

Pie Chart 4-3 also makes it evident that the average housing and travel expenses of all live-out housekeepers are based on their average income (12,194.13 Baht). It is clear from the data that live-out housekeepers have to allocate a significant portion of their budget to housing (2,205.57 Baht), as compared to transportation expenses like fuel (548.52 Baht) and fares (778.39 Baht). However, it is essential to keep in mind that these charts do not provide a detailed breakdown of other necessary expenditures, such as groceries, utilities, or discretionary spending. These expenses can have a considerable impact on an individual's financial situation.



In addition, Table 4-7 presents the results of a study that examines the spending habits of live-out housekeepers in different work and home areas. *The study shows that housekeepers who live in the suburbs or midtown but work in various locations have higher monthly travel expenses than those who work on a single site. This is because the latter group spends less money and time commuting due to shorter distances from home to the workplace. For instance, housekeepers living and working in Midtown spend the least on monthly travel expenses. On the other hand, housekeepers who live and work in the suburbs have the shortest daily travel time.*

The study also highlights that housekeepers living in the suburbs and working in different areas pay the highest monthly travel expenses, including fuel and fare. Conversely, housekeepers who live in the suburbs and work in Midtown have higher fuel costs than those who work elsewhere. This suggests that housekeepers who work in Midtown and reside in the suburbs are likelier to use private transportation than those who work elsewhere. Even considering only fare costs, without fuel expenses, the study indicates that housekeepers who live in Midtown but work in various locations pay the most on monthly fare expenses. This implies that they probably do not prefer private transportation but take the most daily travel time, as they have many daily work trips and use multiple modes.

In conclusion, the study reveals the travel costs and time disparities among housekeepers living and working in different locations. Housekeepers who live in the suburbs and work in various locations tend to have the highest travel expenses and time, whereas those who live and work in the same area spend the most minor travel expenses or time.

		Monthly income (Baht)	Monthly Cost (Baht)			Total Travel Cost	Daily Travel Time
			Housing	Fare	Fuel		
Home and work location							
Midtown, Midtown	Mean	10,017.86	2,430.00	423.21	429.29	852.50	81.25
	% of Total	45.9%	45.9%	45.9%	45.9%	45.9%	45.9%
	N						
Midtown, everywhere	Mean	13,857.14	3,400.00	828.57	471.43	1,300.00	109.29
	% of Total	11.5%	11.5%	11.5%	11.5%	11.5%	11.5%
	N						
Suburbs, Midtown	Mean	12,833.33	1,166.67	1,137.67	920.00	2,057.67	137.08
	% of Total	19.7%	19.7%	19.7%	19.7%	19.7%	19.7%
	N						
Suburbs, Suburbs	Mean	12,667.75	2,200.00	960.00	100.00	1,060.00	59.38
	% of Total	13.1%	13.1%	13.1%	13.1%	13.1%	13.1%
	N						
Suburbs, everywhere	Mean	18,500.00	1,850.00	1,416.67	1,050.00	2,466.67	135.00
	% of Total	9.8%	9.8%	9.8%	9.8%	9.8%	9.8%
	N						
Total	Mean	12,194.13	2,205.57	778.39	548.52	1,326.92	97.87
	% of Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	N						
Work trips							
Single Work trip	Mean	11,163.38	20,75.83	691.29	497.08	1,188.37	91.56
	% of Total	78.7%	78.7%	78.7%	78.7%	78.7%	78.7%
	N						
Multiple Work trips	Mean	16,000.00	2,684.62	1,100.00	738.46	1,838.46	121.15
	% of Total	21.3%	21.3%	21.3%	21.3%	21.3%	21.3%
	N						
Total	Mean	12,194.13	2,205.57	778.39	548.52	1,326.92	97.87
	% of Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	N						

3. Longer distance travel for work can increase transport costs, burdening low-income housekeepers and contributing to unemployment and poverty.

The study highlights the importance of affordability and convenience in transportation decisions for live-out housekeepers. For most live-out housekeepers, keeping their monthly travel expenses to a minimum is a priority, influencing their transportation choices. They tend to prefer cost-efficient travel options, and financial considerations are crucial.

*Public transportation remains the primary mode for people with low socioeconomic status and multiple work trips.* However, this study shows that many housekeepers still limit their work trips to a single one, as they are unsure about the balance between spending more on travel and the income they can generate in a limited time and under health constraints. Since housekeepers generally have low incomes, the cost of travel can be a burden, especially for longer distances. As a result, it can lead to unemployment and poverty due to increased transport costs. (Erman & Kara, 2018; Guzman & Oviedo, 2018; Ye & Titheridge, 2019).

**4. Livelihood formation based on higher income to improve their socioeconomic status has a decline in their rest and sleep time, lowering their quality of rest and recreation time and choosing preferred spaces.**

According to the research of d'Souza (2010) and the UN Women's Survey (2022), it has been found that live-out domestic workers often must work long hours and have unpredictable schedules just to earn more money. This situation is compounded by the time they spend traveling to their employer's residence, which can also affect their overall well-being and work-life balance.

It is also consistent that this study highlights two key issues: those with higher incomes from multiple jobs earn more income to sustain their lives but need to trade off their time for relaxation and sleep during and after work. Those with longer travel time on multiple work trips are more insecure about getting less than 8 hours of sleep. Furthermore, live-out domestic workers may work long hours and have unpredictable schedules based on their employer's demands to earn more. The time spent traveling to their employer's residence adds to their overall working day, which could affect their well-being.

When it comes to factors related to home and work locations, it is observed that live-out housekeepers working in multiple locations usually have less than an hour for breaks. On the other hand, those working in a single place tend to have an hour for breaks. Moreover, this suggests that having a shorter distance between the home and the workplace results in less travel during work trips and more time for rest and recreation after work. The work trip also affects the break time. Live-out housekeepers who travel to multiple work sites tend to have less than an hour for breaks, while mostly workers with a single work trip usually take a 1-hour break due to their routine work with fixed

workplaces. Furthermore, those with multiple work trips tend to compromise their time for rest and recreation, resulting in less time for relaxation after work than those working a single work trip.

Most live-out housekeepers prefer private areas such as staff rooms, canteens, and fire escapes during work breaks. However, some also use public spaces like pavement or bus stops. After work, most prefer to relax in the privacy of their homes, while a few uses public areas like parks and night markets. Social media platforms like TikTok and Facebook are popular among live-out housekeepers during work breaks. However, some employers provide their workers with physical spaces like nap rooms or break rooms. After work, people engage in physical activities like watching TV, getting some sleep, or praying at a temple. Despite this, many still use social media for rest and recreation.

Monthly income plays a significant role in where individuals relax during work. However, payment does not show substantial differences in spaces after work since most prefer private spaces. Interestingly, lower-income people tend to use private spaces during work for rest and recreation. People with longer travel times tend to use public spaces for rest during work hours. However, most prefer to rest at home after work regardless of travel time. This indicates that most live-out housekeepers work more than 48 hours per week and choose to return home for relaxation after work.

## Part 2: A Shift to Work Online Platforms, Commuter Patterns, and Livelihoods

Part II presents the housekeepers in many aspects concerning their occupation, such as recruitment practices, status in employment, place of work, number of daily jobs, workdays, and weekly work hours. The results from the study in Table 8 reveal that the different work characteristics among offline/online/ hybrid housekeepers' groups.

### 2.1 Offline/ Online/ Hybrid Housekeepers and Nature of Work

#### - Place of Work

All offline housekeepers (78.7%) work in the only workplace, while 11.5% work online only in homes or condominiums and 9.8% work in every type of workplace. This means that offline housekeepers prefer to work in a fixed place and work schedule determined by one employer from the workplace. In contrast, online workers have unpredictable schedules from many employers in the households through social media platforms. Hybrid workers are the most flexible workplace group that can manage the schedule through direct referral by many employers from various channels.

#### - Status in Employment

According to the result, most offline housekeepers work as non-freelancers with 63.9% working full-time and 14.8% working part-time. On the other hand, online and hybrid workers are mostly

freelancers regardless of whether they work full-time or part-time. Interestingly, the study found that online live-out housekeepers make up a significant percentage compared to other groups. This suggests that these workers still rely on traditional methods, such as referrals from friends and relatives or recruitment agencies, to find their jobs, instead of using social media platforms. This also implies that employers still prefer these traditional methods over social media platforms when it comes to finding. They are primarily full-time and non-freelanced, which means they have a low independent status in employment and face high economic risk.

**- Daily wage**

It's worth noting that while most live-out housekeepers earn at least the minimum daily wage, some offline workers may earn less than the minimum. The situation is different for online and hybrid housekeepers, as many of them earn higher than the minimum daily wage.

**- Number of jobs per day**

Generally, offline housekeepers are limited to doing only one job per day due to their fixed schedules. For full-time status, they work from 7 a.m. to 7 p.m., while for part-time status, they work from 7 p.m. to 4 p.m. In contrast, online housekeepers can usually take on at least two jobs per day. Hybrid workers, on the other hand, have more flexible schedules and can take on varying numbers of jobs per day, ranging from one to at least two jobs per day.

**- Work location**

According to the data, it seems that offline housekeepers tend to prefer working in a single location, either in midtown or suburbs. However, more than half of offline groups (65.1%) prefer to work in Midtown, while only 13.1% prefer the suburbs. On the other hand, online and hybrid housekeepers can work in various locations, regardless of whether it's midtown or suburbs.

Table 8 Different Work Characteristics Among Offline, Online, and Hybrid Housekeepers

Crosstab					
		Work Characteristics			Total
		Offline	Online	Hybrid	
Place of work	In the workplace	78.7%	0.0%	0.0%	78.7%
	In home / Condominium	0.0%	11.5%	0.0%	11.5%
	Hybrid	0.0%	0.0%	9.8%	9.8%
Total		78.7%	11.5%	9.8%	100.0%
Status in employment	Full-time, Freelance	0.0%	8.2%	6.6%	14.8%
	Full-time, Non-Freelance	63.9%	0.0%	0.0%	63.9%
	Part-time, Freelance	0.0%	3.3%	3.3%	8.2%
	Part-time, Non-Freelance	14.8%	0.0%	0.0%	13.1%

Crosstab					
		Work Characteristics			Total
		Offline	Online	Hybrid	
Total		78.7%	11.5%	9.8%	100.0%
Daily wage	Less than 353 Baht	6.6%	0.0%	0.0%	6.6%
	353 Baht	52.5%	1.6%	1.6%	55.7%
	Higher than 353 Baht	19.7%	9.8%	8.2%	37.7%
Total		78.7%	11.5%	9.8%	100.0%
Number of jobs per day	1 job	70.5%	0.0%	3.3%	73.8%
	2 jobs	6.6%	8.2%	4.9%	19.7%
	More than 2 jobs	1.6%	3.3%	1.6%	6.6%
Total		78.7%	11.5%	9.8%	100.0%
Work location	Midtown	65.6%	0.0%	0.0%	65.6%
	Suburbs	13.1%	0.0%	0.0%	13.1%
	Everywhere	0.0%	11.5%	9.8%	21.3%
Total		78.7%	11.5%	9.8%	100.0%

#### - Number of Workday and Work Hours

Regarding work hours, the working hours of domestic workers worldwide are among the most prolonged and unpredictable for all groups of workers. Similarly, domestic workers in other Asian countries, such as Indonesia (51.6 hours, 2008), Malaysia (65.9 hours, 2008), the Philippines (52.0 hours, 2010), and Thailand (58.3 hours, 2003), routinely work more than the 48-hour threshold (Luebker, 2013). Data from this study is associated and still confirms that most live-out housekeepers work for more than 48 hours per week. In addition, it has been found that a significant number of workers tend to work for over 48 hours per week (77%), either for six days (54.10%) or every day (44.3%).

Table 9 Similar Work Characteristics Among Offline, Online, and Hybrid Housekeepers

Crosstab					
		Work Characteristics			Total
		Offline	Online	Hybrid	
Weekly Workday	Less than 6 days	1.6%	0.0%	0.0%	1.6%
	6 days	49.2%	1.6%	3.3%	54.1%
	Everyday	27.9%	9.8%	6.6%	44.3%
Total		78.7%	11.5%	9.8%	100.0%
Weekly Work Hours	48 hours	19.7%	1.6%	1.6%	23.0%
	More than 48 hours	59.0%	9.8%	8.2%	77.0%
Total		78.7%	11.5%	9.8%	100.0%

## 2.2 Socioeconomic Characteristics of Offline/Online/ Hybrid Housekeepers

The associations between work characteristics categories and monthly income are presented in Table 10. Based on the monthly income, it can be concluded that *online housekeepers have the highest socioeconomic status among the three categories, followed by hybrid housekeepers and offline housekeepers.*

Offline housekeepers who work part-time and are non-freelancers tend to earn the lowest monthly income among the three categories. This can be attributed to the fact that they work only one job per day with fixed work hours, which limits their opportunities to generate more income. On the other hand, online housekeepers who work full-time and are freelancers in homes or condominiums tend to earn the highest monthly income. This is mainly because they have at least two jobs daily and work every day, which allows them to generate more income. Hybrid workers who work six days a week have a more flexible work situation than offline workers, which leads to the second-highest income after online workers.

Even though offline housekeepers may receive overtime pay, it does not necessarily guarantee a better quality of life. Additionally, being paid for overtime does not always mean higher earnings than those who do not receive overtime pay. Although online housekeepers are exempt from receiving overtime pay, they may still have to work overtime occasionally.

Table 10 Relationship Between Work Characteristics and Socioeconomic Characteristics

Work Characteristics Categories* Monthly income		
	Mean	% of Total N
Work Characteristics		
Offline	11,163.38	78.7%
Online	17,714.29	11.5%
Hybrid	14,000.00	9.8%
Total	12,194.13	100.0%
Place of Work		
In the workplace	11,163.38	78.7%
In home / Condominium	17,714.29	11.5%
Hybrid	14,000.00	9.8%
Total	12,194.13	100.0%
Status in Employment		
Full-time, Freelance	16,333.33	14.8%
Full-time, Non-Freelance	11,713.90	63.9%



Work Characteristics Categories* Monthly income		
	Mean	% of Total N
Part-time, Freelance	15,250.00	6.6%
Part-time, Non-Freelance	9,777.78	14.8%
Total	12,341.67	100.0%
Daily Wage		
Less than 353 Baht	8,875.00	6.6%
353 Baht	10,774.76	55.7%
Higher than 353 Baht	14,869.57	37.7%
Total	12,194.13	100.0%
Number of Jobs Per Day		
1 job	11,207.60	73.8%
2 jobs	14,125.00	19.7%
More than 2 jobs	17,500.00	6.6%
Total	12,194.13	100.0%
Work Location		
Midtown	10,862.50	65.6%
Suburbs	12,667.75	13.1%
Everywhere	16,000.00	21.3%
Total	12,194.13	100.0%
Weekly Workday		
Less than 6 days	7,000.00	1.6%
6 days	11,116.42	54.1%
Everyday	13,703.70	44.3%
Total	12,194.13	100.0%
Weekly Work Hours		
48 hours	9288.14	23.0%
More than 48 hours	13059.74	77.0%
Total	12194.13	100.0%

Based on the findings in Tables 11 and 12, it can be concluded that most live-out housekeepers reside and work in urban areas, while housekeepers in the suburbs generally have higher incomes than those in Midtown. *Housekeepers living in the suburbs and working online have the highest socioeconomic status, while offline housekeepers living and working in Midtown have the lowest.*

Most offline groups live and work in Midtown (58.3%). Among the offline groups residing in the suburbs, a higher percentage of them prefer to work in Midtown (25%) compared to the suburbs

(16.7%). On the other hand, most hybrid workers live in Midtown but have jobs in various locations. Interestingly, more than half of online housekeepers live in the suburbs and work across different areas.

Table 11 Home and Work Locations by Work Characteristics

Work Characteristics* Home Location * Work Location * Crosstabulation						
Work Characteristics			Work Location			Total
			Midtown	Suburbs	Everywhere	
Offline	Home Location	Midtown	58.3%	0.0%	0.0%	58.3%
		Suburbs	25.0%	16.7%	0.0%	41.7%
	Total		83.3%	16.7%	0.0%	100.0%
Online	Home Location	Midtown	0.0%	0.0%	42.9%	42.9%
		Suburbs	0.0%	0.0%	57.1%	57.1%
	Total		0.0%	0.0%	100.0%	100.0%
Hybrid	Home Location	Midtown	0.0%	0.0%	66.7%	66.7%
		Suburbs	0.0%	0.0%	33.3%	33.3%
	Total		0.0%	0.0%	0.0%	100.0%
Total	Home Location	Midtown	45.9%	0.0%	11.5%	57.4%
		Suburbs	19.7%	13.1%	9.8%	42.6%
	Total		65.6%	13.1%	21.3%	100.0%

Table 12 Home and Work Locations, Work Characteristics, Income

Home and Work Location*Work Characteristics*Monthly income (Baht)				
Home Location	Work Location	Work Characteristics	Mean	% of Total N
Midtown	Midtown	Offline	10,017.86	45.9%
		Total	10,017.86	45.9%
	Everywhere	Online	15,333.33	4.9%
		Hybrid	12,750.00	6.6%
		Total	13,857.14	11.5%
	Total	Offline	10,017.86	45.9%
		Online	15,333.33	4.9%
		Hybrid	12,750.00	6.6%
Total		10,785.71	57.4%	
Suburbs	Midtown	Offline	12,833.33	19.7%
		Total	12,833.33	19.7%
	Suburbs	Offline	12,667.75	13.1%
		Total	12,667.75	13.1%
	Everywhere	Online	19,500.00	6.6%
		Hybrid	16,500.00	3.3%
		Total	18,500.00	9.8%

Home and Work Location*Work Characteristics*Monthly income (Baht)					
Home Location	Work Location	Work Characteristics	Mean	% of Total N	
	Total	Offline	12,767.10	32.8%	
		Online	19,500.00	6.6%	
		Hybrid	16,500.00	3.3%	
		Total	14,090.08	42.6%	
Total	Midtown	Offline	10,862.50	65.6%	
		Total	10,862.50	65.6%	
	Suburbs	Offline	12,667.75	13.1%	
		Total	12,667.75	13.1%	
	Everywhere	Online	17,714.29	11.5%	
		Hybrid	14,000.00	9.8%	
		Total	16,000.00	21.3%	
	Total	Total	Offline	11,163.38	78.7%
			Online	17,714.29	11.5%
			Hybrid	14,000.00	9.8%
			Total	12,194.13	100.0%

### 2.3 Commuter Patterns of Offline/Online/Hybrid Housekeepers

The following data in Table 13 compares the travel costs and daily travel time for different work arrangements: offline, online and hybrid. The data provides insights into travel costs and daily travel time variations among different work arrangements. Offline work dominates in a significant number of instances, while Online work stands out with higher associated costs and longer travel times. Hybrid work falls in between, combining elements from both Offline and Online categories.

For offline work, individuals spend an average of 691.29 on fares and 497.08 on fuel, resulting in a total travel cost of 1,188.37. The daily travel time for this category is approximately 91.56 minutes, and it represents the largest portion of the total sample, accounting for 78.7%. On the other hand, online work demonstrates higher travel costs, with a mean fare of 1,214.29 and a fuel cost of 657.14, contributing to a total cost of 1,871.43. The daily travel time for online work is notably longer, at 132.14 minutes. Although this category only represents 11.5% of the total, it stands out with increased expenses and travel time. Hybrid work, combining offline and online elements, presents intermediate values. The mean fare is 966.67, and the fuel cost is 833.33, resulting in a total cost of 1,800.00. The daily travel time for hybrid work is 108.33 minutes. This category represents 9.8% of the total.

Understanding the patterns of housekeeper work setups is essential to exploring their logistical aspects. Table 4–14 provides information about the trip characteristics of housekeepers.

These tables offer valuable insights into the transportation preferences and decision-making factors among offline, online, and hybrid housekeepers.

#### Mode Characteristics:

*Private transportation* is the common mode of transportation for housekeepers, most falling into the offline category (31.1%). This is followed by the hybrid (4.9%) and online (3.3%) categories, constituting 39.3%. *Public transportation* is more evenly distributed, with offline at 32.8%, online at 8.2%, and hybrid at 4.9%. Public transportation constitutes 45.9% of the total. *Non-motorized transportation* is predominantly associated with offline housekeepers, accounting for 14.8% of the total.

#### Reasons for Transportation Choices:

*Affordability* is the most common reason for transportation choices across all categories. 52.5% of housekeepers work offline, with hybrid (8.2%) and online (8.2%) following. Affordability is a significant factor for 68.9% of the total. *Convenience* is another prevalent reason, with offline housekeepers at 55.7%, hybrids at 8.2%, and online at 9.8%. Convenience made up 73.8% of the total.

#### Number of Work Trips:

Most housekeepers undertake a single work trip regardless of the category, with offline housekeepers dominating at 78.7%. *Only online and hybrid housekeepers engage in multiple work trips*, accounting for 11.5% and 9.8%, respectively. In total, 21.3% of housekeepers take multiple work trips.

Table 13 Offline/Online/Hybrid Housekeepers by Travel Cost and Time

		Travel Cost			Daily Travel
		Fare	Fuel	Total	Time
Work characteristics					
Offline	Mean	691.29	497.08	1,188.37	91.56
	% of Total N	78.7%	78.7%	78.7%	78.7%
Online	Mean	1,214.29	657.14	1,871.43	132.14
	% of Total N	11.5%	11.5%	11.5%	11.5%
Hybrid	Mean	966.67	833.33	1,800.00	108.33
	% of Total N	9.8%	9.8%	9.8%	9.8%
Total	Mean	778.39	548.52	1,326.92	97.87
	% of Total N	100.0%	100.0%	100.0%	100.0%

Table 14 Offline/Online/Hybrid Housekeepers by Trip characteristics

Crosstab							
		Work Characteristics			Total		
		Offline	Online	Hybrid			
Mode	Private Transportation	31.1%	3.3%	4.9%	39.3%		
	Public Transportation	32.8%	8.2%	4.9%	45.9%		
	Non-motorized Transportation	14.8%	0.0%	0.0%	14.8%		
Total		78.7%	11.5%	9.8%	100.0%		
Reasons (a. Dichotomy group tabulated at value 1.)	Affordability	Count	32	5	5	42	
		% of Total	52.5%	8.2%	8.2%	68.9%	
	Availability	Count	9	1	1	11	
		% of Total	14.8%	1.6%	1.6%	18.0%	
	Accessibility	Count	6	1	1	8	
		% of Total	9.8%	1.6%	1.6%	13.1%	
	Convenience	Count	34	6	5	45	
		% of Total	55.7%	9.8%	8.2%	73.8%	
	Safety	Count	3	0	0	3	
		% of Total	4.9%	0.0%	0.0%	4.9%	
	Total		Count	48	7	6	61
			% of Total	78.7%	11.5%	9.8%	100.0%
	Work Trips	Single Work Trip	78.7%	0.0%	0.0%	78.7%	
		Multiple Work Trips	0.0%	11.5%	9.8%	21.3%	
Total		78.7%	11.5%	9.8%	100.0%		

## 2.4 Livelihood Formations of Offline/Online/Hybrid Housekeepers

The presented data in Tables 15 and 16 explores the relationship between work characteristics and livelihood formation, with a focus on the duration and spaces for rest and recreation during and after work. The findings reveal that work characteristics, particularly the nature of work (offline, online, hybrid), have a significant impact on the duration and spaces for rest and recreation during and after work.

### Duration for Rest and Recreation

- **During Work:** Most offline housekeepers have their time 1- hour break for rest and recreation during work, whereas Online and Hybrid housekeepers spend less 1- hour break for rest and recreation.

- **Before Sleep Time:** Overall, 60.7% of housekeepers engage in rest and recreation before sleep time less than 8 hours, regardless of work arrangement.

- **Sleep Time:** Most offline housekeepers show a balanced distribution of rest and recreation during sleep time of 8 hours, with 54.1%. Most Online and Hybrid housekeepers engage in rest and recreation during sleep time less than 8 hours.

It has been observed that most live-out housekeepers with multiple jobs often have less than 1 hour for breaks, primarily online and hybrid housekeepers, mostly offline workers with only one job daily, as full-time non-freelancers usually take 1-hour breaks because of their routine work with fixed workplaces. Offline housekeepers generally secure 8 hours of sleep, but the situation differs for online and hybrid workers.

### Spaces for Rest and Recreation

This table also explores the work arrangement (offline, online, hybrid) of housekeepers about the spaces designated for rest and recreation during and after work, differentiating between public and private spaces.

- **During Work:** Offline housekeepers prefer private spaces (67.2%) over public spaces (11.5%) for rest and recreation during work. Whereas Online and Hybrid housekeepers show their preferences to public spaces rather than private spaces.

- **After Work:** The trend continues after work, with Offline housekeepers favoring private spaces (67.2%) over public spaces (11.5%). Online and Hybrid housekeepers show similar preferences. Overall, 85.2% of housekeepers choose private spaces for rest and recreation after work.

According to Table 16, this statistical test evaluates the relationship between work characteristics and livelihood formation. For the duration of rest and recreation during work, the ANOVA test yields a significant result ( $p < 0.001$ ), indicating that there are statistically significant differences in how Offline, Online, and Hybrid housekeepers allocate their time for rest and recreation during work. Similarly, for the duration of sleep time and spaces during work for rest and recreation, the ANOVA tests show significant differences ( $p = 0.008$  and  $p = 0.010$ , respectively). However, for the spaces designated for rest and recreation after work, the ANOVA test does not yield a significant result ( $p = 0.362$ ), suggesting that there are no statistically significant differences in the preference for public or private spaces after work among Offline, Online, and Hybrid housekeepers. In summary, the tables provide insights into how housekeepers allocate their time for rest and recreation and their preferences for public and private spaces, with statistical tests revealing significant differences in certain aspects of livelihood formation based on work characteristics.

Table 15 Livelihood formations of Offline/Online/Hybrid Housekeepers

Livelihood formation (1)	Duration for rest and recreation									
	During work				Before Sleep time			Sleep time		
	< 1 hour	1 hour	> 1 hour	Total	< 8 hours	8 hours	Total	< 8 hours	8 hours	Total
Work Characteristics										
Offline	9.8%	59.0%	9.8%	78.7%	70.5%	8.2%	78.7%	24.6%	54.1%	78.7%
Online	11.5%	0.0%	0.0%	11.5%	11.5%	0.0%	11.5%	11.5%	0.0%	11.5%
Hybrid	9.8%	0.0%	0.0%	9.8%	9.8%	0.0%	9.8%	6.6%	3.3%	9.8%
Total	27.9%	60.7%	11.5%	100.0%	91.8%	8.2%	100.0%	41.0%	59.0%	100.0%

Livelihood formation (2)	Spaces for rest and recreation					
	Spaces for rest and recreation (During work)			Spaces for rest and recreation (After work)		
	Public	Private	Total	Public	Private	Total
Work Characteristics						
Offline	11.5%	67.2%	78.7%	11.5%	67.2%	78.7%
Online	9.8%	1.6%	11.5%	3.3%	8.2%	11.5%
Hybrid	8.2%	1.6%	9.8%	0.0%	9.8%	9.8%
Total	29.5%	70.5%	100.0%	14.8%	85.2%	100.0%

Table 16 ANOVA test between Work Characteristics and Livelihood Formation

ANOVA Table							
			Sum of Squares	df	Mean Square	F	Sig.
Duration for rest and recreation (During work) * Work Characteristics	Between Groups	(Combined)	6.861	2	3.430	12.836	<.001
	Within Groups		15.500	58	.267		
	Total		22.361	60			
Duration for rest and recreation (Sleep time) * Work Characteristics	Between Groups	(Combined)	2.251	2	1.126	5.221	.008
	Within Groups		12.503	58	.216		
	Total		14.754	60			

ANOVA Table							
			Sum of Squares	df	Mean Square	F	Sig.
Spaces for rest and recreation (During work) * Work Characteristics	Between Groups	(Combined)	1.593	2	.797	5.026	.010
	Within Groups		9.193	58	.159		
	Total		10.787	60			
Spaces for rest and recreation (After work) * Work Characteristics	Between Groups	(Combined)	.264	2	.132	1.035	.362
	Within Groups		7.408	58	.128		
	Total		7.672	60			

## 2.5 Analysis and Discussion

The study highlights those housekeepers, shifting to work in formal settings, face similar challenges that informal workers encounter. These challenges are attributed to the enduring non-standard employer-employee relationships, prevalent low-income conditions, and the significant overlap between informal work and poverty. As such, housekeepers face a dual challenge, grappling with both informal employment and non-income dimensions of inequality.

There has been significant growth in businesses utilizing online platforms as intermediaries to connect home service providers with service seekers. Some live-out housekeepers have migrated to these online platforms to find more job opportunities. However, a critical question addressed by this study is whether these platforms improve the working conditions of domestic workers. Amid widespread criticisms that platform economies lead to unstable incomes from unpredictable work schedules, violations of workers' rights, and non-standard algorithmic control between employment relationships.

In essence, despite the flexibility offered by these platforms, such as the ability to choose working hours, they are strategically employed by platform owners to attract service providers. However, this flexibility does not necessarily benefit the workers, as the mismatch between the service provider's available time and the service seeker's needs can result in the inability to secure jobs and generate income.

However, this study shows that the transition to online or hybrid work conditions can impact their socioeconomic status, with online housekeepers exhibiting the highest status based on monthly income while offline housekeepers exhibit the lowest. This shift also manifests in altered travel behaviors, as online and hybrid housekeepers, engaged in work across various locations, experience



higher travel time and costs due to multiple work commitments, contrasting with offline housekeepers, who generally opt for a single work trip to minimize monthly expenses.

Despite these shifts, housekeepers, even those transitioning to online platforms or formal workplaces, still contend with low income, earning lower wages than other occupations. The financial burden of travel costs is evident across all groups, often having limited alternatives in mode choices. This finding underscores the sensitivity of lower-income individuals to changes in transportation modes.

The study highlights the persistent challenge of travel costs as a significant determinant in choosing transportation modes for income-generating activities. Regardless of work characteristics, affordability emerges as a top priority, leading housekeepers to predominantly opt for public transportation to save costs, particularly favored by online and hybrid housekeepers facing multiple work trips. Non-motorized transportation, characterized by the shortest travel time and fewest work trips, is exclusive to offline housekeepers.

Moreover, travel time is crucial in shaping the number of jobs housekeepers undertake, impacting their livelihood, precisely the duration allocated for rest and recreation. The study identifies that online platforms introduce new work requirements and uncertainties, necessitating housekeepers to work at multiple locations, resulting in daily travel challenges that adversely affect their work and overall quality of life. Online and hybrid workers, facing higher income and travel time averages, often need help to secure adequate breaks and sleep durations due to multiple job commitments.

In summary, the preferences and challenges faced by housekeepers in formal workplaces or online platforms reveal nuanced patterns based on their chosen work characteristics. Offline housekeepers prioritize a single work trip, optimize travel expenses, and secure time for rest and recreation. Conversely, online or hybrid housekeepers, driven by the need for higher income, engage in multiple work trips, increasing their travel costs and daily commute time. This shift impacts their rest and sleep time, highlighting the trade-offs between income generation and maintaining quality rest and recreation. Furthermore, the study notes that higher-income individuals, often online and hybrid housekeepers, are more likely to utilize public spaces for rest and recreation during work, emphasizing the association between income levels and the utilization of public spaces.

## Chapter 5 Conclusions and Recommendations

It is crucial to acknowledge the transportation needs of live-out housekeepers as a case study for domestic workers. These needs must be understood, addressed, and integrated into city policies. In the first chapter, the study introduces the research problem's structure and objectives. The second chapter focuses on how work characteristics, mobility patterns, and socioeconomic status affect the work trip characteristics of live-out housekeepers and the livelihood formed through mobility. The third chapter covers the research design and methodology used in the study. Firstly, background research and geographical data are provided. Then, in September 2023, primary data will be collected from informal domestic workers, specifically housekeepers in Bangkok. Since this population has no sampling frame, data will be collected using purposive and snowball sampling methods as much as possible. Descriptive statistics, cross-tabulations, and inference statistics created by the SPSS statistical software will be used for quantitative data analysis. In contrast, some qualitative data will be analyzed using word cloud techniques to summarize and visualize significant findings. This method effectively translates and highlights vital terms, making it easier for viewers to identify important information. In Chapter 4, the study presents the research findings and analysis. The purpose of this chapter is to provide remarks on the study's conclusions.

### 5.1 Research Conclusion

Part 1 of the study sheds light on the challenges faced by housekeepers as a reflection of informal workers, emphasizing the impact of their travel habits on their livelihoods. Despite their formal workplace status, housekeepers grapple with non-standard employer-employee relationships akin to informal labor. Additionally, a significant correlation emerges between their employment in the informal sector and their low socioeconomic status. The data underscore that a higher percentage of individuals from poor households are engaged in informal work compared to their formal counterparts (Bonnet et al., 2019; Chen et al., 2005).

The study specifically focuses on live-out housekeepers, predominantly middle-aged Thai women aged between 40 and 60, who have migrated from rural areas to urban centers. For these women, domestic work serves as a crucial source of income; however, a concerning trend reveals a decline in income with advancing age. Many senior domestic workers express distress over earning less than their younger counterparts, amplifying financial hardships, particularly in expensive cities like Bangkok.

An intriguing aspect illuminated by the data is the financial allocation of live-out housekeepers. A substantial portion of their budget is dedicated to housing costs, overshadowing transportation expenses such as fuel and fares. This suggests a concentration of income sources in urban areas, with the majority of live-out housekeepers residing and working in midtown. Consequently, those residing outside the city grapple with extended travel times due to frequent long-distance commutes. In contrast, urban dwellers likely spend less on transportation, either through infrequent commutes or proximity to their workplaces. The preference for metropolitan living stems from the abundant employment opportunities available in urban areas.

Live-out housekeepers in Bangkok face heightened financial insecurity and job instability, impeding their access to social security benefits. Despite dedicating long hours to their work, many experience low wages and inconsistent compensation for overtime, posing challenges to maintaining a decent quality of life. Acknowledging the importance of social security, these housekeepers encounter difficulties accessing sick leave or medical treatment due to workplace mobility and registration with various hospitals, often resulting in out-of-pocket expenses and discouraging reimbursement processes.

As a consequence, housekeepers grapple with a pronounced intersection of informal employment and non-income dimensions of inequality, hindering their pursuit of the four pillars of decent work: economic opportunities, labor rights, social protection, and voice (ILO, 2002). Informal workers, including housekeepers, face more substantial deficits in decent living compared to their formal counterparts. This imbalance is evident in their limited access to standard wages, affordable healthcare, education, and basic infrastructure services (Chen & Network, 2019).

The nature of live-out housekeeping demands regular travel from home to the workplace, making transportation costs a pivotal consideration impacting their income. Due to facing prevalent lower wages in domestic work, these individuals weigh the affordability and convenience of their chosen mode of transportation against the safety required for flexible work circumstances. Consequently, travel costs remain a significant factor influencing their decision to pursue additional income, often involving a trade-off between increased travel expenses and limited time and health constraints. Public transportation emerges as the preferred mode, followed by private transportation and non-motorized options. While public transit may not always align with their needs, housekeepers prioritize it to minimize travel costs. Motorcycles are also favored, highlighting a balance between convenience and financial considerations, especially for work-related trips. Non-motorized transportation is adopted primarily by those with shorter travel times and fewer work-related trips.

In addition, travel time and distance play crucial roles in determining job opportunities for live-out housekeepers. These findings indicate that, despite working long hours, these workers face challenges in achieving a satisfactory work-life balance. Many opt for a single work trip, grappling with the intricate balance between higher travel costs and the time required to generate additional income, all within the constraints of limited time and health concerns that affect their overall well-being and leisure.

**In Part 2, the focus shifts towards comprehending the challenges faced by housekeepers within formal workplaces or online platforms and how the transition to digital platforms influences their travel behavior, subsequently impacting their livelihoods.** To mitigate financial risks, some live-out housekeepers navigate both formal and informal employment relationships, engaging in various employment setups to enhance job opportunities and income. This might involve full-time or part-time employment in one location and undertaking piecework for other employers through online service providers.

Traditional methods such as referrals from friends, relatives, or recruitment agencies remain the predominant means through which most live-out housekeepers' secure employment. Surprisingly, employers still favor these conventional methods over social media platforms for recruitment. Offline workers typically adhere to fixed schedules and workplaces, whereas their online and hybrid counterparts enjoy greater flexibility in terms of working hours and locations. This flexibility extends to different employment statuses, including full-time freelancers and part-time freelancers. Consequently, offline housekeepers, especially those working in non-freelance positions, tend to earn lower monthly incomes due to limitations imposed by formal workplaces, resulting in fewer job opportunities.

The study underscores the difficulty of travel behavior from additional costs borne by service providers, such as travel expenses and travel time. The intense competition among service providers on the same platform contributes to uncertainties in workload and income, highlighting the challenges and impacts on workers' overall well-being introduced by the platform-based business model. As a result, despite the potential increase in average hourly income on online platforms, offline housekeepers prefer a single work trip to minimize monthly travel expenses and reduce daily travel time, allowing more time for rest and recreation after work. As a cost-saving measure, most offline housekeepers choose to either commute once or live closer to their workplace. Conversely, online and hybrid housekeepers, with more complex employment relationships, engage in multiple work trips, incurring higher monthly travel expenses and spending more time commuting daily compared to their offline counterparts.

Live-out housekeepers' livelihoods are significantly influenced by the duration of their rest and recreation. Those online and hybrid housekeepers with multiple jobs often have minimal breaks, while offline workers, particularly full-time non-freelancers, typically secure longer breaks due to the fixed nature of their daily routine. The research notes that online and hybrid freelancers might experience less rest time, possibly due to longer travel time with multiple jobs per day, resulting in less than 8 hours of rest before sleep. Higher-income housekeepers may compromise sleep time based on their socioeconomic characteristics.

In addition, the choices made by live-out housekeepers regarding preferred locations and activities for rest and recreation significantly shape their livelihoods. Offline workers tend to take breaks in private areas within fixed workplaces, while online or hybrid workers, organizing multiple jobs in different locations, often utilize public spaces during breaks. Additionally, most live-out housekeepers prefer their homes as private spaces for relaxation after work. During breaks, they frequently engage in social media interactions, and after work, they participate more in physical activities like watching television with their families or getting some sleep. In summary, the study reveals that online platforms have brought in new work demands and uncertainties for housekeepers. Many of them are forced to work at multiple locations, which leads to daily travel difficulties that negatively impact their work and overall quality of life.

## 5.2 Key Findings

1. Live-out Housekeepers is dominated by women in their 40s to 60s with education levels below a bachelor's degree. Housekeepers are often considered part of the low-income group. Interestingly, their wages tend to decrease as they get older. Despite this, domestic work represents a valuable source of income for many older individuals, particularly those who are female and have limited education.

2. Live-out housekeepers in Bangkok have low job security and are financially precarious. Despite working for more than 48 hours a week on average with many jobs, most live-out housekeepers still earn a low wage.

3. Public transportation remains the primary mode of transportation for people with low socioeconomic status and multiple work trips. This is because convenience and affordability are the top priorities for them. Many housekeepers choose to have a single work trip as they are still hesitant about the trade-off between higher travel costs and the time required to generate more income under limited time and health constraints.

4. Livelihood formation based on higher income to improve their socioeconomic status has a decline in their rest and sleep time, lowering their quality of rest and recreation time. Higher income

with multiple work trips can earn more income to sustain their life, but they need to trade off their time for relaxation during and after work. Those with longer travel time on multiple work trips are more insecure about less than 8 hours of sleep.

5. Job location and home community location significantly affect the travel behavior of housekeepers. This is because job opportunities are concentrated in the city. Most live-out housekeepers must travel to work or live in the city. Therefore, the availability of public transit and jobs in the city attracts more low-income workers to concentrate in the urban areas. However, they still face financial risks in travel costs based on low wages, and it takes time to commute around the city.

6. The impact of the platform-based business model for housekeepers, introducing new work requirements and uncertainties for housekeepers, with many being compelled to work at multiple locations, leading to daily travel challenges with additional travel costs and time uncertainties in workload that adversely affect both their work and overall quality of life. Despite the potential for increased hourly income on online platforms, showcasing the complexities of online platforms still adversely impacts their work conditions, travel behavior, and overall well-being.

## 5.2 Implications and Recommendations for Future Research and Urban Strategies

The following suggestions pertain to future research and urban strategies:

1. The available data indicates that the domestic work sector faces various challenges related to labor regulations, wage standards, and support systems. These challenges can impact the quality of life and welfare of domestic workers, including their access to sufficient pension benefits through social protection. Therefore, any effective extension strategy should explicitly include domestic workers as a unique sector and recognize their multiple employment statuses. This includes ensuring work-life balance, rest periods, and qualifications for benefits such as social welfare and old-age pensions through social insurance. Additionally, providing adequate physical spaces for housekeepers to rest and engage in recreational activities during and after work can significantly improve their overall quality of life.
2. In Bangkok, housekeepers still worry about the high transportation costs. Many prefer to live near the city center because it is more accessible to transportation and job opportunities. This highlights the importance of providing several measures that can be taken to address commuting challenges. For instance, the government could implement a subsidy program to reduce transportation costs for low-income commuters using mass public transportation modes, and they could also expand the bus route network to cover areas with limited service.

3. Future studies could focus on examining the challenges associated with labor regulations, wage standards, and support systems to ensure a decent quality of life and sufficient welfare and pension benefits through social insurance. These findings are consistent with the 2022 UN Women survey, which discovered that most domestic workers interviewed were aged 40 and older. The data also suggests that the social insurance system could provide benefits such as old-age pensions to workers in this sector (UN Women, 2022).
4. Although this study mentioned the growing trend of third-party service providers in Thailand's workforce, it lacks detailed information about the nature of service providers or the employment relationships they offer. However, it is worth noting that since 2014, the share of these service providers in the sector has significantly expanded from 9.2% to an unknown but presumably larger percentage. This significant development requires further research, especially regarding the employment models between service providers and workers. It is crucial to study this aspect as it has profound implications for the level of legal protection available to the growing workforce. (López, 2023).

### 5.3 Limitations of the study

The limitations of the study are as follows:

1. The study sample was selected using a non-probability sampling method. Therefore, the results cannot be statistically generalized to a larger population. Additionally, it seems that the elderly group was not thoroughly discussed. The study touched on job opportunities for older people. Still, it did not delve into the challenges faced by the elderly population, particularly in terms of health problems and their reliance on social welfare.
2. The study exclusively focused on female domestic workers, resulting in a small sampling of men. However, according to the NSO Informal Employment Survey (IES), 89,935 men were employed as domestic workers in the third quarter of 2018.
3. The study faced difficulty contacting online workers due to their busy schedules despite the growing number of online workers in this industry. Consequently, the study could only obtain a small sample of online workers.
4. Most of the respondents in the study are single and a few live with family, so the information about housekeeper household structure may not be detailed or representative.

### Conclusion

In summary, it is crucial to understand the transportation needs and mobility patterns of live-out housekeepers to shape policies and urban planning. This will improve their quality of life and ensure

their financial well-being. Addressing their challenges in commuting to work and creating a supportive environment for rest and recreation is vital for their overall welfare and productivity. These insights should inform future urban strategies and policies that promote inclusivity and equity in urban environments. The recommendations emphasize the need for a holistic approach to urban planning, housing development, and labor regulations that can improve the lives of live-out housekeepers and other low-income workers in urban environments. By implementing these measures, cities can work towards greater inclusivity, improved transportation options, and enhanced social support for their diverse populations. Ultimately, this will promote a better quality of life and economic well-being for everyone.





## REFERENCES

- Abu-Lughod, J. (1961). Migrant adjustment to city life: the Egyptian case. *American Journal of Sociology*, 67(1), 22-32.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.
- Allen, J., & Farber, S. (2019). Sizing up transport poverty: A national scale accounting of low-income households suffering from inaccessibility in Canada, and what to do about it. *Transport Policy*, 74, 214-223.
- Amin, A. (2013). Telescopic urbanism and the poor. *City*, 17(4), 476-492.
- Anderson, B. (2016). Worker, helper, auntie, maid?: Working conditions and attitudes experienced by migrant domestic workers in Thailand and Malaysia. (No Title).
- Behrens, R. (2003). Looking beyond commuter travel in Cape Town: Methodological lessons from the application of an activity-based travel survey. In *Transport Survey Quality and Innovation* (pp. 109-136). Emerald Group Publishing Limited.
- Bonnet, F., Vanek, J., & Chen, M. (2019). Women and men in the informal economy: A statistical brief. *International Labour Office, Geneva*, 20.
- Boontinand, V. (2010). *Domestic workers in Thailand: their situation, challenges and the way forward*. The ILO Subregional Office for East Asia.
- Bork-Hüffer, T., & Peth, S. A. (2020). Arrival or transient spaces? Differentiated politics of mobilities, socio-technological orderings and migrants' socio-spatial embeddedness. *Urban Planning*, 5(3), 33-43.
- Bork-Hüffer, T., Etzold, B., Gransow, B., Tomba, L., Sterly, H., Suda, K., Kraas, F., & Flock, R. (2016). Agency and the making of transient urban spaces: Examples of migrants in the city in the Pearl River Delta, China, and Dhaka, Bangladesh. *Population, Space and Place*, 22(2), 128-145.
- Brand Inside. (2022). ประเทศไทยยังดี? ประชาชนเกือบครึ่งรายได้น้อยกว่าค่าครองชีพ ที่ต้องแบกแต่ละเดือน. Retrieved 15 from <https://brandinside.asia/almost-half-of-thai-people-have-less-income-than-expense-in-2022/>

- Bryceson, D., Mbara, T., Kibombo, R., Davis, A., & Howe, J. (2003). *Sustainable livelihoods, mobility and access needs* (0968-4107).
- Budlender, D. (2016). The introduction of minimum wage for domestic workers in South Africa. . *International Labour Office, Geneva*.
- Callister, P., Tortell, L., & Williams, J. (2009). Paid domestic work: A private matter or a public policy issue?
- CBRE. (2022). Bangkok's Key Residential Locations Categorized by CBRE. <https://www.cbre.co.th/insights/articles/bangkok-key-residential-location-categorized-by-cbre>
- Chantima, H. (2018). A study of self-development needs of hotel housekeeper in the Northeastern Region of Thailand. *WMS Journal of Management Walailak University*, 7(3), 89-98.
- Chen, M., & Carré, F. (2020). *The informal economy revisited: Examining the past, envisioning the future*. Taylor & Francis.
- Chen, M., & Network, W. (2019). Informality and inequality: In a globalized and urbanized world. *Background paper for*.
- Chen, M., Vanek, J., Lund, F., Heintz, J., Jhabvala, R., & Bonner, C. (2005). Progress of the World's Women 2005: Women, Work and Poverty, New York: United Nations Development Fund for Women. In. *มหาวิทยาลัย*
- Cheng, L., Chen, X., De Vos, J., Lai, X., & Witlox, F. (2019). Applying a random forest method approach to model travel mode choice behavior. *Travel Behaviour and Society*, 14, 1-10.
- Choy, L. T. (2014). The strengths and weaknesses of research methodology: Comparison and complimentary between qualitative and quantitative approaches. *IOSR journal of humanities and social science*, 19(4), 99-104.
- Conzen, K. N. (1979). Immigrants, immigrant neighborhoods, and ethnic identity: Historical issues. *The Journal of American History*, 66(3), 603-615.
- Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. Sage publications.

- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Cui, B., Boisjoly, G., El-Geneidy, A., & Levinson, D. (2019). Accessibility and the journey to work through the lens of equity. *Journal of Transport Geography*, 74, 269-277.
- d'Souza, A. (2010). Moving towards decent work for domestic workers: An overview of the ILO's work.
- Daraei, M., & Mohajery, A. (2013). The impact of socioeconomic status on life satisfaction. *Social indicators research*, 112, 69-81.
- DfID, U. (1999). Sustainable livelihoods guidance sheets. *London: DFID*, 445.
- Dimitriou, H. T. (2011). Transport and city development: understanding the fundamentals. *Urban Transport in the Developing World*, 8-39.
- Dunckel-Graglia, A. (2013). Women-only transportation: How “Pink” public transportation changes public perception of women’s mobility. *Journal of Public Transport*, 16(2), 85-105.
- Dunckel Graglia, A. (2016). Finding mobility: women negotiating fear and violence in Mexico City’s public transit system. *Gender, Place & Culture*, 23(5), 624-640.
- Duri, B. (2020). *Transport mobility patterns of domestic workers working in centurion, city of Tshwane* Faculty of Engineering and the Built Environment, University of the ...].
- Ellis, F. (2000). *Rural livelihoods and diversity in developing countries*. Oxford university press.
- Enoch, M. (2016). *Sustainable transport, mobility management and travel plans*. Routledge.
- Erman, T., & Kara, H. (2018). Female domestic workers strategizing via commuting long distance: New challenges and negotiations in neoliberalizing Turkey. *Women's Studies International Forum*,
- Esim, S., & Smith, M. (2004). Gender and migration in Arab states: The case of domestic workers. *(No Title)*.

- Esson, J., Gough, K. V., Simon, D., Amankwaa, E. F., Ninot, O., & Yankson, P. W. (2016). Livelihoods in motion: Linking transport, mobility and income-generating activities. *Journal of Transport Geography*, 55, 182-188.
- Gallotti, M. (2009). *The gender dimension of domestic work in Western Europe*. ILO.
- Golecha, M. (2021). *The 8+8+8 rule: Work, Sleep, Recreation*. Retrieved 31 August from <https://medium.com/the-capital/the-8-8-8-rule-work-sleep-recreation-5f8ddc7394c9>
- Gonçalves, J., Gomes, M., & Ezequiel, S. (2017). Defining mobility patterns in peri-urban areas: A contribution for spatial and transport planning policy. *Case studies on transport policy*, 5(4), 643-655.
- Gothoskar, S. (2013). The plight of domestic workers: Confluence of gender, class and caste hierarchies. *Economic and Political Weekly*, 63-75.
- Guzman, L. A., & Oviedo, D. (2018). Accessibility, affordability and equity: Assessing 'pro-poor' public transport subsidies in Bogotá. *Transport Policy*, 68, 37-51.
- He, S. Y., Cheung, Y. H., & Tao, S. (2018). Travel mobility and social participation among older people in a transit metropolis: A socio-spatial-temporal perspective. *Transportation Research Part A: Policy and Practice*, 118, 608-626.
- Hernandez, D. (2018). Uneven mobilities, uneven opportunities: Social distribution of public transport accessibility to jobs and education in Montevideo. *Journal of Transport Geography*, 67, 119-125.
- Hobden, C., & Bonnet, F. (2021). Making decent work a reality for domestic workers: progress and prospects ten years after the adoption of the Domestic Workers Convention, 2011 (No. 189).
- Hsieh, Y.-C., Apostolopoulos, Y., & Sönmez, S. (2016). Work conditions and health and well-being of Latina hotel housekeepers. *Journal of immigrant and minority health*, 18, 568-581.
- Humphreys, L. (2010). Mobile social networks and urban public space. *New Media & Society*, 12(5), 763-778.
- Husmanns, R. (2004a). Defining and measuring informal employment. *Geneva: International Labour Office*.

- Hussmanns, R. (2004b). *Measuring the informal economy: From employment in the informal sector to informal employment* (Vol. 53). Policy Integration Department, Bureau of Statistics, International Labour ....
- ILO. (2002). Decent work and the informal economy. International Labour Conference 90th Session, World Development Unity,
- ILO. (2004). *Working time and health, Information Sheet No. WT-1 (Geneva, ILO Conditions of Work and Employment Programme)*
- ILO. (2010a). *International Labour Office: International Labour Conference, 99th Session, 2010; Decent Work for Domestic Workers*
- ILO. (2010b). *Report IV (2): Decent work for domestic workers.*
- ILO. (2010c). *Working Conditions Laws Report 2010 (Geneva, ILO Conditions of Work and Employment Programme).*
- ILO. (2011a). Working hours in domestic work, Domestic Work Policy Brief No. 2 (Geneva).
- ILO. (2011b). *Working time in the twenty-first century. Report for discussion at the Tripartite Meeting of Experts on Working Time Arrangements*
- ILO. (2016). *Non-standard employment around the world: Understanding challenges, shaping prospects.* International Labour Office Geneva.
- ILO. (2018). *Report III: Report of the Conference. 20th International Conference of Labour Statisticians, Resolution Concerning Statistics on Work Relationships.*
- ILO. (2021). *Thailand Social Protection Diagnostic Review: Expanding Access to Social Security for All Workers in Thailand.*
- ITF. (2018). Women's safety and security: A public transport priority. *OECD Publishing, Paris.*
- Jiropas, T. (2015). *Working conditions and experience in exercising social security rights of legal migrant workers working as housemaids.* [Thammasat University].
- Kakati, R., & Tamuli, P. (2022). Women Domestic Workers and their Problems: A Sociological study of Women Workers of Narayanpur town in Lakhimpur district of Assam. *Journal of Positive School Psychology, 6(2), 639-642.*

- Kasemsukworarat, N. (1990). *The economic analysis of hired-motorcycle service in Bangkok*.
- Kerr, A. (2017). Tax (i) ing the poor? Commuting costs in South African cities. *South African Journal of Economics*, 85(3), 321-340.
- Klinchuanchun, P. (2019). *Commercial Buildings in BMR*  
[https://www.krungsri.com/getmedia/798a9a9e-40f1-436f-848d-e3b75c08763d/IO\\_Retail\\_Space\\_BMR\\_190724\\_EN\\_EX.pdf.aspx](https://www.krungsri.com/getmedia/798a9a9e-40f1-436f-848d-e3b75c08763d/IO_Retail_Space_BMR_190724_EN_EX.pdf.aspx)
- Kundu, A. (2008). Conditions of work and rights of the female domestic workers of Kolkata.
- Leenoi, P. (2021). How to Improve Working Conditions for Gig Workers in Thailand. *Policy Brief: International Labour Organization, Geneva*.
- Levinson, D. J. (1986). A conception of adult development. *American psychologist*, 41(1), 3.
- Litman, T. (2019). Land use impacts on transport: How land use factors affect travel behaviour. *Victoria Transport Policy Institute*.
- Logan, J. R. (2006). Variations in immigrant incorporation in the neighborhoods of Amsterdam. *International Journal of Urban and Regional Research*, 30(3), 485-509.
- López-Sáez, M., Lois, D., Fernández, I., & Martínez-Rubio, J.-L. (2014). Influential factors in the choice of public transportation or cars as the mode of transportation in habitual commutes/Factores que influyen en la elección del transporte público o el automóvil como modo de transporte en los desplazamientos habituales. *Revista de Psicología Social*, 29(2), 371-399.
- López, B. R. (2023). Policy review on social security for domestic workers in Thailand [รายงานการทบทวนนโยบายประกันสังคมสำหรับแรงงานทำ งานบ้านในประเทศไทย,]. *International Labour Organization, Bangkok*.
- Lucas, K., & Porter, G. (2016). Mobilities and livelihoods in urban development contexts: Introduction. *Journal of Transport Geography*, 55, 129-131.
- Luebker, M. (2013). Domestic workers across the world. *International Labour Organization*.

- Lyons, G., & Urry, J. (2005). Travel time use in the information age. *Transportation Research Part A: Policy and Practice*, 39(2-3), 257-276.
- Madhuwanthi, R., Marasinghe, A., RPC, J., Dharmawansa, A. D., & Nomura, S. (2016). Factors influencing to travel behavior on transport mode choice-A Case of Colombo Metropolitan Area in Sri Lanka. *International Journal of Affective Engineering*, 15(2), 63-72.
- Malone, K., Silla, A., Johanssen, C., & Bell, D. (2017). Safety, mobility and comfort assessment methodologies of intelligent transport systems for vulnerable road users. *European transport research review*, 9, 1-16.
- Marcuse, P. (1996). Of walls and immigrant enclaves. In *Immigration and integration in post-industrial societies: Theoretical analysis and policy-related research* (pp. 30-45). Springer.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370-396.
- Massey, D. (2005). *For space*. sage.
- Massey, D. (2008). A global sense of place. In *The cultural geography reader* (pp. 269-275). Routledge.
- Matthews, M. (2017). Public transport and the safety of women in South Africa -Lessons from around the world. *Sonke Gender Justice*.
- Maunder, D., Davis, A., Bryceson, D., Howe, J., Mbara, T., & Onweng, T. (2001). Sustainable livelihoods, mobility and access needs in urban and peri-urban areas. *SATC 2001*.
- McCarthy, L., Delbosc, A., Currie, G., & Molloy, A. (2017). Factors influencing travel mode choice among families with young children (aged 0–4): a review of the literature. *Transport reviews*, 37(6), 767-781.
- Miellet, S. (2019). Arrival Infrastructures: Migration and Urban Social Mobilities. *Tijdschrift voor economische en sociale geografie*, 110(5), 622-624.
- Ministry of Labour. (2009). *Yearbook of Employment Statistics 2008*.

- Ministry of Labour. (2022). *Minimum wage employment*. Retrieved 31 August from <https://www.mol.go.th/%E0%B8%AD%E0%B8%B1%E0%B8%95%E0%B8%A3%E0%B8%B2%E0%B8%84%E0%B9%88%E0%B8%B2%E0%B8%88%E0%B9%89%E0%B8%B2%E0%B8%87%E0%B8%82%E0%B8%B1%E0%B9%89%E0%B8%99%E0%B8%95%E0%B9%88%E0%B8%B3>
- Moore, C. (2018). Honiara: Arrival city and Pacific hybrid living space. In *Statebuilding and State Formation in the Western Pacific* (pp. 49-66). Routledge.
- Munro, L. (2011). A literature review on trade and informal labour markets in developing countries. *OECD Trade Policy Working Papers*, 132. (OECD Publishing)
- Murphy, C. (2013). The enduring vulnerability of migrant domestic workers in Europe. *International & Comparative Law Quarterly*, 62(3), 599-627.
- National Council of Educational Research and Training. (2023-24). *Work, Livelihood and Career* <https://ncert.nic.in/textbook/pdf/lehe101.pdf>
- National Statistics Office. (2012). *Labour Force Survey 2012, Quarter 1*.
- Naybor, D., Poon, J. P., & Casas, I. (2016). Mobility disadvantage and livelihood opportunities of marginalized widowed women in rural Uganda. *Annals of the American Association of Geographers*, 106(2), 404-412.
- Nee, V., Sanders, J. M., & Sernau, S. (1994). Job transitions in an immigrant metropolis: Ethnic boundaries and the mixed economy. *American sociological review*, 849-872.
- Neuwirth, R. (2016). *Shadow cities: a billion squatters, a new urban world*. Routledge.
- O'Hare, D. (2019). 10. Third places in transit: public transport as a third place of mobility. *Rethinking Third Places*, 174.
- Oldenburg, R. (1997). Our vanishing third places. *Planning commissioners journal*, 25(4), 6-10.
- Olsson, A.-L. L. (2003). Factors that influence choice of travel mode in major urban areas. *The Attractiveness of Park & Ride*.



- Páez, A., & Whalen, K. (2010). Enjoyment of commute: A comparison of different transportation modes. *Transportation Research Part A: Policy and Practice*, 44(7), 537-549.
- Peth, S. A., Sterly, H., & Sakdapolrak, P. (2018). Between the village and the global city: The production and decay of translocal spaces of Thai migrant workers in Singapore. *Mobilities*, 13(4), 455-472.
- Phun, V. K., Kato, H., & Chalermpong, S. (2019). Paratransit as a connective mode for mass transit systems in Asian developing cities: Case of Bangkok in the era of ride-hailing services. *Transport Policy*, 75, 27-35.
- Profillidis, V. A., & Botzoris, G. N. (2019). Transport demand and factors affecting it in Modelling of Transport Demand. *Elsevier*, 1-46. <https://doi.org/https://doi.org/10.1016/B978-0-12-811513-8.00001>.
- Punpuing, S., Caouette, T., Panam, A., Zaw, K. M. K., & Suksinchai, S. (2005). Migrant domestic workers: from Burma to Thailand. *Nakornpathom: Institute for Population and Social Research, Mahidol University*.
- Pyrialakou, V. D., Gkritza, K., & D.Fricker, J. (2016). Accessibility, mobility, and realizing travel behaviour: Assessing transport disadvantage from a policy perspective. *Journal of Transport Geography*, 51, 252-269.
- Ratanawaraha, A., & Chalermpong, S. (2016). How the poor commute in Bangkok, Thailand. *Transportation research record*, 2568(1), 83-89.
- Rodrigue, J.-P. (2020). *The geography of transport systems*. Routledge.
- Rodríguez, E. G. (2007). The "hidden side" of the new economy: On transnational migration, domestic work, and unprecedented intimacy. *Frontiers: A Journal of Women Studies*, 28(3), 60-83.
- Sabban, R. (2002). United Arab Emirates: Migrant women in the United Arab Emirates. The case of female domestic workers. *Gender Promotion Program*.
- Saferspaces. (2018). *Safe ride: Prevent gender-based violence in taxis*. Retrieved 31 August from <https://www.saferspaces.org.za/be-inspired/entry/safe-ride-preventing-gender-basedviolence-in-taxis>.

- Sandhya, S. J. (2019). A Study on Socio-Economic Status of House Maid Workers in Karnataka: A Sociological Study. *International Journal of Academic Multidisciplinary Research (IJAMR)*, 3(10), 7-12.
- Saunders, D. (2010). *Arrival city: How the largest migration in history is reshaping our world*. Random House.
- Scoones, I. (1998). Sustainable rural livelihoods: a framework for analysis.
- Siaw, G. A. (2018). Health hazards and working conditions on the safety of housekeeping staff in budget hotels in Eastern Region of Ghana. *PhD diss., KENYATTA UNIVERSITY*.
- Siripatthanakosol, K. (2016). Decent Work for Domestic Workers: Thailand, please makes it real  
*Journal of Social Research*, 39(1), 181-218.
- Smith, M. P. (2005). Transnational urbanism revisited. *Journal of Ethnic and Migration Studies*, 31(2), 235-244.
- Social Research Institute Chulalongkorn University. (2008). *Project Report on Protection and Security System for Informal Labour*; (สถาบันวิจัยสังคมจุฬาลงกรณ์มหาวิทยาลัย, โครงการศึกษาวิจัยเรื่องระบบคุ้มครองและสร้างความมั่นคง สำหรับแรงงานนอกระบบ รายงานฉบับสมบูรณ์ พ.ศ. 2551).
- Solis, F. (1971). Socioeconomic and cultural conditions of migrant workers. *Social Casework*, 52(5), 308-315.
- Steinbrink, M. (2009). Urbanisation, poverty and translocality: Insights from South Africa. *African Population Studies*, 23(Suppl), 220-252.
- Subsing, B., Leknoi, U., Chimmamee, M., Jongsukklai, K., & Komin, W. (2022). *Exploring the informal sector: a network survey knowledge status, risks, and guidelines*.  
[http://www.cusri.chula.ac.th/archives/complete\\_report/%E0%B8%A3%E0%B8%B2%E0%B8%A2%E0%B8%87%E0%B8%B2%E0%B8%99%E0%B8%89%E0%B8%9A%E0%B8%B1%E0%B8%9A%E0%B8%AA%E0%B8%A1%E0%B8%9A%E0%B8%B9%E0%B8%A3%E0%B8%93%E0%B9%8C-%E0%B8%AA%E0%B8%B3%E0%B8%A3%E0%B8%A7%E0%B8%88](http://www.cusri.chula.ac.th/archives/complete_report/%E0%B8%A3%E0%B8%B2%E0%B8%A2%E0%B8%87%E0%B8%B2%E0%B8%99%E0%B8%89%E0%B8%9A%E0%B8%B1%E0%B8%9A%E0%B8%AA%E0%B8%A1%E0%B8%9A%E0%B8%B9%E0%B8%A3%E0%B8%93%E0%B9%8C-%E0%B8%AA%E0%B8%B3%E0%B8%A3%E0%B8%A7%E0%B8%88)

- Tandon, A., & Rathi, A. (2021). Fault Lines at the Front Lines: Care Work and Digital Platforms in South and Southeast Asia. *Friedrich Ebert Stiftung, Singapore*.
- Tangpantham, M. C., & Suriyaapha, C. (2016). Job Motivation of Housekeepers At Jasmine Amenities Co., Ltd. *Indian Journal of Commerce and Management Studies*, 7(2 (1)), 14-18.
- Tassanakunlapan, T. (2019). The Development of a Legal System to Reduce Inequality Amongst Freelancers: Addressing the Challenges of the 21st Century. *Thailand Research Fund*.
- Tous, S., Veasna, N., & Cormaci, S. (2010). Study on living and working conditions of domestic workers in Cambodia. In: Bangkok, Thailand: ILO.
- Tucker, P., & Folkard, S. (2012). Working time, health and safety: a research synthesis paper.
- UN Women. (2022). *Survey on Profile of Domestic Workers, both Thai and Migrant in Thailand*.
- Vanek, J. (2020). Advances in statistics on informal employment: An overview highlighting WIEGO's contributions. *The Informal Economy Revisited*, 47-51.
- Vasanthi, N. (2011). Addressing paid domestic work: A public policy concern. *Economic and Political Weekly*, 85-93.
- Walker, J. (2012). *Human Transit Washington DC: The Island Press*.
- Wannarat, T. (2014). Informal workers studies in Thailand [การศึกษา แรงงาน นอก ระบบ ใน ประเทศไทย]. *Silpakorn University Journal*, 119-150.
- Wantanasombut, A., & Teerakowitkajorn, K. (2018). Platform Economy and Impact on Service Workers in Thailand [แพลตฟอร์มอีโคโนมีและผลกระทบต่อแรงงานในภาคบริการ: กรณีศึกษาในประเทศไทย].
- Wilson, K. L., & Portes, A. (1980). Immigrant enclaves: An analysis of the labor market experiences of Cubans in Miami. *American Journal of Sociology*, 86(2), 295-319.
- World Bank. (2016). *Preventing violence against women in transport systems*. Retrieved 31 August from <https://www.worldbank.org/en/news/feature/2016/03/08/preventing-violence-against-women-in-transport-systems>.

Ye, J. (2017). Managing urban diversity through differential inclusion in Singapore.

*Environment and Planning D: Society and Space*, 35(6), 1033-1052.

Ye, R., & Titheridge, H. (2019). The determinants of commuting satisfaction in low-income population: A case study of Xi'an, China. *Travel Behaviour and Society*, 16, 272-283.



**Appendix A**  
**Survey questionnaire about livelihoods in motion: a case study of**  
**housekeepers as informal workers in Bangkok**

Section 1 Work Characteristics

Questionnaire ID:

--	--	--

1.1 How do you find your jobs? (through social media/ referral from friends/ service providers/ agency)	Offline / Online / Hybrid
1.2 What types of your workplace?	1. Home 2. Condominium 3. Office 4. Department stores/Mall 5. School / Hospital
1.3 Which is your type of contract in employment?	1. Full-time 2. Part-time
1.4 Which is your type of employment relationship?	1. Freelance 2. Non-freelance
1.5 How many weekly hours do you work?	_____ hours per week
1.6 How much do you earn a wage in employment? (Minimum wage in Bangkok at 353 Baht)	1. _____ Baht per _____ Hour (s) 2. _____ Baht per day 3. _____ Baht per month Include Overtime / No Overtime Maximum _____ hour (s) _____ Baht per Hour (s)
1.7 Number of jobs in workdays (Monday-Friday)	get _____ jobs.
1.8 Number of jobs in weekend (Saturday- Sunday)	No job / get _____ jobs.
1.9 Do you have a second job?	No / Yes  _____



### Section 3 Livelihood in motion through mobility

3.1 Do you have time for rest and recreation? How much time for a break do you have?	During work:	After work:
3.2 Do you have any activities for rest and recreation? What types of activities for a break do		
3..3 Where do you take rest and recreation?		
3.4 Do you get 8 hours of sleep?		
3.5 During the period of waiting for work or at the intersection of work, do you get breaks? And are there any activities during breaks or after work? If so, what do you do?		

### Section 4 Socioeconomic Characteristics

4.1 Work experiences	
4.2 Duration of living in Bangkok	
4.3 Plan for retirement	
4.4 Age	_____ years old 18-24 / 25-45 / 46-64 / 65+
4.5 Educational attainment	Lower than primary school / primary school/ middle school / high school/ Vocational Certificate / High Vocational Certificate/ bachelor's degree
4.7 Monthly income	
4.9 Vehicle ownership	

## VITA

NAME	KITTIPON PHUMMISUTTIKUL
DATE OF BIRTH	21 June 1996
PLACE OF BIRTH	Trang
HOME ADDRESS	The excel groove 794/41 Soi Lasalle 52 Lasalle Road Bangna, Bangna

