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**JOURNAL OF CONTEMPORARY SOCIAL SCIENCES AND HUMANITIES
(JCSH)**

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Editor's Note



The JCSH, succeeding The Rangsit Journal of Social Science and Humanity (RJSH), continues to focus on publishing research works of various contemporary issues in social sciences and humanities. In this issue, we are delighted to present eight (8) research articles from various academic disciplines, some of them are specifically related to the COVID-19 pandemic.

In the first article, Kaewkwan Tangtipongkul analyzed the impacts of the COVID-19 pandemic on informal workers, by using the Thai National Statistical Office's Informal Worker Survey 2011-2021 in Thailand. The author found that the number of informal employments in Thailand had decreased continuously during the COVID-19 pandemic outbreak in 2020 and 2021. In addition, the average monthly earnings and average total weekly working hours of informal workers declined statistically significantly during that same period.

In the second article, Adrian Rey Opinion Grumo and Sasiphattra Siriwato studied the situation of underpayment among Filipino migrant teachers in Thailand during the COVID-19 pandemic. They found that there were four main problems: (1) the absence of a bilateral agreement that could standardize labor practices and redress mechanisms, (2) no protection measures for complainants in current laws, (3) the lack of labor and cultural orientation programs, and (4) the unavailability of multi-lingual systems to communicate effectively with Thai authorities.

Next, Thayatham Sombooncharoen analyzed returns to education in different industries, by using the Thai National Statistical Office's Labor Force Survey for the years 2012 to 2022. The author found that, overall, a bachelor's degree earns the highest income followed by higher vocational, upper vocational, and high school. Surprisingly, this study found that those employed in the public sector had higher incomes than those employed in the private sector.

In the fourth article, Suraphol Srivithaya studied the law enforcement of directives principles of fundamental state policies in Thailand, comparing with nine different countries, by using the documentary research method and focus group discussions. The author found that the constitution of Thailand trended to increasingly adopt the binding force and review mechanism of legal enforcement for directive principles of fundamental state policies.



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In the fifth article, Kakronna Chhin-Eng and Sasiphattra Siriwato examined the effects of China foreign aid and diplomacy on Cambodia good governance and growth stability. The authors found that the motives of aid disbursement to Cambodia were strategically driven by the donor's hegemonic goals, which led Cambodia to encounter difficulties in maintaining its well-being.

In the sixth article, Nicharnan Patitas and Wisakha Phoochinda studied the effects of tacit knowledge on the environmental management practice of the population in Bangkok and vicinity, by using a quantitative research method.

In the seventh article, Thapanee Panpet and Yanin Rugwongwan, by basing on qualitative research, developed a physical environment assessment form for safety and security in transitional spaces between mass transit stations and buildings. The assessment form consists of two main factors, seven sub-factors, and 46 criteria.

Last but not least, based on field research, Jie Deng, Jirawat Vongphantuset, and Veerawat Sirivesmas redesigned part of the existing commercial space into a library within the Lu-yang Ju community while taking epidemiological considerations.

We always welcome your manuscripts and appreciate your comments. Links to our manuscript submission site can be found at JCSH Online Submission and Review System: www.rsu.ac.th/rjsh. We look forward to hearing from you and would like to express our thankfulness in advance.

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Impacts of COVID-19 Pandemic on Informal Workers in Thailand

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Abstract

The impact of the COVID-19 pandemic outbreak in Thailand has negatively affected the promotion of continuous economic growth and productive employment. This study uses data from the Thai National Statistical Office's Informal Worker Survey 2011-2021 from households sampling in Thailand. This study's early analysis used annual data from 2011-2021 to reflect changes related to the labor market, occupations, economic activities, and number of employments. The results of the study are shown by using diagrams to illustrate trends and changes over 10 years. In addition, the study provided an analysis of COVID-19's impact on the labor market in Thailand by the mean differences between before the COVID-19 (2019) and during the COVID-19 pandemic (2020 and 2021) on estimated monthly income and total weekly working hours of the sample group by gender, educational level, occupation, and type of industry. The Thai National Statistical Office defines informal employment as employed persons with no social security from their employers. According to the annual data from 2011-2021, it was found that the number of informal employments in Thailand from the age of 15 to 55 years has decreased continuously during the COVID-19 pandemic outbreak in 2020 and 2021. The average weekly working hours for female and male informal workers decreased significantly statistically during the COVID-19 pandemic compared to pre-COVID-19. The average monthly earnings for male informal workers decreased significantly statistically during the COVID-19 pandemic compared to pre-COVID-19, while the average monthly earnings for female informal workers remained statistically insignificant. The average monthly earnings and average total weekly working hours of informal workers in all educational levels during the COVID-19 pandemic declined statistically significantly, except for informal workers with a secondary education level and above where only the average weekly working hour declined statistically significantly. In addition, the average weekly working hours for all occupations decreased significantly statistically during the COVID-19 pandemic. Agriculture, forestry, fisheries, construction, and service occupations experienced a statistically significant decline in average monthly earnings during the COVID-19 pandemic. Utilizing various financial assistance measures to alleviate the issues of the informal labor market and the economic situation affected by the COVID-19 pandemic may be the path to economic recovery.

Keywords: COVID-19; informal labor market; employment; earnings; working hours; Thailand

1. Introduction

The rapid spread of COVID-19 has caused anxiety and economic stagnation due to lockdown measures and border closures affecting millions of people worldwide. According to the Thailand Economic Monitor by the World Bank in June 2020, Thailand's Gross Domestic Product (GDP) growth rate is expected to be the lowest in the past five years, considered to be the most severe among Southeast Asian countries and the Asia-Pacific region. The tourism sector is projected to be the most negatively impacted sector from international travel restrictions. The crisis significantly affected households lacking economic stability. The population with an average daily income below 170 baht is expected to double from 4.7 million in the first quarter of 2020 to 9.7 million in the second quarter of 2020 and will recover slightly, dropping to 7.8 million in the third quarter of the same year. Government subsidies provide relief and help achieve economic recovery (World Bank, 2020).

Thai workers have faced challenges with social sustainability issues caused by disturbance events from 1997 to 2021 (Figure 1). These events consist of financial and economic crises, natural disasters, pandemics, and trade barriers caused by labor rights and welfare reasons. In 1997, the Asian Financial Crisis or the Tom Yum Kung Crisis caused bankruptcy and unemployment across the country. The government has initiated measures to solve the problems faced by financial institutions to revive the country's economy and promote domestic worker employment in the following year. In 2010 Thai workers faced trade barriers due to restrictive labor rights. In 2015, the European Union (EU) issued a yellow card for illegal, unreported, and unregulated (IUU) fishing which affects seafood and processed products exports and workers in the fishery sector and its relevant industries. The impact of the 2004 Indian Ocean earthquake and tsunami affected more than 500,000 workers and caused damage to the tourism and service sectors in Ranong, Phang Nga, Phuket, Krabi, Trang, and Satun provinces (Center for Assistance for Tsunami Victims, 2005). The 2011 floods resulted in the unemployment of Thai and migrant workers alike in manufacturing, agriculture, and service sectors.

In 2020 and 2021, the COVID-19 crisis had an immediate impact on the service sector, the tourism industry, and workers in the hospitality industry. In terms of domestic travel, international travel, and the absence of tourists in Thailand, the total income from international tourists showed a 40% decrease from 557 billion baht in 2019 to 333 billion baht in the first three months of 2020 (International Labour Organization (ILO), 2020a). Businesses and employment were disrupted by the curfew at the beginning of the second quarter of 2020. Migrant workers returned home whereas domestic workers suffered shutdowns in the hospitality industry. The lockdown measures eased, and the employment situation began to improve in the last quarter of 2020. The labor crisis in 2021 was caused by a new wave of COVID-19 at the end of 2020 and the beginning of 2021 which initially affected Samut Sakhon province and later spread to other 22 provinces. The new wave mostly affected migrant and Thai workers in the fishery industry, seafood processing industry, fish and shrimp rafts businesses, and food markets. The World Bank (2020) forecasted that the Thai economy will shrink by 5 percent in 2020 due to a slowdown in exports and lower income in tourism and global trade. In addition, data from the United Nations Industrial Development Organization (UNIDO) and the United Nations (UN) in 2020 identified small and low-technology enterprises that received the least government support and were most affected by lockdown measures. Data in the report suggests that shrinking business incomes and lower wages for workers could lead to an employment crisis. More than 50 percent of entrepreneurs identified workers' wages and social security expenses as their biggest financial burdens in conducting businesses.

Studies on the impact of COVID-19 on labor markets in various contexts both in Thailand and abroad, showed similar results. First of all, the number of employment and working hours significantly declined during the COVID-19 outbreak when compared to the pre-COVID-19 period in European countries, (The European Commission's Science and Knowledge Service, 2020), developing countries in Latin America and the Caribbean (Khamis et al., 2021), South Korea (Aum, Lee, & Shin, 2021), Canada (Béland, Brodeur, & Wright, 2023; Lemieux, Milligan, Schirle, & Skuterud, 2020), Japan (Kikuchi, Kitao, & Mikoshiba, 2021), Thailand (International Labour Organization (ILO), 2020b; Lekfuangfu, Piyapromdee, Porapakkarm, & Wasi, 2020), Bangladesh (Genoni, Khan, Krishnan, Palaniswamy, & Raza, 2020; Sarker, 2020), the United States of America (Bartik, Bertrand, Lin, Rothstein, & Unrath, 2020; Chetty, Friedman, & Stepner, 2024; Coibion, Gorodnichenko, & Weber, 2020; del Rio-Chanona et al., 2020; Forsythe, Kahn, Lange, & Wiczer, 2020), Australia (Güven, Sotirakopoulos, & Ulker, 2020), and Israel (Miaari, Sabbah-Karkabi, & Loewenthal, 2020). Coibion et al. (2020) found that the proportion of employment to the population in the United States fell sharply from 60 percent in the pre-COVID-19 period to 52.2 percent in April 2020, the peak of the COVID-19 pandemic. Nearly 20 million workers in the United States lost their jobs, which greatly exceeded the numbers from all previous crises. A study by Kahn, Lange, & Wiczer (2020). found that the labor market was in a widespread recession across almost every industry; nonetheless, several job openings are constantly announced for jobs in demand, such as nurses and retail workers, resulting in the reallocation of workers. Alon, Doepke, Rumsey, and Tetilt (2020) found that COVID-19 greatly affected service workers, particularly women working as restaurant workers and receptionists. Studies also found that changes in working hours in the United States resulted in male workers having a higher rate of working hours fluctuation than female workers. In Canada and

developing countries, such as Bangladesh, female workers were more likely to be affected by the COVID-19 crisis than male workers (Lemieux et al., 2020; Genoni et al., 2020; Sarker, 2020).

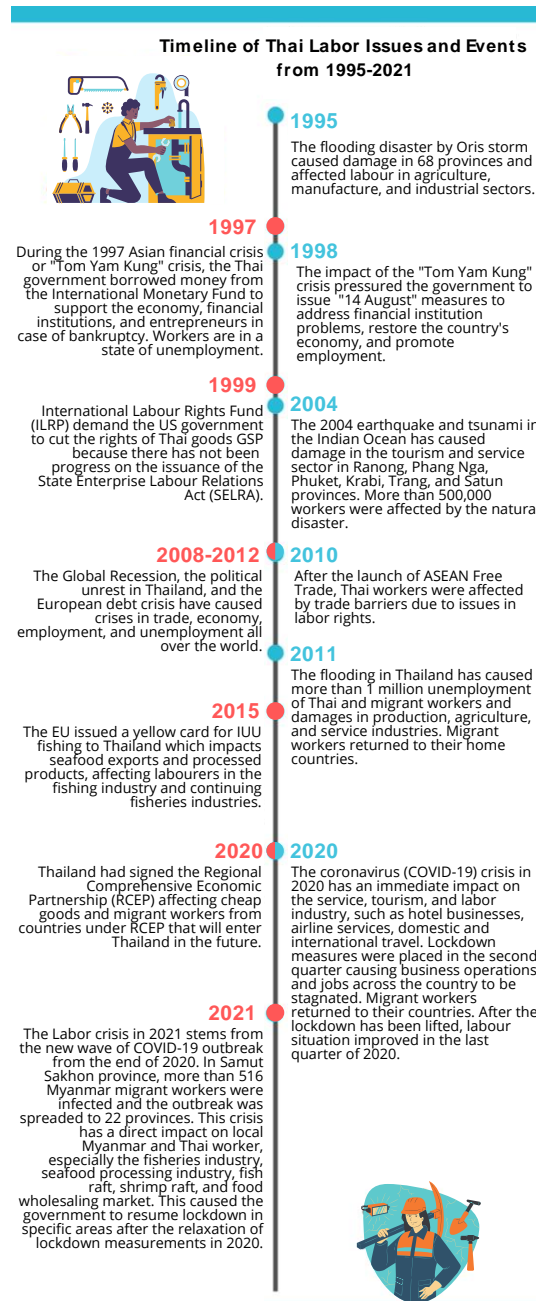


Figure 1 Timeline of Thai Labor Events from 1995-2021

Source: compiled by the author

The job's nature and flexibility and the industry's importance all affect employment conditions. del Rio-Chanona et.al. (2020) have created the Remote Labor Index (RLI) in their study for all occupations. It is calculated from the proportion of occupational activities that can be done at home. RLI equals 1 means that the occupation-related activities can be done at home. In contrast, if the RLI equals 0, there were no occupational-related activities that could be done at home. The results of the analysis found that 1) occupations with relatively low RLI scores meant working from home were less likely and were also more likely to be found in less important industries, such as dishwashing, carpenters, and roofers. Social distancing measures greatly affect workers in these occupations, such as reduced working hours and the risk of losing their jobs, 2) occupations with a high RLI score were likely to be found in important industries, such as credit analysts, politicians, scientists, and operational researchers. These occupations with high RLI scores were at a lower risk of a supply-side shock than the occupations with low RLI scores. Due to the nature of the industry that requires onsite work, some occupations with relatively low RLI can also be important industries, such as farm workers and healthcare workers. These occupations have low liability for economic instability and supply-side shock.

The studies on the impact of COVID-19 on the labor market in Europe and Thailand are consistent with those in the United States. The results show that bankrupted economic activities account for an average of 10 percent of total employment in each European country. The COVID-19 lockdown measures most affected vulnerable and disadvantaged groups with low wages and worse employment conditions. Female and young workers appear to be impacted more. (The European Commission's Science and Knowledge Service, 2020). A study by Lekfuangfu, Piyapromdee, Porapakkarm, & Wasi (2020) analyzed the Thai Labor Force survey data in the third quarter of 2019 to create an index of ease of workplace adjustment and risks of virus spread. It was found that the occupation groups most affected by the lockdown measures were service workers, retail, and market workers.

The unemployment rate increased during the COVID-19 pandemic (Béland et al. 2023; Coibion et al., 2020; Guven et al., 2020; Juranek, Paetzold, Winner, & Zoutman, 2020; Radulescu et al., 2020). The study by Coibion et al. (2020) found that the unemployment rate in the United States rose from 4.2 percent to 6.3 percent, which is relatively low when compared to a sharp decrease in the employment-to-population ratio of 7.4 percent. Workers who lost their jobs during COVID-19 did not immediately look for a new job, meaning that the laborers left the labor market. As a result, the employment-to-population ratio decreased notably, and the unemployment rate only increased slightly. This is known as “discouraged workers”. The Nordic labor market has also been greatly affected by the COVID-19 pandemic despite implementing different Non-Pharmaceutical Interventions (NPIs) in each country. From the 11th week of 2020, the unemployment rate increased rapidly in Norway, Denmark, and Finland. In Sweden, the unemployment rate also reached its peak 2-3 weeks later compared to other countries. When the lockdown measures were lifted, daily life and the labor market did not immediately return to normal but rather slowly recovered (Juranek et al., 2020). The studies by Kahn, Lange, & Wiczer (2020) and Kong, and Prinz (2020) analyzed US unemployment insurance claim data and found that the amount of unemployment insurance increased during the COVID-19 pandemic. The study on the impact of COVID-19 on the unemployment rate in Thailand is consistent with the results of the studies in the United States. The TDRI's study (2020) modeled the relationship between GDP and the unemployment rate of the Thai service sector. The estimation shows that if the GDP in the service sector declines by 1 percent, the unemployment rate in the service sector will increase by 7.64 percent.

Wages and incomes during COVID-19 declined compared to pre-COVID-19 in European countries (The European Commission's Science and Knowledge Service, 2020), Bangladesh (Genoni et al., 2020), Singapore (Kim, Koh, & Zhang, 2020), the UK (Crossley, Fisher, & Low, 2021), and the United States (del Rio-Chanona et.al., 2020). A study on the impact of COVID-19 confinement measures on the EU labor market by the European Commission's Science and Knowledge Service (2020) found that economic activities in groups that were required to suspend their operations were leisure, service, nursing, and other service work. According to a study by del Rio-Chanona et.al. (2020), businesses that had to close their operations had the lowest average wages. The US economy's overall wage and employment were estimated at 17 percent and 24 percent respectively. The COVID-19 impact on the labor market was greater than the Global Financial Crisis, where employment fell 3.28 percent during COVID-19 compared to 2.17 percent during the Global Financial Crisis. In addition, the study by Sumner, Hoy, and Juarez (2020) found that the

potential impact of the COVID-19 pandemic could pose a challenge to the United Nations' Sustainable Development Goals (SDGs) which aim to eliminate poverty by 2030. The shrinking economy could result in new poor countries, defined as countries below the World Bank's poverty line, in the world's poorest regions such as the sub-Saharan Africa (SSA) countries and South Asia.

2. Objectives

The main objectives examine the analysis of the Thai informal labor market before and throughout the COVID-19 pandemic outbreak on the number of employment, average monthly earnings, and average weekly working hours.

3. Materials and Methods

This study uses data from the Thai National Statistical Office's Informal Worker Survey 2011-2021 from households sampling in Thailand. This study's early analysis used annual data from 2011-2021 to reflect changes related to the labor market, occupations, economic activities, and number of employments. The results of the study are shown by using diagrams to illustrate trends and changes over 10 years.

In addition to the overall analysis of the data, the second part of the study analyzed the sample group of informal workers. It is mean difference analysis of the COVID-19 impact on the labor market in Thailand by comparing the estimated monthly income and total weekly working hours of the sample group by gender, educational level, occupation, and type of industry in 2019, 2020, and 2021. The details are as follows. Gender can be classified into 2 groups: (1) male and (2) female. Education level can be classified into 4 groups: (1) lower than primary school, (2) primary school, (3) secondary school and diploma, and (4) bachelor's degree and above. Occupation can be classified into 5 groups: (1) legislators, professionals in various technical fields and related occupations, (2) service personnel and sales personnel in markets and retails, (2) skilled workers in agriculture and fishery, (4) craft workers in related trades, and (5) basic occupations in sales and service. Industry can be classified into 4 industries: (1) agriculture, (2) manufacturing, mining, and quarrying, (3) construction, and (4) services.

4. Results

Overview of Thailand's Labor Market for Sustainable Development Before and During the COVID-19 Outbreak

The results of the first part of the analysis are based on the data from the National Statistical Office's Informal Worker Survey 2011-2021. The trends and changes occurring before and during the COVID-19 outbreak were illustrated over 10 years to see changes related to the labor market in employment, education, occupation, and work hours are as follows:

The current employment situation across the country from 2011 to 2021 is shown in Figures 2-5. It can then be derived from the data that there has been a declining trend in the labor force over the 10 years before and during the COVID-19 pandemic. This change must be monitored as it relates to 1) changing work trends in the context of the environment, economy, and changing technology, 2) new skills, working environment, and job formats needed in the labor market, and 3) a social security system related to the number of the labor force and workers in the employment system, changing population structure, and aging society.

The education levels of the informal workers were divided into 8 groups as follows: 1) uneducated, 2) below elementary school, 3) elementary school, 4) lower secondary school, 5) upper secondary school, 6) higher education, 7) other, and 8) unknown. When comparing the period before and during COVID-19 in 2020 and 2021, it was found that the average number and proportion of employed people in the uneducated and below elementary school, elementary school, and lower secondary school groups declined while the average number and proportion of employed people in the upper secondary school and higher education groups increased (Figure 6). The levels of education of employed individuals could reflect the adaptability of employed individuals during a crisis.

Figure 7 shows the number of employed informal workers classified by occupations in Thailand. From 2011 to 2021, occupations of employed informal workers are divided into 7 groups as follows (1) legislators, senior, professionals, and technicians, (2) clerks, (3) service personnel and sales personnel in markets and retail, (4) skilled

workers in agriculture and fishery, (5) skilled workers in related trades and handicrafts, (6) factory and machine operators and assembly-line workers, and (7) elementary occupations. All occupations of employed workers declined during COVID-19. In addition, figure 8 illustrates the number of employed informal workers classified by industries in Thailand. From 2011 to 2021, industries of employed informal workers are divided into 5 groups as follows (1) agricultural sector, (2) manufacturing sector, (3) construction sector, (4) services sector, and (5) others. The number of employed informal workers in all industries declined during Covid-19.

The proportion of informal employment by hours worked per week is shown in Figure 9. The proportion of informal employment with 40 work hours and above per week declined sharply during the Covid 19. The zero hour refers to employed persons with a regular job, however, these people did not work. The number of informal employees who experienced zero hour in 2020 and 2021 is more than double compared to the previous year.

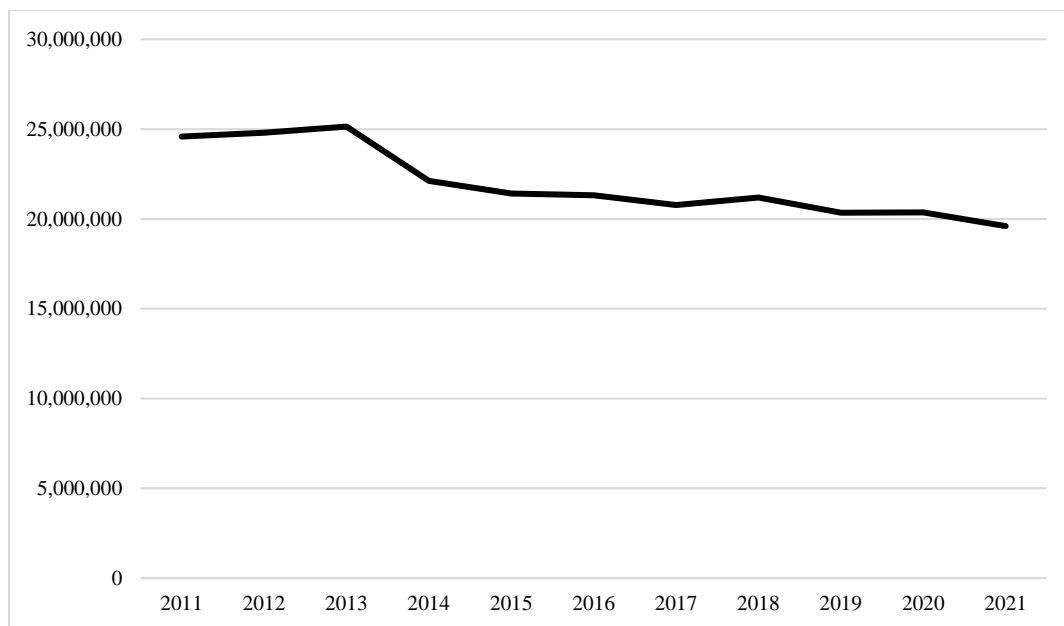


Figure 2 Number of informal employment, 2011 – 2021.

Source: Compiled by the author based on the Informal Worker Survey 2010 – 2021 by the National Statistical Office.

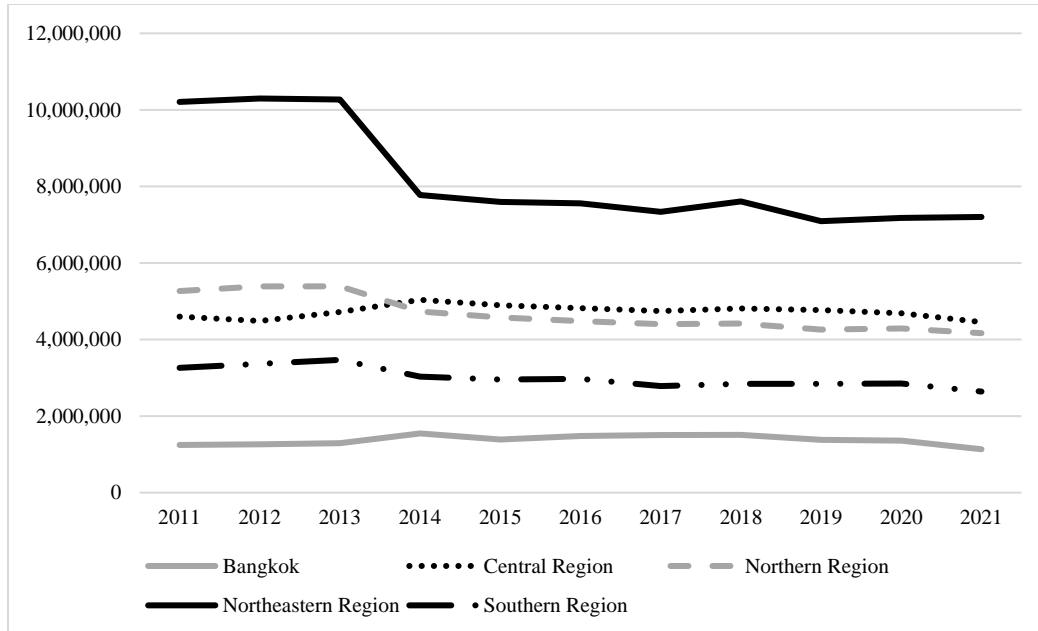


Figure 3 Number of informal employment by geographic region, 2011 – 2021.

Source: Compiled by the author based on the Informal Worker Survey 2010 – 2021 by the National Statistical Office.

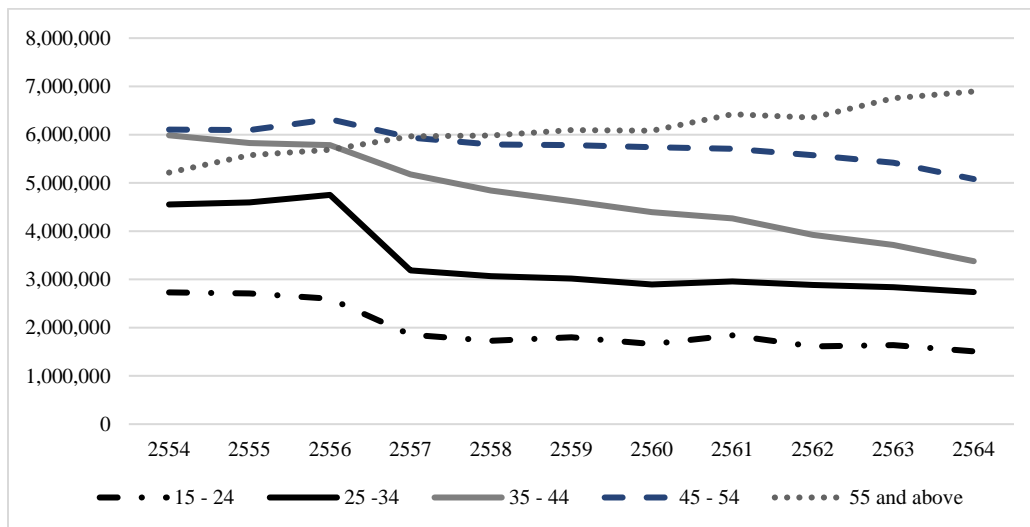


Figure 4 Number of informal employment by age group, 2011 – 2021.

Source: Compiled by the author based on the Informal Worker Survey 2010 – 2021 by the National Statistical Office.

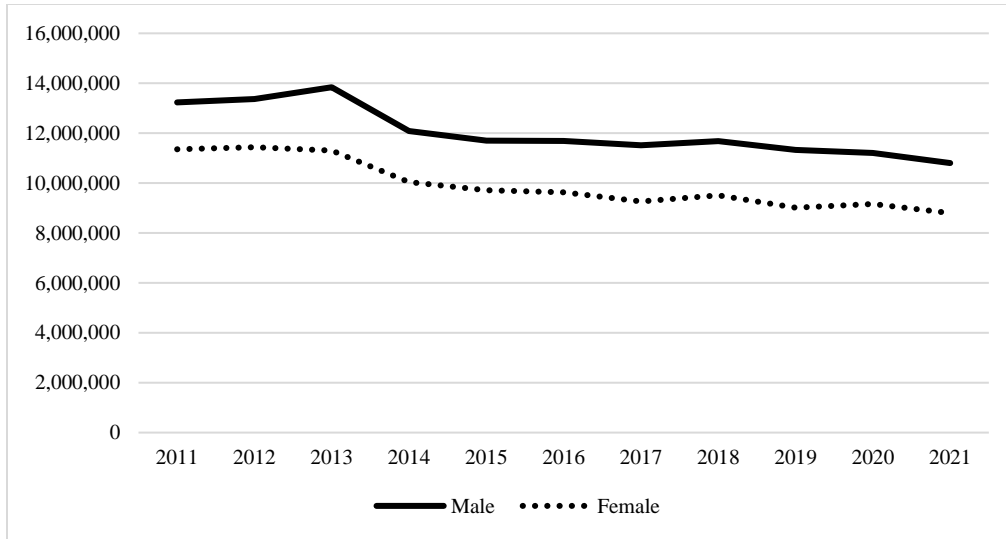


Figure 5 Number of informal employment by gender, 2011 – 2021.

Source: Compiled by the author based on the Informal Worker Survey 2010 – 2021 by the National Statistical Office.

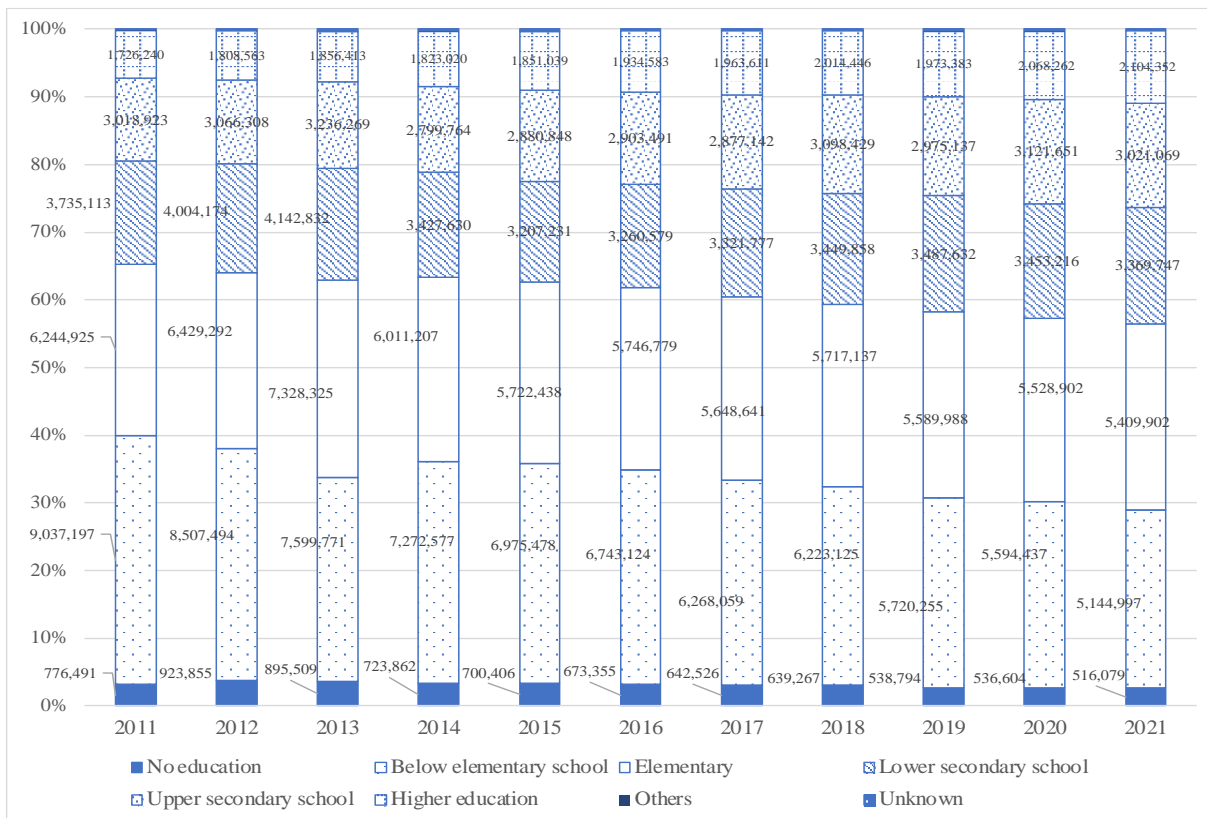


Figure 6 Proportion of informal employment by level of education completed, 2011 – 2021.

Source: Compiled by the author based on the Informal Worker Survey 2010 – 2021 by the National Statistical Office.

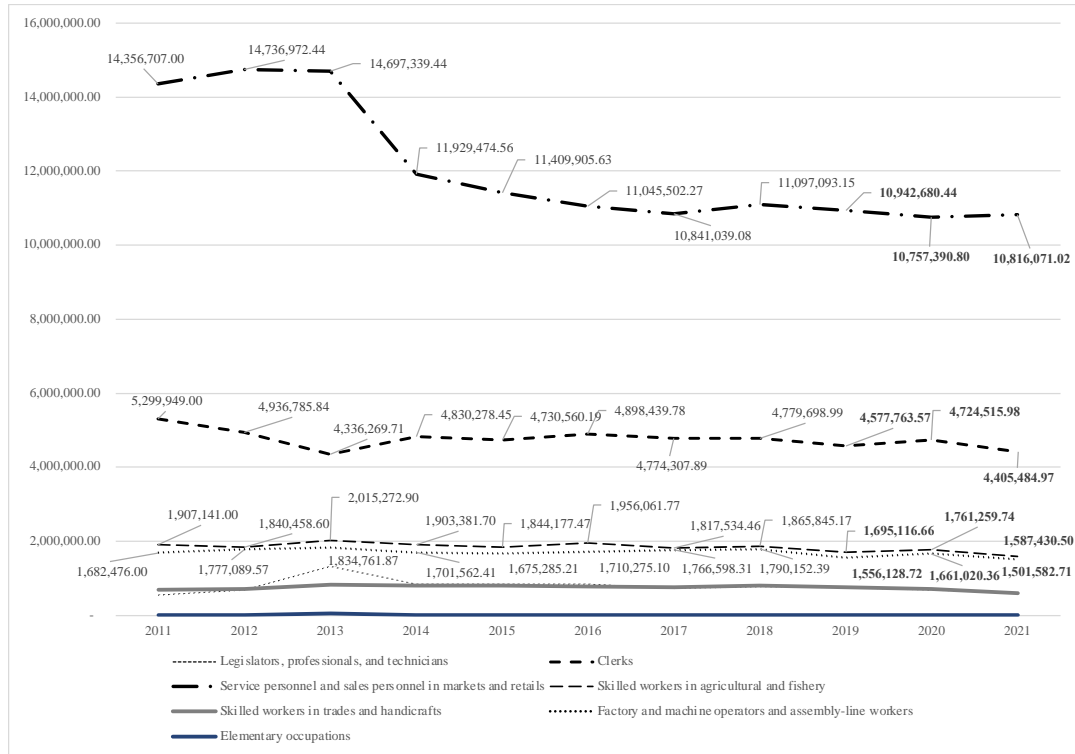


Figure 7 Number of informal employment by occupation, 2011 – 2021.

Source: Compiled by the author based on the Informal Worker Survey 2010 – 2021 by the National Statistical Office.

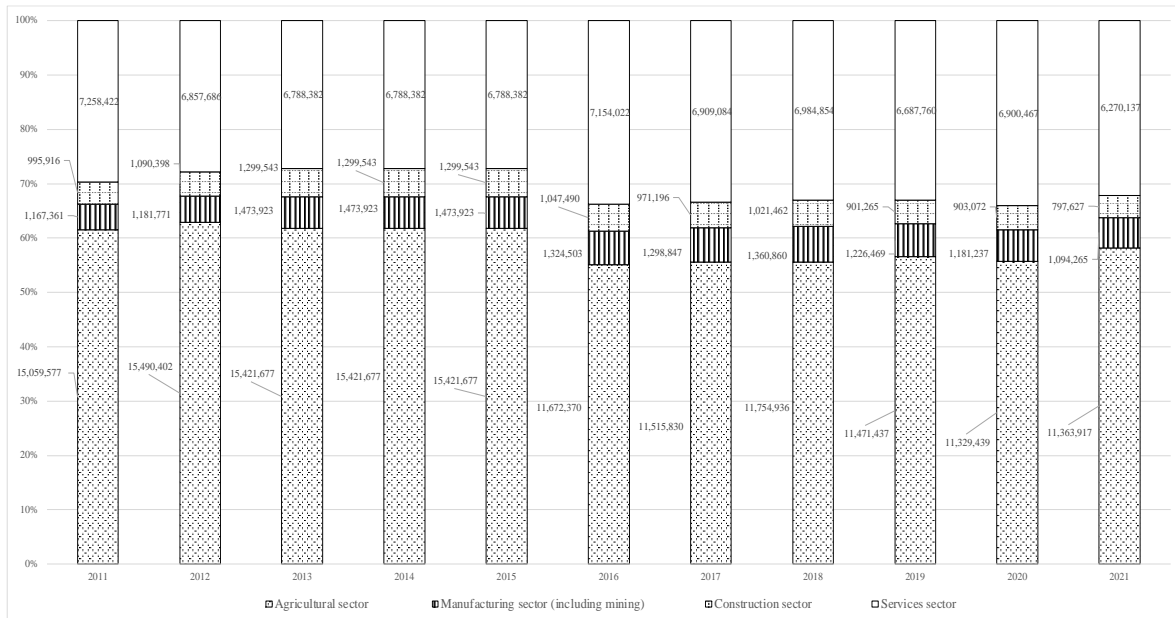


Figure 8 Proportion of informal employment by industry, 2011 – 2021.

Source: Compiled by the author based on the Informal Worker Survey 2010 – 2021 by the National Statistical Office.

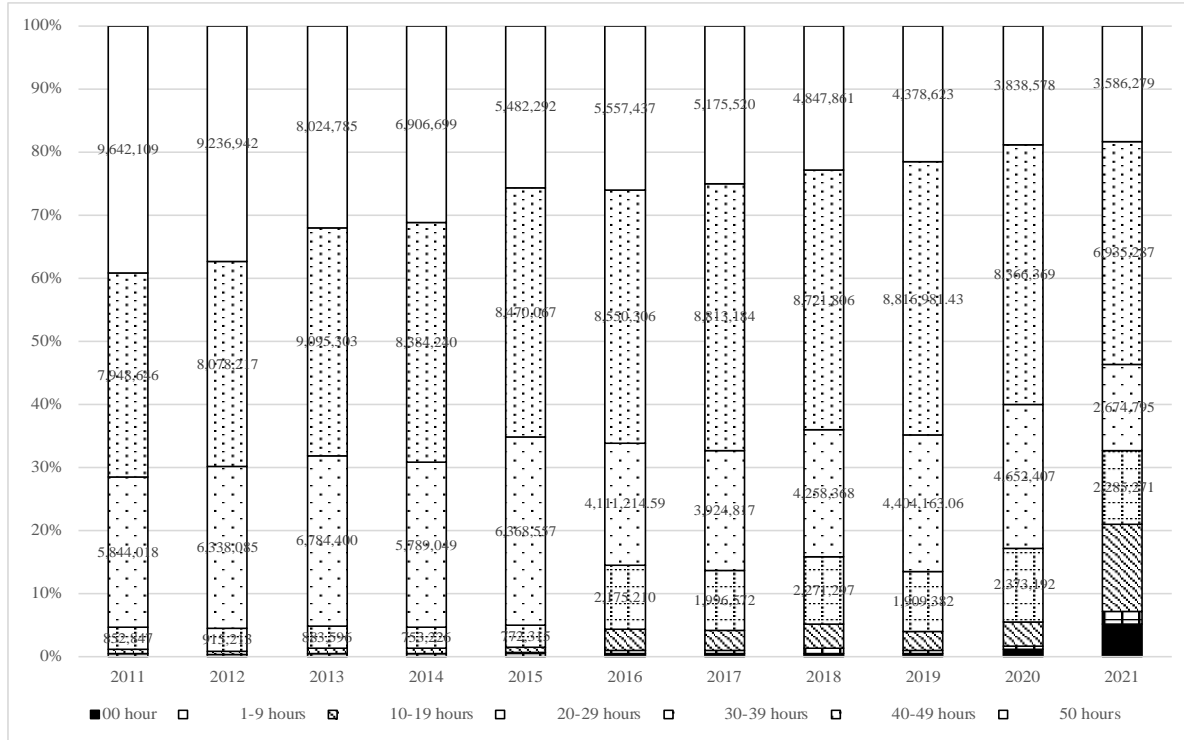


Figure 9 Proportion of informal employment by hours worked per week, 2011 – 2021.

Source: Compiled by the author based on the Informal Worker Survey 2010 – 2021 by the National Statistical Office.

Impact of COVID-19 on the informal workers in Thailand

The mean differences before the COVID-19 (2019) and during the COVID-19 pandemic (2020 and 2021) on estimated monthly earnings and total weekly working hours are illustrated in Table 1. The sample group is limited to informal workers in Thailand. The average weekly working hours for female and male informal workers decreased significantly statistically during the COVID-19 pandemic compared to the pre-COVID-19. The average monthly earnings for male informal workers decreased significantly statistically during the COVID-19 pandemic compared to the pre-COVID-19, while the average monthly earnings for female informal workers remained statistically insignificant. The average monthly earnings and average total weekly working hours of informal workers declined significantly statistically in all educational levels during the COVID-19 pandemic, except for informal workers with a secondary education level and above where only the average weekly working hours declined statistically significantly.

The average weekly working hours of informal workers in all geographic regions decreased significantly statistically during the COVID-19 pandemic compared to pre-COVID-19. The average monthly earnings for informal workers in the central region are the only region that experienced positive statistically significant during the COVID-19 pandemic compared to the pre-COVID-19.

The average weekly working hours for all occupations decreased significantly statistically during the COVID-19 pandemic compared to pre-COVID-19. Basic occupations in sales and service experienced a statistically significant decline in average monthly earnings during the COVID-19 pandemic. The average weekly working hours for all industries decreased statistically during the COVID-19 pandemic. Agriculture, forestry, fisheries, construction, and services experienced a statistically significant decline in average monthly earnings during the COVID-19 pandemic.

Table 1 Statistical Test Results of Average Difference Between before the COVID-19 (2019) and During the COVID-19 Pandemic (2020 and 2021)

Variable	Mean difference between before the COVID-19 (2019) and during the COVID-19 pandemic (2020 and 2021)	
	Estimated monthly earnings	Estimated total weekly working hours
Gender		
Female informal workers	18.2215 (80.2228)	-1.2694*** (0.1044)
Male informal workers	-151.4435** (64.1200)	-1.5130*** (0.0932)
Specific age group		
Youth informal workers (Age between 15-24 years old)	191.3123 (137.6250)	-1.4594*** (0.3149)
Older informal workers (Age 60 years and above)	-180.7376 (148.2146)	-1.3247*** (0.1547)
Geographic regions		
Bangkok	-1516.3890 (1341.3540)	-1.3565*** (0.3896)
Central	-201.8380** (82.2731)	-1.8400*** (0.1391)
Northern	-11.7971 (83.7009)	-1.3120*** (0.1339)
Northeastern	55.3349 (104.6969)	-1.1621*** (0.1086)
Southern	-257.6278 (162.3975)	-1.4700*** (0.2010)
Education level		
Below elementary school	-201.9201** (78.9216)	-1.4325*** (0.1197)
Elementary education Level	-197.3870** (79.0141)	-1.2928*** (0.1281)
Secondary education level and diploma	-76.3524 (87.5834)	-1.5324*** (0.1235)
Higher education level	-742.3452 (640.8912)	-1.3496*** (0.2812)
Occupational group of informal workers		
Legislators, Professionals in various technical fields and related occupations	-178.1169 (732.7708)	-0.9960** (0.3887)
Service personnel and sales personnel in markets and retails	75.9648 (196.4914)	-1.2268*** (0.1446)
Skilled workers in agriculture and fisheries	-109.9192 (152.7883)	-1.3364*** (0.0863)
Craft workers and related trades	-87.03906 (123.3572)	-2.2764*** (0.2060)
Basic occupations in sales and service	-109.5757** (52.5866)	-2.2697*** (0.2130)
Type of industry of the informal workers		
Agriculture, Forestry and Fisheries	-154.6059** (65.3886)	-1.3384*** (0.0842)
Manufacturing, Mining, and quarrying	40.62143 (240.5768)	-2.2059*** (0.2517)
Construction	-146.382* (87.3786)	-2.3022*** (0.2927)
Services	-295.5598 ** (115.0212)	-1.4945*** (0.1220)

Note. *** = significant at 1% level, ** = significant at 5% level, and * = significant at 10% level.

Source: Compiled based on the Informal Worker Survey 2019 – 2021 by the National Statistical Office.

5. Discussion and Conclusion

An analysis of the Thai informal workers before and during the COVID-19 pandemic on the number of employment, education, occupation, and working hours was made by analyzing data from the Thai National Statistical Office's Informal Worker Survey 2011-2021. It was found that during COVID-19, the labor issues such as the number of employed people decreased in 2020.

In terms of education and occupation, the average number and proportion of employed informal workers with an education level of uneducated, lower than elementary, and lower secondary declined during the COVID-19 pandemic. The average number and proportion of employed persons in the upper secondary and higher education levels increased during the COVID-19 pandemic. The education level of employed individuals reflects the adaptability of employed individuals during a crisis.

The average number of employed individuals that are skilled workers in agriculture and fishery, and service personnel and sales personnel in markets and retails decreased during the COVID-19 pandemic. The results are consistent with those of del Rio-Chanona et al. (2020) in the United States. The occupation groups with workplace flexibility tend to be employed in key industries, such as professionals in various fields. They also have a lower risk of sudden changes in labor supply (supply-side shock). Social distancing measures had an opposite effect on the number and proportion of employed individuals in agriculture and fishery, skilled workers and related trades, and basic occupations in sales and service.

An analysis study found that impacts of COVID-19 significantly decrease the average total weekly working hours of informal workers in Thailand with all educational levels and in all occupations during the pre-COVID-19 and during the COVID-19 outbreak. The average monthly earnings of informal workers with below secondary education level also decrease significantly.

The measures to help taxpayers, new employment promotion programs, and the procurement of the COVID-19 vaccines are important to tackle the uncertainty caused by the COVID-19 pandemic and future economic disruptions. The various measures to support domestic expenses include 1) government stimulus packages such as We Win (Rao Chana), Khon La Khrueng, No One Will Be Left Behind (Rao Mai Ting Gun), and Section 33 Rao Rak Kan; 2) subsidies to affected businesses such as the We Travel Together project; 3) utility bill reduction and supportive measures for electricity users; and 4) measures to help reduce expenses and debts of banks and other measures to help taxpayers such as withholding tax rate reduction, expediting VAT refunds for exporters, and extension of time for filing and paying personal and corporate income tax forms.

For the long-term adjustment of the Thai labor market to be more flexible and supportive of unexpected economic disruptions, the labor may potential be increased by creating more accessibility to the general education system and training in fields that are in demand in the labor market, such as emphasizing vocational education system. Financial support measures must be implemented to enhance the capability to help support new informal workers entering the labor market and to promote continual knowledge development. When the COVID-19 situation subsides, financial support alone may be able to provide brief relief during difficult times; however, in the long term, financial support must also bring results that increase informal workers' productivity and capability. The government needs to consider informal workers' welfare in the development of the wage system to suit the changing working conditions, a better social security system for fair and proper working conditions and emphasizing training in further career development towards formal or independent work.

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7. References

- Alon, T., Doepke, M., Rumsey, J., & Tetilt, M. (2020). *The impact of COVID-19 on gender equality* (NBER Working Papers No. 26947). Cambridge, UK: National Bureau of Economic Research. <https://doi.org/10.3386/w26947>
- Aum, S., Lee, S. Y. T., & Shin, Y. (2021). COVID-19 doesn't need lockdowns to destroy jobs: The effect of local outbreaks in Korea. *Labour Economics*, 70, Article 101993. <https://doi.org/10.1016/j.labeco.2021.101993>
- Bartik, A.W., Bertrand, M., Lin, F., Rothstein, J., & Unrath, M. (2020). *Measuring the labor market at the onset of the COVID-19 crisis* (NBER Working Papers No. 27613). Cambridge, UK: National Bureau of Economic Research. <https://doi.org/10.3386/w27613>
- Béland, L. P., Brodeur, A., & Wright, T. (2023). The short-term economic consequences of Covid-19: exposure to disease, remote work and government response. *Plos One*, 18(3), Article e0270341. <https://doi.org/10.1371/journal.pone.0270341>
- Center for Assistance for Tsunami Victims. (2005). *Tsunami Victims Assistance Report*. Thailand Department of Employment, Ministry of Labour. Retrieved from http://lib.doe.go.th/ebookdoc/020400003207_0.pdf
- Chetty, R., Friedman, J. N., & Stepner, M. (2024). The economic impacts of COVID-19: Evidence from a new public database built using private sector data. *The Quarterly Journal of Economics*, 139(2), 829-889. <https://doi.org/10.1093/qje/qjad048>
- Coibion, O., Gorodnichenko, Y., & Weber, M. (2020). *Labor markets during the COVID-19 crisis: A preliminary view* (NBER Working Papers No. 27017). Cambridge, UK: National Bureau of Economic Research. <https://doi.org/10.3386/w27017>
- Crossley, T. F., Fisher, P. & Low, H. (2021). The heterogeneous and regressive consequences of COVID-19: Evidence from high quality panel data. *Journal of Public Economics*, 193, Article 104334. <https://doi.org/10.1016/j.jpubeco.2020.104334>
- del Rio-Chanona, R. M., Mealy, P., Pichler, A., Lafond, F., & Farmer, J. D. (2020). Supply and demand shocks in the COVID-19 pandemic: An industry and occupation perspective. *Oxford Review of Economic Policy*, 36(Supplement_1), S94-S137. <https://doi.org/10.1093/oxrep/graa033>
- Genoni, M. E., Khan, A. I., Krishnan, N., Palaniswamy, N., & Raza, W. (2020). *Losing livelihoods: The labor market impacts of COVID-19 in Bangladesh* (Working Papers No. 152986). Retrieved from <http://hdl.handle.net/10986/34449>
- Güven, C., Sotirakopoulos, P., & Ülker, A. (2020). *Short-term labour market effects of COVID-19 and the Associated National Lockdown in Australia: Evidence from longitudinal labour force survey* (No. 635). GLO Discussion Paper. Retrieved from <https://www.econstor.eu/handle/10419/223013>
- International Labour Organization (ILO). (2020a). *COVID-19 Employment and labour market impact in Thailand* [Briefing note]. Retrieved from [http://www.ilo.org/asia/publications/labour-markets/WCMS_747944/lang--en/index.htm](http://www.ilo.org/asia/publications/labour-markets/WCMS_747944/lang-en/index.htm)
- International Labour Organization (ILO). (2020b). *Impact assessment of COVID-19 on employment and labour market in Thailand* [Briefing note]. Retrieved from <https://thailand.un.org/sites/default/files/2020-06/ILO%20COVID19%20impact%20assessment%20Thailand%20report%20-%20UN%20Thailand%20lo.go.pdf>
- Juranek, S., Paetzold, J., Winner, H., & Zoutman, F. (2020). Labor market effects of COVID-19 in Sweden and its neighbors: Evidence from novel administrative data. *NHH Dept. of Business and Management Science Discussion Paper*, (2020/8). Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3660832
- Forsythe, E., Kahn, L. B., Lange, F., & Wiczer, D. (2020). Labor demand in the time of COVID-19: Evidence from vacancy postings and UI claims. *Journal of Public Economics*, 189, Article 104238. <https://doi.org/10.1016/j.jpubeco.2020.104238>
- Kahn, B.L., Lange, F., & Wiczer, G.D. (2020). Labor Demand in the Time of Covid-19: Evidence from Vacancy Postings and UI Claims. *NBER Working Papers*, 27061. <http://doi.org/10.3386/w27061>

- Kikuchi, S., Kitao, S., & Mikoshiba, M. (2021). Who suffers from the COVID-19 shocks? Labor market heterogeneity and welfare consequences in Japan. *Journal of the Japanese and International Economies*, 59, Article 101117. <https://doi.org/10.1016/j.jjie.2020.101117>
- Kim, S., Koh, K., & Zhang, X. (2020). *Short-term impact of COVID-19 on consumption and labor market outcomes: Evidence from Singapore*. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3627056
- Khamis, M., Prinz, D., Newhouse, D., Palacios- Lopez, A., Pape, U., & Weber, M. (2021). *The early labor market impacts of COVID-19 in developing countries: Evidence from high-frequency phone surveys* (Jobs Working Paper No. 58). Retrieved from <http://hdl.handle.net/10986/35044>
- Kong, E., & Prinz, D. (2020). Disentangling policy effects using proxy data: Which shutdown policies affected unemployment during the COVID-19 pandemic?. *Journal of Public Economics*, 189, Article 104257. <https://doi.org/10.1016/j.jpubeco.2020.104257>
- Lekfuangfu, W. N., Piyapromdee, S., Porapakkarm, P., & Wasi, N. (2020). *On Covid-19: New implications of job task requirements and spouse's occupational sorting*. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3583954
- Lemieux, T., Milligan, K., Schirle, T., & Skuterud, M. (2020). Initial impacts of the COVID-19 pandemic on the Canadian labour market. *Canadian Public Policy*, 46(S1), S55-S65. <https://doi.org/10.3138/cpp.2020-049>
- Miaari, S. H., Sabbah-Karkabi, M., & Loewenthal, A. (2020). *How is the Covid-19 crisis exacerbating socioeconomic inequality among Palestinians in Israel?*. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3695417
- Radulescu, C. V., Ladaru, G. R., Burlacu, S., Constantin, F., Ioanăș, C., & Petre, I. L. (2020). Impact of the COVID-19 pandemic on the Romanian labor market. *Sustainability*, 13(1), Article 271. <https://doi.org/10.3390/su13010271>
- Sarker, M. R. (2021). Labor market and unpaid works implications of COVID-19 for Bangladeshi women. *Gender, Work & Organization*, 28(S2), 597–604. <https://doi.org/10.1111/gwao.12587>
- Sumner, A., Hoy, C., & Juarez, E. (2020). *Estimates of the impact of COVID-19 on global poverty* (WIDER Working Paper 2020/43). Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/2020/800-9>
- TDRI (2020). *Impact of COVID-19 on employment in the service sector of Thailand*. Retrieved from <https://tdri.or.th/2020/09/services-sectors-affected-by-the-COVID-19/>
- The European Commission's Science and Knowledge Service. (2020). *The impact of COVID confinement measures on EU labour market* [Briefing note]. Retrieved from https://joint-research-centre.ec.europa.eu/system/files/2020-04/jrc.120585_policy.brief_impact.of_.covid-19.on_.eu-labour.market.pdf
- United Nations Industrial Development Organization (UNIDO). (2020). *Impact assessment of COVID-19 on Thai Industrial Sector*. Retrieved from www.unido.org/sites/default/files/files/2020-06/Impacts_of_COVID19_on_Thai_industrial_sector_0.pdf
- United Nations. (2020). *Shared responsibility, global solidarity: Responding to the socio-economic impacts of COVID-19*. Retrieved from <https://unsdg.un.org/sites/default/files/2020-03/SG-Report-Socio-Economic-Impact-of-Covid19.pdf>
- World Bank. (2020). *Thailand economic monitor: Thailand in the time of COVID-19*. World Bank, Bangkok. Retrieved from <http://documents.worldbank.org/curated/en/456171593190431246/Thailand-Economic-Monitor-Thailand-in-the-Time-of-COVID-19>

Underpayment Experiences of Filipino Migrant Teachers in Thailand During the COVID-19 Pandemic

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Abstract

Underpayment of wages is a persistent problem among migrant workers globally, and this type of compensation issue is believed to have been stimulated and/or exacerbated with the onset of the COVID-19 pandemic. This study examines the situation of underpayment among Filipino Migrant Teachers in Thailand during the COVID-19 pandemic and what recommendations are possible to enhance current policies and redress mechanisms towards the issue. Semi-structured interviews were conducted with 9 participants and one Philippine government representative to generate the necessary data for the study. This research found that there are four main problems. The first issue is the absence of a bilateral agreement that could standardize labor practices and redress mechanisms. The second concern is that protection measures for complainants are not yet available with the current laws. Third is the lack of labor and cultural orientation programs, and last is the unavailability of multi-lingual systems to communicate effectively with Thai authorities. As such, on a policy-making level, the study recommends continuing the negotiations for a bilateral labor agreement to standardize employment and consider specific modifications in the law to shield migrant teachers from reprisal and the burden of proof. On an institutional level, embedding labor/cultural orientation programs and multi-lingual channels to relevant government offices and places of work would reduce skepticism towards the law, racial bias, and the language barrier between migrant teachers, employers, and authorities.

Keywords: *Underpayment of Wages; Wage Theft; Filipino Migrant Teachers; Migrant Workers in Thailand; COVID-19*

1. Introduction

Wage theft is an umbrella term applied in labor and migration studies which deals with the non- or underpayment of remunerations and benefits for a work rendered complete by an employee to a company or an employer. A broader definition would also include discriminatory wage set-ups, false accounting, unjust termination, forced repatriation without severance pay, and deceptive employment (International Organization for Migration, 2023; Harkins, 2020; Chok, & Ng, 2017). Underpayment of wages, more specifically, refers to the situation wherein a worker is receiving less than the expected or what was the contractually agreed amount of pay for a task completed. This situation may occur simultaneously along with other forms of wage theft at any given point during an employment period. The current literature on underpayment of wages is most commonly found in research and publications dealing with wage theft. As such, for the purpose of this research, when discussing the concept of wage theft, the research presumes the idea that underpayment of wages is part of the context. As Chok, and Ng (2017) stated, the most common forms of wage theft are non- and underpayment of wages.

An example of wage theft is the Kafala System of the Middle East. Under the Kafala system, a migrant household worker could experience non- or under-payment of wages because of the structural power imbalance favorable towards the employer. During wage disputes and/or severance of ties, employers have the outright capacity to revoke a worker's visa or file bogus charges such as theft and absconding to refuse payment and punish them in jail (Migrant Forum Asia, 2012). Another example of underpayment can be found in Australia, examples of this can be seen at 7-Eleven, Pizza Hut, and Dominos. 7-Eleven systematically underpays their workers, pretending to deposit full wages but would require employees to pay back a portion of their wages in cash. Pizza Hut and Dominos were found sham contracting and not complying with the standards enabled by the franchising nature of their business (Australian Council of Trade Unions, 2018).

In Singapore, employers who hire migrant workers purposely declare fraudulent compensation packages in In-Principle Approval (IPA) letters and pay less than the stated amount. Cases lodged in the Ministry of Manpower of Singapore recorded a total of 560 false salary declaration from 2015-2019 with 1,400 migrant workers affected in the same period (Yufeng, 2021). Other cases were also documented in parts of the United States (Watts, 2022; Ferriss, & Yerardi, 2021), Europe (Verité, 2021), Asia (Human Rights Working Group, 2020; Rajan, & Pattath, 2022; Subramaniam, 2020; Harkins, & Åhlberg, 2017), and Africa (Khambay, & Narayanasamy, 2021).

Zooming into the context of Thailand and the Philippines, Thailand stands as a labor-receiving destination while the Philippines serves as its source of labor force, particularly in the teaching sector. The Philippines is the only ASEAN member state that formed part of the top 10 nations of skilled migrant workers in Thailand (Harkins, 2019). In 2019, there were at least 23,000 Filipino Migrant Teachers employed at different levels of Thai educational institutions (Dumlao, & Tepsuriwong, 2019). This influx of Filipino migrant teachers is partly due to the country's decision to hire foreign teachers to better the English competency skills of Thais (Novio, 2018), achieve its goal of becoming a hub for international education (Sarausad, & Archavanitkul, 2014), and escape unemployment of teachers in the Philippines. The limited migration corridors of English teachers to Asia and Middle East are also another contributing factor.

Despite the steady labor migration movement between the Philippines and Thailand, many Filipino Migrant Teachers still faced job insecurity. The industry practice of "no work, no pay" was felt harder during the COVID-19 pandemic and forced many teachers to depend on donations and food packs to survive (Mala, 2020). Underpayment also perpetuated during the crisis, forcing teachers to agree on earning only half of their salary during the pandemic (Deguma, Cacho, & Deguma, 2022; Thai PBS World, 2021). Parents insisted as well that they should pay less for academic fees since the responsibility has now shifted from teacher to parent. This demand for refunds and lower tuition fees further restricted the cashflow of private academic institutions (Thailand International School Monitor, 2021). Citing the circumstances above, this piqued the interest of the researcher in examining the situation and experience of underpayment of Filipino Migrant Teachers in Thailand during the COVID-19 pandemic.

This research is divided into seven sections. The first section provides the relevant literature about the underpayment of wages and labor policies in general. The second section introduces the objectives of the study. The third section describes the methods applied in selecting participants, profile of the participants, and limitations to the study. The fourth and fifth section exhibits the findings and discussions on the experience of underpayment among Filipino Migrant Teachers in Thailand. And lastly, the research identifies the conclusions and recommendations under the sixth and seventh sections.

1.1 Underpayment and the COVID-19 pandemic

Underpayment of wages refers to the situation wherein contract-based salaries are not complied with, and workers are paid less than the agreed-upon amount. Scholars consider the underpayment of wages to be part of the larger concept of wage theft. Wage theft itself has a global characteristic because it is embedded to the system of migration. Factors such as systemic and legal structures of the destination country, economic instability in the home country, power imbalance in labor relationships, ethnocentrism, corporate greed, and many others all play a role to its existence. Employers, both local and foreign, take advantage of non- and underpayment of wages among migrant workers through a number of factors: lack of knowledge in labor and wage laws, sheer desperation to earn a living, power dynamics, fear of reprisal, lack of legal representation, deceptive contracts, and racial discrimination (Al Jazeera Plus, 2022; Hallett, 2022; Berg, & Farbenblum, 2017; Harkins, & Åhlberg, 2017). According to the International Organization on Migration (2023), migrant workers are more prone to receiving less favorable employment terms and conditions compared to local workers and can be excluded from social protections.

Foreign workers are already among the most vulnerable groups economically and socially, and they are also more likely to be pre-disposed for job losses during an economic fallout (Dustmann, et. al., 2010, as cited in Fassani, & Mazza, 2020). An estimated 17.3 % decrease in global working hours, equivalent to 495 million full-time jobs, was lost from April to June 2020 according to the International Labour Organization (Piper, & Foley, 2021). As businesses experienced the negative impacts of COVID-19, many migrant workers were being relieved, forced to accept poor terms including reduced compensation, or face termination and deportation. Sectors of

agriculture, construction, textile, retail, manufacturing, janitorial, domestic work, fishery, and meat industry, including hospitality and entertainment sectors were found to be the most common industries involved with wage issues across research on different parts of the world (Khambay, & Narayanasamy, 2021; Khemanitthaithai, 2021; Australian Council on Trade Union, 2018).

The Business and Human Rights Resource Centre, which monitors over 9000 companies in over 180 countries, observed that during April and August 2020, wage-related issues were the most commonly reported labor abuse with 81% in total of the reported cases during the pandemic (Piper, & Foley, 2021). The Human Rights Working Group (2020), in their region-wide study of migrant worker experiences in East and Southeast Asia, discovered that unpaid wages and other forms of remunerations, forced salary deductions, delayed payments, leaves without pay and termination were utilized during COVID-19 to mitigate costs in the employment and retention of migrant workers in countries of Hong Kong, Japan, Malaysia, Singapore, South Korea, Taiwan, and Thailand.

Other companies, such as major Western fashion brands, imposed major cutbacks with their demands, refused to pay completed orders, and pressured Asian suppliers to implement discounts despite generating billions of dollars in profit within the second half of 2020 (Khambay, & Narayanasamy, 2021). Such major cutbacks and substantial discounts are pushed further down the line harming the wages of garment factory workers. Other firms resorted to implementing various arbitrary criteria to reduce their compensation responsibilities such as non-remuneration of benefits accrued over time, asking employees to resign, or resort to nonpayment of salaries (Rajan, & Pattath, 2022).

A) Thailand

In the case of Thailand, the Ministry of Labour reported that there are at least 2.1 million migrant workers already inside the country (International Labour Organization, 2022a). A year before the pandemic, these migrant workers make up 10% of Thailand's total labor force (Human Rights Working Group, 2020). When COVID-19 hit, entertainment, retail, fishing, manufacturing, and construction industries, which employ mostly migrant workers, were ordered to shut down to contain the virus. Migrant fishermen in Samut Sakhon were not allowed to work without a negative COVID-19 test result (Wongsamuth, 2021). Migrant garment workers lost their social security benefit and other compensations due factory and border closures (Migrant Forum Asia, 2021). The tourism industry was the hardest-hit sector with cancellations mounting since the end of January 2020, and tourism operators implementing wage deductions and leave without pay to keep companies afloat. In response to the crisis, the Thai government rolled out 5,000 THB handout to support the country's 3 million informal workers (Post Reporters, 2020).

B) The Philippines

The Philippines, on the other hand, has over 1.96 million overseas Filipino workers (OFWs) as of December 2021 (Mapa, 2022). The International Organization for Migration conducted a survey of 8,332 OFW returnees during COVID-19 and revealed that 17% of the sample did not receive their final wage while close to 60% did not receive their separation pay (International Organization for Migration, 2021a). In the local setting, BPO employees were placed on "floating status" for 90 days without pay (Macaraeg, 2020). Another survey of 600 men and women employees from large private firms revealed that 17% have less pay and 13% were forced to take unpaid leave. This affected household income and well-being due to rising financial concerns and uncertainty about the situation (Investing in Women, 2020). The Philippine government responded to the crisis by providing 5,000 – 8,000 PHP cash aid for the vulnerable groups and informal workers of the country (Nakpil, 2020).

1.2 Labor policies of Thailand

Currently, Thailand has both judicial and non-judicial access to remedy for wage disputes. On a judicial aspect, Thailand has its Act for the Establishment of and Procedure for Labour Court of 1979 (Adulyadej, 1979) and Labour Protection Act (LPA) of 1998 (The Department of Labour Protection and Welfare, 1998). Section 8 of the 1979 Act indicates the jurisdiction powers of the Labour Court which includes disputes concerning the rights or duties under an employment agreement or under the terms concerning the state of employment, and cases arising from the ground of wrongful acts between the employers and employees in connection with a labor dispute

or in connection with the performance of work under an employment agreement (International Labour Organization, 2023). Furthermore, the Act separates cases and issues surrounding employment from regular civil cases through the application of the Labour Protection Act of 1998 (The Department of Labour Protection and Welfare, 1998) and the Civil and Commercial Code employment acts and statutes (Thailand Court, 2023).

The Labour Protection Act (LPA) of 1998 (The Department of Labour Protection and Welfare, 1998) meanwhile enshrines the rights and welfare of workers. The 1998 Act includes migrant workers and any human and labor rights violations reported to the Labour Court or Labour Inspector. Section 23 of LPA states that the normal working hours in a day are eight while Section 9 states that should an employer fail to pay back wages, overtime pay, holiday pay, and holiday overtime pay within a month, or severance pay or special severance pay, the employer shall pay interests to an employee at the rate of 15% per annum during the current year. The LPA also limits an employer's ability to make deductions from wages except for payment of income tax, labor union contributions, debts to a savings cooperative or cooperatives of similar nature, debts entered for the employee's welfare and benefit such as salary loan, payment of security deposit for workers who have responsibility with company cash or property, and provident fund contributions with an accompanying fund agreement (Supasitthumrong, Tilleke, & Gibbins, 2018).

Although the Labour Protection Act was migrant-worker inclusive from the onset and has been constantly reshaping to accommodate changes over the years, the enforcement of the law was limited and outside laborers have increased under the limited rights and liberty in labor unions (Yotwilai, & Ratchatawan, 2019). In defense of the Thai government, the Ministry of Labour (MOL) and Department of Employment (DOE) established 10 Migrant Workers Assistance Centers (MWACs) to protect and promote the rights of migrant workers including the assurance of access to various grievance mechanisms available under the Thai labor and migration law. An assessment was conducted from October 2017 to February 2018 and revealed that the MWACs have improved migrant workers' ability to access information and receive advice regarding their employment, working conditions and rights. Further findings revealed that the centers were able to deliver services to 124, 515 migrant workers from August 2016 to April 2019 (International Labour Organization, 2020).

Thailand also has State-based non-judicial channels or more commonly known as Alternative Dispute Resolution (ADR) mechanisms to handle employment issues without resorting to court. The first one is The Arbitration Act of 2002 wherein parties are to submit disputes to a third party, known as the arbitrator, who will then set out the terms of the decision. Similar to a court ruling, the decision is final and binding (International Organization for Migration, 2021b). The benefits to parties to a dispute, particularly to a foreign litigant, can be significant (Siam Legal, 2023). The second non-judicial policy is the Dispute Mediation Act of 2019 wherein parties enter into a negotiation with the help of a mediator to reach a settlement that is acceptable to all. Unlike arbitration, it is the parties who set out the terms of the agreement and not the mediator (International Organization for Migration, 2021b). The 2019 Act is found to be popular among workers and employers and helps retain the relationship between the two parties.

1.3 Labor policies of The Philippines

As for the Philippines, the rise of OFWs prompted the country's legislators to tailor policies specific for the protection of migrant workers. The Migrant Workers and Overseas Filipinos Act of 1995 (2023) provides legal assistance and funding for OFWs to acquire foreign lawyers, payment of bail bonds, court fees, and other litigation expenses. Section 24 refers to the establishment of a Legal Assistant for Migrant Workers Affairs under the Department of Foreign Affairs' (DFA) embassies and consulates abroad. The Legal Assistant shall be primarily responsible for the provision and overall coordination of all legal assistance services to Overseas Filipino Workers as well as Overseas Filipinos (OFs) in distress. The Legal Assistant also has the authority to hire foreign private lawyers to assist the officer in the effective discharge of the above functions. Section 25 on the other hand, establishes the amount of Legal Assistance Fund (LAF) while Section 26 determines where the fund should be spent on. This includes professional fees to foreign lawyers, bail bonds to secure temporary release of workers under detention, court fees, and other litigation expenses among other things.

The Department of Migrant Workers Act (Tahanan, 2021) is a newly designed ministry tasked to oversee the management, monitoring, and welfare and rights of OFWs. Section 15 specifically establishes the Migrant Workers Office (MWO), absorbing the former Philippine Overseas Labor Offices (POLO) and Assistance-to-Nationals (ATN) Unit of Philippine embassies and consulates abroad, to serve as the operating arm of DMW. The

MWO is mandated to protect OFWs and assist them in employer-employee disputes such as violation of work contract, nonpayment of wages and other benefits, illegal dismissal, and other violations of the terms and conditions of their employment

Lastly, the Wage Theft Prevention Act otherwise known as Senate Bill 208, introduced by Senator Raffy Teshiba Tulfo (2022) seeks to penalize the act of wage theft both locally and abroad. Section 2 and 3 of the bill states that it is the policy of the State to not only ensure workers' rights are met and protected, but that the act of penalizing wage theft should apply both locally and abroad. Section 6 further explains that those found guilty of wage theft are criminally liable in accordance with Article 309 of the Revised Penal Code of the Philippines. However, there is no specific process how to penalize overseas employers. The bill is still pending in the committee as of August 2022.

An interesting observation by Javadikouchaksaraei (2018) points out that the labor laws of Southeast Asian countries vary greatly according to the kind of migration movement taking place. Countries like the Philippines, Cambodia, Myanmar, Laos, Vietnam, and Indonesia are regarded as countries with emigrant movement. This means nationals move out of their home country to settle permanently abroad. While Singapore, Brunei Darussalam, Malaysia, and Thailand on the other hand, are countries with immigrant movement. In other words, foreigners are coming in to live permanently in their country instead. Having such circumstances placed, countries like the Philippines have less policies for the immigrant community within the country. While in Thailand, where the rate of immigration is distinctly higher than the Philippines, there are well-placed laws for foreign laborers with airtight regulations.

1.4. Other promising labor policies around the world

It is important to note that there is no jurisdiction in the world yet where unpaid and underpaid migrant workers can expect to recover the full wages owed to them. For the most part, national systems place all the burden, expenses, and risks of remedying wage-related issues on the hands of the migrant workers (Farbenblum, & Berg, 2021). However, a few countries have acted to improve the access to justice and remedy.

Australia's Fair Work Act (FWA) of 2009 places the burden of proof to the employer instead of the employee. Employers are to keep records of remuneration, taxation and other deductions, incentives, overtime hours, allowances, leaves taken and balances, and notices of termination. Failure to comply will require the employer to disprove the allegations (Kelleher, 2017). Section 425.1 of the Criminal Code of Canada meanwhile prohibits employers or any person of authority to take disciplinary or retaliatory action intended to demote, terminate, or antagonize an employee (Justice Laws Website, 1985; International Labour Organization, 2022b). The mere act of threatening an employee is also punishable under the said law. In the United States, the states of Arizona, California, Florida, New York, Oregon, and the District of Columbia instituted retaliation protection laws that will allow workers to 1) claim monetary damages in addition to lost pay; 2) recover cost of attorney fees; 3) take court action against retaliatory acts; and allow the government to impose fines on employers who are found guilty of labor injustices (Huizar, 2019). The United Arab Emirates also has its e-Trials which allows migrant workers to attend court hearings remotely during widespread crises such as COVID-19 and in the event of untimely return to their country of origin (Faal, 2021). The UAE government has also introduced mobile labor courts that come to workers to respond on salary disputes and ensure they are paid on the spot (Farbenblum, & Berg, 2021). Lastly, the Kingdom of Saudi Arabia deployed a Labor Attaché to the Philippines to accommodate repatriated Filipinos who wish to file cases on wage-related issues against their former employers (Farbenblum, & Berg, 2021; Aben, 2020).

2. Objectives

1. To examine the underpayment situation of Filipino Migrant Teachers in Thailand during the COVID-19 pandemic.
2. To propose recommendations for the Thai and Philippine government to create or improve its policies and redress mechanisms for underpayment of wages.

3. Materials and Methods

A qualitative approach was utilized in this research in order to gain a rich and detailed understanding of the phenomenon. The Purposive sampling technique was employed to meet matching needs and ensure that the

individuals selected are proficient and well-informed of the field of interest (Campbell et al., 2020; Cresswell, & Clark, 2011, as cited in Etikan, Musa, & Alkassim, 2016). The study used both primary and secondary sources of information in analyzing the findings of the study. Primary information was obtained through semi-structured interviews. Semi-structured interviews provide greater breadth and depth of information with a particular emphasis in understanding the social movement of actors (Klandermans, & Staggenborg, 2002). The secondary information meanwhile was acquired from existing bodies of research, current literature, news reports, government legislations and publications, and other forms of public information relevant to the study.

3.1 Participants

A total of 9 participants and one government representative were asked to share their experiences and knowledge on the underpayment of wages. Selection of the nine participants were based in two criteria: 1) they must be documented Filipino Migrant Teachers in Thailand; and 2) are employed during the peak of the pandemic period, specifically before January 2020 until after January 2022. The sampling did not restrict itself in terms of gender, grade, or year level of teaching, public or private employment, and whether hired under a manpower agency or directly through an academic institution. For the government side, one representative from the Philippine Embassy in Bangkok was asked to share their knowledge. Table 1 and Table 3.2 provides further illustration of the participants' information.

Table 1 Participant's Information

No.	Participant	Gender	Year Employed	Work Experience	Location
1	A	Male	2018-2022	3.5 years	Nakhon Pathom
2	B	Male	2019-2023	4 years	Chiang Mai
3	C	Female	2018-present	4 years on going	Nakhon Pathom
4	D	Female	2018-present	4 years on going	Nakhon Pathom
5	E	Female	2018-2022	4 years	Nakhon Pathom
6	F	Female	2018-present	5 years on going	Rayong
7	G	Male	2016-present	7 years on going	Bangkok
8	H	Female	2019-present	4 years on going	Bangkok
9	I	Female	2013-present	10 years on going	Bangkok

Table 2 Government Representative's Information

No.	Participant	Gender	Work Experience	Office
1	J	Male	15 years on going	Philippine Embassy in Bangkok

3.2 Scope Limitation

The study intended to interview the Ministry of Labour, Ministry of Education, and employers to gather more information and insight about reports of underpayment in Thailand. However, due to time constraints and organizational protocols to observe in the Thai government ministries, the researcher was unable to determine how many cases have been lodged and resolved by the Thai government and what other relevant information and initiatives are in the works now to address similar situations. In addition, due to personal privacy and business confidentiality reasons, the researcher was also unable to interview the employers both from schools and manpower agencies. Thus, this research could not provide additional context on the operational constraints encountered by the employers during the period of underpayment of their hired teachers. Nevertheless, the study attempted to fill all these gaps with secondary data from existing literature and legislation.

4. Results

This section will exhibit the findings of the research. The first part demonstrates a summary of the types of underpayment experienced by the participants of the study. This is then followed by the three themes generated

from the interviews: a) attitude towards the situation of underpayment; b) redressing strategies; and c) perception towards accessing justice.

4.1 Underpayment situation during the COVID-19 pandemic

From the interviews conducted, there were two forms of underpayment during the COVID-19 pandemic. The first form underpayment of their basic salary and the second form is underpayment of other forms of remuneration such as overtime, rest day duty, holiday work, extra classes, etc. A summary of the experiences is provided in Table 3.

Table 3 Underpayment Situation Experienced by Filipino Migrant Teachers During the COVID-19 Pandemic

Participant	Type of Underpayment	Situation	Duration
A	Basic Salary	Received only 17% of his total compensation	3 months (Mar, May, Jun 2020)
B	Did not experience any form of underpayment	-	-
C	Basic Salary	Received only 32% of her total compensation	3 months (Mar, May, Jun 2020)
	Other Forms of Remuneration	Did not receive payment of 1,200 THB per extra class	2 weeks (March 2020)
D	Other Forms of Remuneration	Did not receive payment of 1,200 THB per extra class	2 weeks (March 2020)
E	Basic Salary	Received only 50% of her salary increment	1 year (2021)
F	Did not experience any form of underpayment	-	-
G	Basic Salary	Received only 60-70% of her total compensation	2 months (May, Jun 2020)
	Other Forms of Remuneration	Did not receive payment of extra classes (approx. below 20,000 THB in total)	11 months (May 2019-Mar 2020)
H	Basic Salary	Received only 60-70% of his total compensation in one school	2 months (May, Jun 2020)
	Other Forms of Remuneration	Did not receive payment of extra classes (approx. above 20,000 THB in total)	11 months (May 2019-Mar 2020)
	Basic Salary	Received only 93% and 75% of his total compensation in different periods in another school	1 month – 93% (Sep 2021) 5 months – 75% (Nov 2021-Mar 2022)
I	Basic Salary	Received only 75% of her total compensation	3 months (May, Jun, Jul 2020)

Participant B did not experience any form of underpayment during COVID-19 because he was employed under a public school in Chiang Mai. He explained that their compensation was funded from government coffers. As for Participant F, she also did not experience any type of underpayment during the crisis since she was hired under a prestigious international school in Rayong with sufficient funding.

A) Attitude Towards the Situation of Underpayment

There were three major themes that emerged in the study. The first theme is attitude towards the situation of underpayment. The attitudes demonstrated were settling for less, optimism, and racial prejudice.

Settling for Less

Except for Participant B and J, all participants expressed that they settled for less or that it was what they observed with fellow Filipinos when facing the issue of underpayment. This resigning attitude stems from various reasons such as fear of losing their jobs, the precarity of their status as migrant workers, and the on-going COVID-

19 crisis itself. Moreover, the responsibility of sending remittances back home outweighs any personal urge to raise the issue of underpayment.

We have certain limits in terms of visa, usually lasting within 3 months or at least 3 exits. This presents a difficulty especially if you are not an Education degree holder. It will be very hard to apply and find a job. So, Filipinos settle for less just to get the job (Participant C, Personal Communication, May 05, 2023).

Us, Filipinos, we just say, "That is okay, rather than losing the job, right?", because we value our family. We focus on future implications compared to other nationalities who may have a different reaction. (Participant I, Personal Communication, May 20, 2023)

Optimism

Participant A, E, and I displayed an optimistic attitude during the situation of underpayment. Optimism was their preferred course of action in order to: 1) mentally and emotionally function in society, 2) find gratitude amidst the crisis, and 3) demonstrate resilience and resourcefulness.

The important thing is that we are getting paid, the pay was getting back to normal. And just being grateful! Because at that time, we were already hearing stories of Filipinos getting repatriated there. Filipinos repatriating themselves! And when they end up in the Philippines? No jobs! Right? Dude, we were lucky because the school kept us (Participant A, Personal Communication, May 01, 2023).

In my department, I had a Caucasian colleague teaching Visual Arts, and he is part of that anti movement in the school. Then I explained to him, "Actually, you do not have to worry about us, Filipinos, because we are very resourceful. It is innate in us," And then I added, "If you are worried that we will not have anything to eat, we can survive with just tinned sardines and porridge," (Participant I, Personal Communication, May 20, 2023)

Racial Prejudice

A common understanding between Participants A, C, D, G, and H was that local authorities will side with their fellow Thai nationals, and that their identity as foreign workers would make them second-class citizens.

It crossed our minds actually, us foreign teachers, "You know what? We can actually raise this concern to MOE and all," But since it is Thailand, why would they give care and concern to foreigners? Try to go to a police station, try to report an incident. What happens is that they are going to push through the process. But at the end of that transaction, when you get out of that door, you will never know what is going to happen next... It is a totally different thing when it comes to locals and us working there (Participant A, Personal Communication, May 01, 2023)

No one among us had the courage to report to the labor authorities because we felt that if we ever did, the labor authorities would side with their fellow Thai nationals (Participant C, Personal Communication, May 05, 2023).

B) Redressing Strategies

The second theme presents how the Filipino Migrant Teachers remedied the situation of underpayment. There were three strategies employed by the participants which are assertiveness, restraint, and borrowing.

Assertiveness

Participant C, D, E, H, and I opted for a direct engagement with their employers to resolve the issue. Participant I (Personal Communication, May 20, 2023) gained favorable results as described below:

The school chairman emailed us informing everyone that by May, only 50% of our compensation will be paid. And then we were given an option, to either accept the 50% or they will give a 100% of our summer break salary but our contracts will no longer be renewed... I sent an email to the chairman suggesting if we can receive 75% instead, since we rendered online classes throughout May. And as soon as they are able to rebound from the crisis, that is the time they can pay us back with the balance. I did not expect that after emailing, we would receive an email that the school will give us 75% of our salary. I thanked the chairman, and it was 3 months with 75% salary.

Participant H, on the other hand, failed to claim back his initial compensation amount. He alleged that the political influence of the head of the school may have played a role in the outcome. Participant H (Personal Communication, May 11, 2023) shared more details to this situation by stating:

We went to [Ministry of] Labour, Ministry of Education. But nothing came out of it, because the owner of the school happened to be the governor? Or the mayor? At the same time. We could not do anything about it. We did not stand a chance.

Restraint

The use of restraint was more evident with government entities such as the Labour and Education Ministry of Thailand and the Philippine Embassy in Bangkok. Only Participant A and G held themselves back from expressing grievance with their employers.

To be honest, I did not anymore... followed up or exerted useless effort to... uh... to do that. What happened was that I was just being virtuous at that time. I will just shut up and work; work to paying my debts, working back to get my normal pay (Participant A, Personal Communication, May 01, 2023)

Participant E meanwhile, explained that finding evidence to present to the authorities was found to be an impediment towards redressing the issue of underpayment. "We did not anymore, because I think that time, we needed to gather data and evidence to prove that. And some of us have families already." (Participant E, Personal Communication, May 06, 2023) on the other hand stated).

Borrowing

Although this strategy was employed only by Participant A and C, it is noteworthy to include in the study because it was an essential technique to provide temporary solution to the situation of underpayment. Since schools were cutting their compensation for teachers, some agencies provided cash loans to augment the decrease in income.

I had a good relationship with my agency because they always provide and help [us]. You can also apply for cash advances as much as you like. But it will be deducted immediately once the salary comes. Depending on the terms negotiated, they can also deduct like thrice in a month or in whole (Participant C, Personal Communication, May 05, 2023).

C) Perception Towards Accessing Justice

The last theme in this chapter describes the perception of the participants towards accessing justice from underpayment. Processing perceptual information is often anchored on a subjective experience and may be substantially different from reality. Skepticism, fear of reprisal, and cultural and linguistic differences shaped most of the perception of the participants.

Skepticism

Participant A, C, D, E, G, and H believed that anyone is free to lodge a complaint or file a formal case against their employers, but the doubt lies after the documentation stage.

You would get past the gate, you would be able to sign some papers, right? But on the resolution part, I think 6-7 times out of 10, you are going to lose. You are going to end up being negotiated to... “Well, the matter of fact is...” You know? those kinds of stuff... (Participant A, Personal Communication, May 01, 2023)

I could see scenarios. First would be an internal settlement to end the issue quickly. The second one would be, I am already back home in the Philippines, but the case is still pending... (Participant E, Personal Communication, May 06, 2023)

Fear of Reprisal

Participant C, D, E, and H shared that what they feared most was getting terminated from their jobs, or that their employer might single them out and subject them to antagonistic treatment.

We do not want trouble. Because if we raise that to Labour authorities, it will mean that we are going against the management and that we have higher chances of getting terminated. That really leaves us with nothing, especially that it was a particularly difficult time to find new jobs (Participant E, Personal Communication, May 06, 2023)

We could not do anything in the end, it is them who had the final say. So, we just accepted things since it would be difficult for us to keep fighting. We do not have income anymore... The issue did not die, the school decided not to renew us. They only let us finish the contract that time (Participant H, Personal Communication, May 11, 2023)

Cultural and Linguistic Differences

Participant A, B, F, G, and H cited cultural nuances as a reason why accessing justice towards underpayment was difficult for them.

Because when you get accustomed to Thai culture, Thai attitude and all that, although they are somehow significantly a little bit more pleasing than Filipino attitude, but most of the time it will end up like, “Just arrange it internally,” “Just talk to it privately with the concerned body or entity,” That is how you normally get end up with (Participant A, Personal Communication, May 01, 2023).

Thais have their culture of just following whatever the Heads are telling them even if they are on overload. For us, foreign teachers, we say no when it is too much. But they try to treat us like Thais. So, when we complain, they take it against us, “What a complainer!”, “What a whiner!” Also, in Thai culture, they always emphasize obedience (Participant B, Personal Communication, May 03, 2023).

Language was also an obvious obstruction in expressing grievances related to underpayment and in understanding labor policies.

Before when I started on my first school, I read some [labor policies] when I went to the Labour Ministry. I think I read something about the rules of being a teacher in Thailand. But that was a long time ago... There were also a few things about our rights but not in full detail because mostly they were written in Thai (Participant C, Personal Communication, May 05, 2023).

I also did not read about local labor policies, except when I come to the Labour Ministry. The things I read are only about the policies in obtaining a work permit. Apart from that, you have to use Google Translate because there are no English translated... [bulletin boards] (Participant D, Personal Communication, May 05, 2023).

D) Information from the Philippine Embassy in Bangkok

The study also interviewed the Philippine Embassy in Bangkok to acquire information relevant to the situation of underpayment and nonpayment of wages of Filipino Migrant Teachers in Thailand during the COVID-19 pandemic. According to Participant J, the Embassy did receive calls and emails of similar nature but the bulk of request the office has been getting that time were repatriation flights and relief packages.

The Embassy does not have a specific program because it is a pandemic, it is a crisis. So again, at that time, the major assistance that we provided was repatriation flights... because of the uncertainty at that time. In fact, it took a long time before the economy has reopened. So, in the absence of that certainty of being able to return to their work, the most rational thing to do is for them to return to the Philippines. And so, that's what we facilitated (Participant J, Personal Communication, July 20, 2023).

Data from the Philippine Embassy in Bangkok showed that from 2020 to 2022, a total of 3,998 Filipinos were flown out of Thailand through these repatriation flights. However, for Filipinos who opted to stay in Thailand, the Thai Bureau of Immigration offered an extension through their "COVID Visa" program. Applicants must be endorsed by their respective embassies in which the Philippine Embassy issued a total of 21,789 request letters. In terms of handling complaints related to salary or enforcement of contracts, Participant J (Personal Communication, July 20, 2023) responded the following:

The basic principle is that when such a complaint is lodged with the Philippine Embassy, what we will do is, of course, to exhaust all the procedures. Because you cannot just jump on filing a complaint without exhausting first the internal procedures that they have laid down in their company. We have to go through that process. So, that is the first thing that we would advise them. Because like in many countries, if you go directly to filing a legal complaint, it is like being done in bad faith because you have not taken advantage first of the mechanisms available in your workplace.

Should the internal mechanisms have been exhausted with no satisfaction on the part of the Filipino Migrant Teacher, he or she may resort to legal action using his or her own resources or through the assistance of non-governmental organizations. If the Filipino Migrant Teacher requests for legal assistance to the Embassy itself, the request will undergo a vetting procedure in the Home Office to examine if it is reasonable to provide a lawyer. At the moment, the Philippine Embassy in Bangkok is advocating for a bilateral labor agreement to provide better working conditions and opportunities for Filipino Migrant Teachers and other professions in Thailand. However, the agreement is still yet to be materialized between the two countries. Participant J (Personal Communication, July 20, 2023) pointed more of this in detail:

It could be better if only there can be a bilateral labor agreement. But as I said, we may want it, but it depends on the receptiveness of the host government in Thailand. At this time, we feel that Thailand is not ready for it. Because they feel that they are already giving adequate work or suitable work conditions for Filipinos here. But as I said, it could be better. Comparing, for example, the situation of overseas Filipinos who are teaching, for example, [with] the other nationals here [who] are getting paid better. And that is the prerogative of the employer because of the absence of a bilateral agreement. So, the only legal obligation of the host government here is not to violate their local labor laws. So long as they are able to meet their minimum wages, for example, they are not in any situation of violating their own laws.

With respect to the issue of underpayment or nonpayment of wages, the Philippine Embassy agrees that such cases should be informed to their office as well. However, it is important that the Filipino Migrant Teachers also carefully read their contracts.

I agree with you that we need to know about these things so that we can advocate their cases. But going back to the situation you just described, if the non-payment, or under-payment of compensation took place during the pandemic, it will be hard to enforce that because it is in their contracts. The basic principle here, and I think it is an industry practice, if there is no work, there is no pay. And also, I think, even if you elevate that case to their labor mechanisms here in Thailand, I am pretty sure that their labor authorities will decide in favor of the employers. Because how can the employer pay if they are not receiving income? So, it is an extraordinary situation. Unless it is happening during normal times, that is a different matter... That is why it is very important to read the contracts. Here at the embassy, we see these contracts every day. And almost always, that is the condition. If there is no work, for whatever reason, then payment would not be made (Participant J, Personal Communication, July 20, 2023).

5. Discussion

This section involves two parts. The first focuses on analyzing the findings with the relevant literature and identifying what problems resonate most in the study. The second part deals with the recommendations from the participants in resolving the situation of underpayment.

5.1. Underpayment situation of Filipino migrant teachers in Thailand during the COVID-19 pandemic

There are four problems identified in the present research. The first problem is the lack of a Bilateral Labor Agreement (BLA). According to Participant J, without a BLA, employers have the prerogative of settling the amount of compensation and enforce a “no work, no pay” rule. As such, establishing a BLA can even the playing field for migrant workers. Such is resonated in the work of Sáez (2013) wherein he determined that Pacific Island countries’ BLAs with Australia and New Zealand included a criterion for determining eligibility to recruit foreign labor, minimum and maximum employment contract and visa duration, standard wages, cost-sharing for the placement and accommodation of migrant workers, and stern sanctions for non-compliance with policy rules. Spain’s BLA with the Philippines also allowed Filipino migrant workers to enroll in the Spanish social security system and enjoy their pension benefits outside the country.

Researchers argue that a BLA should not only work to provide a safe and regulated work opportunity for migrant workers, but should also enshrine decent work conditions, labor rights, and appropriate dispute resolution mechanisms (Bhattarai, Baniya, Tumsa, & Rai, 2022; Foley, & Piper, 2021). BLAs also have the capacity to call for origin countries to pre-screen migrant workers before they depart, for destination countries to provide certain protections during their employment, and for both countries to keep records, share information, and resolve disputes related to labor migration (Chilton, & Woda, 2022). Thu et al. (2021) further suggested that labor and migration relevant legislations and infrastructures should be regularly assessed to ensure that they remain relevant to the changing contexts and lived experiences of workers.

The second problem is related to existing laws and policymaking. Thailand has both judicial and non-judicial access to remedy which are all migrant worker-inclusive (International Organization for Migration, 2021b). However, these current laws don’t have protection measures yet for complainants. As such, policies that can lift the burden of proof and fear from employees can further improve the chances of getting these issues of underpayment reported and resolved. Participant C, D, and E shared that they did not resort to legal action because of fear of reprisal. Foley, and Piper (2021) also revealed that migrant workers experience fear of reprisal because their visas might get revoked, leave them jobless, and put them in a worse financial situation than when they started. Harkins, and Åhlberg (2017) also revealed that among low-skilled migrant workers in Thailand, majority of the grievance cases were dropped because of fear of retaliation from employers. The same is true in Europe, wherein many Filipino domestic workers during COVID-19 endured the same abusive and exploitative work conditions out of fear of losing their regular status, being dismissed, or not being paid at all (Verité, 2021). A simple way to encourage migrant workers to speak up against labor irregularities is to have policies that safeguard them from retaliation like those of Criminal Code of Canada (Justice Laws Website, 1985), Retaliation Protection Laws in the United States (Huizar, 2019), and Fair Work Act of Australia (Fair Work Commission of Australia, 2023).

Transferring the burden of proof to the employer is also another policy improvement to protect migrant workers. Participant E expressed that another reason she restrained from taking appropriate action is because of

the absence of proof she needed to make claims. In the study of Farbenblum, and Berg (2021), most cases of underpayment and other forms of wage theft go unresolved or unreported because the burden generally rests on workers to prove that they are not getting paid. In fact, in Thailand, the third most prominent reason why complaints related to compensation are being dropped is because of insufficient evidence or inability to meet legal or procedural requirements (Harkins, & Åhlberg, 2017). Foley, and Piper (2021) also included documentation and proof of violation as some of the institutional flaws that hinder migrant workers' ability to pursue justice.

To prevent this from happening, the Thai government can reverse the onus of presenting evidence similar to the Fair Work Act of Australia (International Labour Organization, 2022b; Kelleher, 2017). Another way is to digitize employment records like those of Saudi Arabia's Labor Reform Initiative (LRI). The LRI requires employers to provide electronic documentation of worker contracts to serve as key evidence in identifying terms of recruitment, housing, labor, wages, and employer compliance (International Labour Organization, 2022b). Improving laws that will lift the burden of proof from workers and protect them from reprisals would enable migrant workers to have the confidence and voice to stand up against issues like underpayment of wages that were otherwise unreported or unresolved through conventional and internal dispute mechanisms.

The third problem refers to the need for a comprehensive orientation of host-country labor policies and related culture and customs. Participant A to I reported that they did not receive a proper labor orientation by their employers. Participant E in particular, believes part of the reason why the issue of underpayment is happening is because of a knowledge gap in host-country policies. Such knowledge gap in local labor policies could have been supplied by a proper state-managed overseas employment program. Through a BLA, the Philippines could enforce a Pre-Departure Orientation Seminar (PDOS) to prospect workers bound for Thailand. A PDOS is a mandatory orientation-seminar that aims to equip migrant workers with essential information about work standards, general country profile, stages of a migrant worker's life, health and safety, and Philippine government programs and services (Overseas Workers Welfare Administration, 2023).

This is supported by study of the Asian Development Bank (2020) among Tajik migrant workers. The majority of the said workers leave the country with inadequate knowledge in the culture, rights, laws, and documentation processes of the destination countries. In response, the Ministry of Labor, Migration and Employment (MOLME) established a pre-departure orientation to help Tajik migrant workers in terms of decision-making and acquiring necessary life skills for survival. Watanabe (2014) also revealed that the pre-departure orientation programs of the Philippines provide sufficient essential information but emphasized that the "well-informedness" of Filipino domestic workers also rely on their will to understand host country society and their own lived experiences.

Countries of destination can also conduct a post-arrival orientation program. The Employment Permit System (EPS) of South Korea requires foreign workers to attend a two-day briefing program to educate them of their rights under the Korean labor laws and how they can find support and solutions with labor issues (Organisation for Economic Co-operation and Development, Asian Development Bank Institute, & International Labour Organization, 2016). The program was found to be moderately useful to very useful in helping workers adjust in the country (International Labour Organization, 2015). Singapore's Settling-in Programme (SIP) also works in a similar vein (Ministry of Manpower of Singapore, 2023) wherein a pilot test of 1,900 workers revealed that they were able to understand how the Ministry of Manpower could help them during employment disputes and a post-course evaluation indicating workers displaying a more positive attitude towards work (Seow, 2017).

Pre-departure and post-arrival orientation programs can also solve another underlying issue which is culture. Participant A, B, E, F, G, and H have noted that Thai culture take serious regard for authority and avoidance of open conflict. This aligns with the study of Deguma et al. (2022) wherein they indicated that Thai classrooms place high respect for teacher authority. Also, in the work of Anurit, Selvarajah, and Meyer (2011), business managers in Thailand found non-confrontation and respect to authority as ideal in leadership roles and that confrontation and open disagreement can lead to loss of 'face' and poor work relationship. Keen awareness of socio-cultural differences through cultural orientation programs could reduce uncertainty amongst Filipino Migrant Teachers, avoid racial bias and cultural offense, and instill confidence towards their employers.

Finally, the fourth problem relates to linguistic differences between the Filipino Migrant Teachers and Thai employers and authorities. This finding is also resonated by a number of studies such as with Foley, and Piper (2021) reporting that migrant workers in the Middle East are up against a combination of institutional systems which includes language barrier. In Southeast Asia, language barriers are also seen to be one of the most

frequent impediments that migrant workers face when seeking redress with the issue of wages. This results to a very small number of documented cases in comparison with the usual labor rights abuses (Harkins, & Åhlberg, 2017). Farbenblum, and Berg (2021) also point out that the majority of migrant workers require legal assistance in lodging claims, gathering evidence, and transacting with government and court offices since these are not in their primary language.

In response, some countries work with technology to remove the problem. The Online Dispute Resolution (ODR) platform of the Middle Eastern operates with a multilingual facility to help migrant workers express grievances (Faal, 2021). In Abu Dhabi alone, the Labour Court has received 24,687 online requests which were settled amicably during the first quarter of 2022 while its Judicial Department offers translation services in Arabic, English, Urdu, Pashto, and Bengali, to reach out target groups and provide legal advice and information on their rights. The effort contributed to a 40 percent drop in labor cases (Emirates News Agency-WAM, 2023). Australia's Fair Work Ombudsman Agency also has an online platform for anonymous complaints available in 16 different languages. Taiwan has a migrant worker hotline providing 24-hour consultation that includes information on rights and legal advice in the migrant worker's language (Farbenblum, & Berg, 2021). Thailand, together the International Organization for Migration (2020) and other international organizations, civil society groups, public and private partners launched 'MitrThai'. This virtual migrant worker information hub collects and disseminates information, legal advice, and other relevant services that are available in Thai, Burmese, Laotian, and Khmer languages (MITRThai, 2023).

5.2. Recommendations for the Thai and Philippine government to improve its policies and redress mechanisms for underpayment

From the interviews conducted, there are three recommendations mentioned by the participants. The first recommendation is the creation of a BLA. As reported by Participant J, Philippine Embassy in Bangkok has already proposed such legal instrument to the Thai government and is waiting for further developments. With a BLA, contracts, compensation, and benefits, as well as dispute settlements can be standardized and enforced with legal basis (International Labour Organization, 2022b). Farbenblum, and Berg (2021) also underscored the value of BLA by infusing it with guidelines that pursue labor cases such as compensation and exploitation through a joint bilateral committee. Rajan, and Pattath (2022) also argue that including wage-related issues of migrant returnees could help inform bilateral operations between sending and receiving countries. Finally, at times of crisis such as the COVID-19 pandemic, BLAs can help governments in emergency preparedness and have a uniformed approach towards managing migrant workers (International Labour Organization, 2021).

The second recommendation from the participants of the study is to have a local labor orientation program prior to the start of employment. All the participants of the study have expressed a positive need for a labor orientation program to become familiar with the norms and labor laws of Thailand. Many studies recommend the need for a pre-departure orientation program to be administered, become a requirement, or to be further strengthened for migrant workers in order to raise awareness of their rights and get them familiarized with the process of grievance handling (Bhattarai, et. al., 2022; Verité, 2021; Asian Development Bank, 2020). The International Labour Organization (2015) also recommended that destination countries should make post-arrival orientation training mandatory for all migrant workers and that its provisions may be stipulated in the labor migration policy.

The third recommendation from Participants C, D, E, G, and H is to have more English-translated policies, whether in print or in digital format, when accessing information. The International Labour Organization (2022b) recommends governments to improve information on rights and access to justice for migrant workers through free professional translation and interpretation services when using judicial and non-judicial remedy mechanisms. Technology is also a highly recommended tool, through mobile applications and web-based platforms to provide translation of information, guidance on grievance handling, and useful redress mechanisms (Faal, 2021; International Organization for Migration, 2023).

6. Conclusion and Recommendations

This research has sought to examine the underpayment experiences of Filipino Migrant Teachers during the pandemic and what improvements in policy can be considered by both governments to mitigate the problem

and prevent such from happening in the future. The following summarizes the challenges found in the research and what recommendations apply to these problems.

6.1 Conclusion

A) Underpayment situation of Filipino migrant teachers in Thailand

By examining the situation of underpayment among Filipino Migrant Teachers in Thailand during the COVID-19 pandemic, the study identified four problems. The first is the lack of a BLA between Thailand and the Philippines. Without a BLA, compensations are not standardized, contracts remain unregulated, and identification of responsible actors and offices remain a blur. The second is to consider specific policy enhancements to protect workers from retaliation and the pressure of presenting evidence. Without these provisions, the issue might remain repressed, and pursuing legal action will be costly, both money and career-wise. The third problem is the unavailability of labor policy orientations and cultural training. If such information were made available, Filipino Migrant Teachers would know about their rights, norms to observe, and what redressing channels they can utilize to resolve underpayment and other labor issues. The last problem is language barrier.

B) Recommendations from participants for governments to improve their policies and redress mechanisms for underpayment

There are three recommendations from the participants to mitigate the issue of underpayment. The first recommendation is to materialize a BLA to help standardize compensation, regulate contracts, and specify redress mechanisms at the state-to-state level. The second recommendation is to provide labor orientation programs at the pre-employment stage and through the post-arrival phase. Staying informed can keep fear, racial bias, and skepticism of the law at bay. The last recommendation from the participants is the desire to see more English-translated copies of policies, announcements, and local and national orders in conspicuous places, spaces of public transaction, and virtual platforms. The visibility of these instruments can help draw attention to Filipino Migrant Teachers in reading and knowing more about the policies and rules related to them.

6.2 Recommendations

A) Recommendations for the Thai government

The following are recommendations for the Thai government:

1. To consider applying certain policy enhancements in Thai labor laws. These enhancements may either be to put the burden of proof to the employer and/or to place lawful restrictions that will prohibit them from acts of reprisal during and after the investigation of the case.
2. To utilize technology in enhancing redress mechanisms such as having digital courts and digital employment records.
3. To establish a post-arrival orientation program that would introduce appropriate labor laws and available redress mechanisms in Thailand.

B) Recommendations for the Philippine government

The following are recommendations to the Philippine government:

1. To provide a pre-departure orientation program once the BLA has been materialized.
2. To ensure that the pre-departure orientation is well-linked to Thailand's post-arrival orientation and reinforce common salient points.
3. To conduct a culture and language training or workshop to help Filipinos migrant workers become acquainted of the socio-cultural norms of Thailand.

C) Recommendations for both governments

This research further recommends to both Philippine and Thai government the following proposals:

1. To continue the negotiation on a BLA for Filipino migrant teachers, and other professions, and are encouraged to include the following:
 - A) Establishment of government-to-government recruitment channels to curb unfair labor practices and create a sound employment process for the exportation and importation of labor.

- B) Adoption of a well-linked pre-departure and post-arrival orientation program to ensure that Filipino Migrant Teachers are guided throughout the migration cycle.
 - C) Standardization of salary and increments based on academic and professional qualifications, as well as years of service.
 - D) Standardization of contracts particularly on social and corporate benefits, mandatory deductions, and emergency situations such as accident or death.
 - E) Embedding of transnational dispute resolution mechanisms that can define what constitutes underpayment and wage theft as a whole, point out responsible actors, specify the process of lodging complaints, reduce the time frame, and identify proper offices to file these cases.
 - F) At times of natural calamities, pandemics, and public unrest, crisis management strategies for the protection, repatriation, and wage resolution of migrant workers are also underscored.
2. To consider appointing a Labor Attaché in the two governments' respective embassies to help resolve issues of underpayment. The Philippines' submission of request for an MWO to the Thai government is already an indication of this effort.

D) Recommendations for Filipino migrant teachers

The research recommends the following to Filipino Migrant Teachers:

1. To thoroughly check their employment contracts in order to avoid misunderstandings in compensation and benefits and address any possible disproportionate conditions to make it more equitable and safer for the entire duration of employment.

E) Recommendations for employers

The following are recommendations to the school and manpower agencies:

1. To incorporate a comprehensive orientation program about Thai labor laws and workplace conduct should a post-arrival orientation program not be available from the government.
2. To introduce company-prescribed and state-sponsored redress mechanisms and ensure that internal dispute resolution channels are maximized first to avoid escalation.
3. To provide English versions of company rules and applicable local and national labor laws in the workplace to reinforce the rights and responsibilities of employees and employers alike.

7. References

- Aben, E. (2020). Manila welcomes arrival of first Saudi labor attache. *Arab News*. Retrieved from <https://www.arabnews.com/node/1730086/%7B%7B>
- Adulyadej, B. (1979). *Act for the Establishment of and Procedure for Labour Court B.E. 2522*, § 8. Retrieved from <https://asean.org/wp-content/uploads/2016/08/Thailand031.pdf>
- Al Jazeera Plus. (2022). *The UK mess just got worse* [Video]. Retrieved from <https://www.youtube.com/watch?v=ZoCVLqH1B2Y>
- Anurit, P. J., Selvarajah, C., & Meyer, D. (2011). Exploring relevant dimensions to leadership excellence in Thailand. *International Journal of Academic Research in Business and Social Sciences*, 1(3), 47-75.
- Asian Development Bank. (2020). *Strengthening support for labor migration in Tajikistan: Assessment and recommendations*. Retrieved from https://www.adb.org/sites/default/files/publication/656481/support-labor-migration-tajikistan_0.pdf
- Australian Council of Trade Unions. (2018). *Wage theft: The exploitation of workers is widespread and has become a business model*. Retrieved from <https://www.actu.org.au/wp-content/uploads/2023/06/media1385221d170-wage-theft-in-australia-the-exploitation-of-workers-is-widespread-and-has-become-a-business-model-actu-submission-15-august-2018.pdf>
- Berg, L., & Farbenblum, B. (2017). *Wage theft in Australia: Findings of the national temporary migrant work survey*. Retrieved from https://static1.squarespace.com/static/593f6d9fe4fcb5c458624206/t/5a11ff31ec212df525ad231d/1511128887089/Wage+theft+in+Australia+Report_final_web.pdf

- Bhattarai, S., Baniya, J., Tumsa, D., & Rai, N. (2022,). *Return, wage theft and access to justice of Nepali migrant workers during COVID-19*. Retrieved from <https://www.ceslam.org/uploads/backup/return-wage-theft-and-access-to-justice-of-nepali-migrant-workers-during-covid-19.pdf>
- Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., ... & Walker, K. (2020). Purposive sampling: complex or simple? Research case examples. *Journal of research in Nursing*, 25(8), 652-661. <https://doi.org/10.1177/1744987120927>
- Chilton, A., & Woda, B. (2022). The expanding universe of bilateral labor agreements. *Theoretical Inquiries in Law*, 23(2), 1-64. <https://doi.org/10.1515/til-2022-0010>
- Chok, S., & Ng, J. (2017). *Wage theft & exploitation among Singapore's migrant workers*. Retrieved from https://www.researchgate.net/publication/313160180_WAGE_THEFT_EXPLOITATION_AMONG_SINGAPORE'S_MIGRANT_WORKERS
- Deguma, G. E., Cacho, A. A. A., & Deguma, R. D. (2022). Paghimakas: Lived experiences of Filipino teachers in Thailand during the pandemic. *International Journal of Social Science and Human Research*, 5(2), 519-528. <https://doi.org/10.47191/ijsshr/v5-i2-17>
- Dumlao, R., & Tepsuriwong, S. (2019). From the Philippines to Thailand: Novice Filipino teachers' identity formation and positioning in Thailand. *Proceedings of the 9th International Conference on Language and Communication*, National Institute of Development Administration, Bangkok, Thailand. Retrieved from https://www.academia.edu/42117110/From_the_Philippines_to_Thailand_Novice_Filipino_teachers_identity_formation_and_positioning_in_Thailand
- Emirates News Agency-WAM. (2023). *Labour cases in Abu Dhabi drop by 40% during 2022: Judicial department*. Retrieved from <https://wam.ae/article/hszrgsw6-labour-cases-abu-dhabi-drop-40-during-2022>
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1-4. <https://doi.org/10.11648/j.ajtas.20160501.11>
- Faal, G. (2021). *Tele-justice: Facilitating workers' access to justice through digital tools*. Abu Dhabi Dialogue. Retrieved from http://abudhabidialogue.org.ae/sites/default/files/document-library/ADD%20-%20Research%20Papers_Theme%202.pdf
- Fair Work Commission of Australia. (2023). *Penalties for taking a reprisal against a whistleblower*. Retrieved from <https://regorgs.fwc.gov.au/sites/default/files/migration/429/fs016-penalties-for-taking-a-reprisal-against-a-whistleblower-fact-sheet.pdf>
- Farbenblum, B., & Berg, L. (2021). *Migrant workers' access to justice for wage theft: A global study of promising initiatives*. Migrant Justice Institute, University of New South Wales, Sydney, University of Technology, Sydney. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4012343
- Fassani, F., & Mazza, J. (2020). *A vulnerable workforce: Migrant workers in the COVID-19 pandemic*. European Union. Retrieved from <https://migrant-integration.ec.europa.eu/sites/default/files/2020-06/Avulnerableworkforcemigrantworkersinthecovide19pandemic.pdf>
- Ferriss, S., & Yeyardi, J. (2021). *Wage theft hits immigrants — hard*. The Center for Public Integrity. Retrieved from <https://publicintegrity.org/inequality-poverty-opportunity/garment-immigrant-workers-wage-theft/>
- Foley, L., & Piper, N. (2021). Returning home empty handed: Examining how COVID-19 exacerbated the non-payment of temporary migrant workers' wages. *Global Social Policy*, 21(3), 468–489. <https://doi.org/10.1177/14680181211012958>
- Hallett, N. (2022). Wage theft and worker exploitation in health care. *AMA Journal of Ethics*, 24(9), 890-894. <https://doi.org/10.1001/amajethics.2022.890>
- Harkins, B., & Åhlberg, M. (2017). *Access to justice for migrant workers in South-East Asia*. International Labour Organization. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_565877.pdf
- Harkins, B. (2019). *Thailand migration report 2019*. United Nations Thematic Working Group on Migration in Thailand. Retrieved from <https://thailand.un.org/sites/default/files/2020-06/Thailand-Migration-Report-2019.pdf>
- Harkins, B. (2020). Base motives: The case for an increased focus on wage theft migrant workers. *Anti-Trafficking Review*, 15, 42-62. <https://doi.org/10.14197/atr.201220153>

- Huizar, L. (2019). *Exposing wage theft without fear: States must protect workers from retaliation*. National Employment Law Project. Retrieved from <https://www.nelp.org/wp-content/uploads/Retal-Report-6-26-19.pdf>
- Human Rights Working Group. (2020). *Repression and resilience: COVID-19 response measures and migrant workers' rights in major East and Southeast Asian destinations*. Retrieved from https://www.spf.org/en/global-image/units/upfiles/144132-1-20211027112344_b6178b8309f108.pdf
- International Labour Organization. (2015). *Policy brief issue no. 2: Strengthening post-arrival orientation programs for migrant workers in ASEAN*. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/projectdocumentation/wcms_417376.pdf
- International Labour Organization. (2020). *Ensuring migrant workers access to justice: An assessment of Thailand's migrant workers assistance centers*. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_762346.pdf
- International Labour Organization. (2021). *Supporting migrant workers during the pandemic for a cohesive and responsive ASEAN community*. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro-bangkok/documents/publication/wcms_816971.pdf
- International Labour Organization. (2022a). *Triangle in ASEAN quarterly briefing note*. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/genericdocument/wcms_614383.pdf
- International Labour Organization. (2022b). *Fair recruitment and access to justice for migrant workers*. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---migrant/documents/publication/wcms_850615.pdf
- International Labour Organization. (2023). *Act on establishment of labour courts and labor court procedure, B. E. 2522 (1979)*. Retrieved from https://www.ilo.org/dyn/natlex/natlex4.detail?p_lang=en&p_isn=5090&p_country=THA&p_count=441
- International Organization for Migration. (2020). *Thailand's first online migrant information hub unveiled*. Retrieved from <https://thailand.iom.int/news/thailands-first-online-migrant-information-hub-unveiled>
- International Organization for Migration. (2021a). *COVID-19 impact assessment on returned overseas Filipino workers*. Retrieved from <https://dtm.iom.int/reports/covid-19-impact-assessment-returned-overseas-filipino-workers>
- International Organization for Migration. (2021b). *Business guidebook: How to mediate employment disputes under Thai labour law 2021*. Retrieved from <https://publications.iom.int/books/business-guidebook-how-mediate-employment-disputes-under-thai-labour-law-2021>
- International Organization for Migration. (2023). *Policy brief: Promoting the human and labour rights of migrant workers in Europe*. Retrieved from https://eea.iom.int/sites/g/files/tmzbd1666/files/documents/IOM_Policy-Brief_V3.pdf
- Investing in Women. (2020). *Impact of COVID-19 on employees in the Philippines, May 2020*. Retrieved from <https://investinginwomen.asia/wp-content/uploads/2020/06/IW-Philippines-COVID19-Employee-Survey-24Jun2020.pdf>
- Javadikouchaksaraei, M. (2018). Comparative analysis of migrant worker policy in Asian countries. *Social Sciences and Education Research Review*, 5(1), 6-39.
- Justice Laws Website. (1985). *Criminal Code of Canada*. Retrieved from <https://laws-lois.justice.gc.ca/eng/acts/c-46/>
- Kelleher, R. (2017). *Raising the bar for employee record keeping*. Johnson Winter Slattery. Retrieved from [https://jws.com.au/insights/articles/2017-articles/raising-the-bar-for-employee-record-keeping-\(1\)](https://jws.com.au/insights/articles/2017-articles/raising-the-bar-for-employee-record-keeping-(1))
- Khambay, A., & Narayanasamy, T. (2021). *Wage theft and pandemic profits: The right to a living wage for garment workers*. Business & Human Rights Resource Centre. Retrieved from https://media.business-humanrights.org/media/documents/Unpaid_wages_v9.pdf
- Khemaniythaitai, S. (2021). *Situation on migrant workers and border crossing during the Covid-19 pandemic*. Migrant Working Group. Retrieved from <https://mwgthailand.org/sites/default/files/2022>

- 02/Situation%20on%20Migrant%20Workers%20and%20border%20crossing%20During%20the%20co
vid19%20pandemic.pdf
- Klandermans, B., & Staggenborg, S. (Eds.). (2002). *Methods of Social Movement Research*. London, UK; University of Minnesota Press.
- Macaraeg, P. (2020). In limbo: Regular BPO employees on 'floating status' left with no pay. *Rappler*. Retrieved from <https://www.rappler.com/business/263949-in-limbo-regular-bpo-employees-floating-status-left-no-pay/>
- Mala, D. (2020). *Filipino teachers feel the pinch: 'No work, no pay' rule leaves hundreds struggling*. Bangkok Post. Retrieved from <https://www.bangkokpost.com/thailand/general/1919728/filipinoteachers->
- Mapa, C. D. (2022). *2022 Survey on Overseas Filipinos (Final result)*. Philippine Statistics Authority. Retrieved from <https://psa.gov.ph/statistics/survey/labor-and-employment/survey-overseas-filipinos>
- Migrant Forum Asia. (2012). *Reform of the Kafala (sponsorship) system*. Retrieved from https://mfasia.org/migrantforumasia/wp-content/uploads/2012/07/reformingkafala_final.pdf
- Migrant Forum Asia. (2021). *Crying out for justice: Wage theft against migrant workers during COVID-19*. Retrieved from https://mfasia.org/migrantforumasia/wp-content/uploads/2021/04/MFA_Crying-Out-for-Justice_04.12.pdf
- Ministry of Manpower of Singapore. (2023). *Settling-in programme (SIP) for work permit holders*. Retrieved from <https://www.mom.gov.sg/passess-and-permits/work-permit-for-foreign-worker/sector-specific-rules/settling-in-programme>
- MITRThai. (2023). *MitrThai: About us*. Retrieved from <https://mitrthai.com/employers/en/>
- Nakpil, D. (2020, March 31). Duterte assures ₱200-billion aid for the 'most affected' in COVID-19 crisis. *CNN Philippines*. Retrieved from <http://www.cnnphilippines.com/news/2020/3/31/Duterte-assures-%E2%82%B1200-billion-aid-for-the-most-affected-in-COVID-19-crisis--html>
- Novio, E. B. C. (2018). Tourist to ajarn: The Filipino teachers in Thailand. In *Proceeding National & International Conference*. Suansunandha Rajabhat University, Bangkok, Thailand.
- Organisation for Co-operation and Development, Asian Development Bank Institute, & International Labour Organization. (2016). *Labor migration in Asia: Building effective solutions*. Retrieved from <https://www.adb.org/sites/default/files/publication/178966/adbi-labor-migration-asia.pdf>
- Overseas Workers Welfare Administration. (2023, August 22). *Pre-departure education program*. Retrieved from https://owwa.gov.ph/?page_id=4136
- Piper, N., & Foley, L. (2021). *The other pandemic for migrant workers: wage theft*. Open Democracy. Retrieved from <https://www.opendemocracy.net/en/pandemic-border/other-pandemic-migrant-workers-wage-theft/>
- Post Reporters. (2020). Employing caution: Workers need to know their labour rights, write Post Reporters. *Bangkok Post*. Retrieved from <https://www.bangkokpost.com/business/1889140/employing-caution>
- Rajan, S. I., & Pattath, B. (2022). Distress return migration amid COVID-19: Kerala's response. *Asian and Pacific Migration Journal*, 31(2), 176-189. <https://doi.org/10.1177/01171968221115>
- Republic of the Philippines. (2023). *Migrant Workers and Overseas Filipinos Act of 1995*. Retrieved from [https://www.dmw.gov.ph/archives/laws&rules/files/Migrant%20Workers%20Act%20of%201995%20\(RA%208042\).html#:~:text=Migrant%20Workers%20Act%20of%201995%20\(RA%208042\)&text=An%20act%20to%20institute%20the,distress%2C%20and%20for%20other%20purposes](https://www.dmw.gov.ph/archives/laws&rules/files/Migrant%20Workers%20Act%20of%201995%20(RA%208042).html#:~:text=Migrant%20Workers%20Act%20of%201995%20(RA%208042)&text=An%20act%20to%20institute%20the,distress%2C%20and%20for%20other%20purposes)
- Sáez, S. (2013). *Let workers move: Using bilateral agreements to increase trade in services*. World Bank. Retrieved from <https://documents1.worldbank.org/curated/en/499131468157779290/pdf/Using-bilateral-labor-agreements-to-increase-trade-in-services.pdf>
- Sarausad, M. R. G. A., & Archavanitkul, K. (2014). Traversing the laws: The unregulated movement of Filipino migrants in Thailand. *Journal of Population and Social Studies [JPSS]*, 22(1), 53-69. <https://doi.org/10.14456/jpss.2014.6>
- Seow, B. Y. (2017). *Mandatory settling-in programme for foreign workers to start in second half of 2018*. The Straits Times. Retrieved from <https://www.straitstimes.com/singapore/manpower/mandatory-settling-in-programme-for-foreign-workers-to-start-in-second-half-of>
- Senator Raffy T. Tulfo. (2022). *Nineteenth Congress of The Republic of The Philippines First Regular Session*. Retrieved from <https://legacy.senate.gov.ph/lisdata/3791634359!.pdf>

- Siam Legal. (2023). *Arbitration in Thailand*. Retrieved from <https://www.siam-legal.com/litigation/arbitration-in-thailand.php#:~:text=The%20Arbitration%20Act%20of%202002%20and%20the%20Thai%20Civil%20Procedure,the%20relevant%20Conventions%20are%20met.>
- Subramaniam, G. (2020). *Losing more than their health - COVID-19 and migrant worker wage theft (pt 4)*. Retrieved from <https://www.ihrb.org/focus-areas/covid-19/covid19-migrant-workers-wagetheft>
- Supasitthumrong, C., Tilleke, & Gibbins. (2018). *To pay or not to pay: Deduction of wages under the Labour Protection Act*. Bangkok Post. Retrieved from <https://www.bangkokpost.com/business/1575070/to-pay-or-not-to-pay-deduction-of-wages-under-the-labour-protection-act>
- Tahanan, A. (2021). *Department of Migrant Workers*. Retrieved from <https://dmw.gov.ph/about-us/mandate>
- Thai PBS World. (2021). *More private schools in Thailand to close due to pandemic related cashflow problems*. Thai PBS World. Retrieved from <https://www.thaipbsworld.com/more-private-schools-in-thailand-to-close-due-to-pandemic-related-cashflow-problems/>
- Thailand Court. (2023). *The labour court in Thailand*. Retrieved from <https://www.thailandcourt.com/the-labor-court-in-thailand/#:~:text=2522%20created%20this%20court%20in,%2C%20employment%20acts%2C%20and%20statutes>
- Thailand International School Monitor. (2021). *As the COVID-19 crisis worsens in Thailand, international schools face exodus of foreign children*. Retrieved from <https://tismonitor.com/general-news/as-the-covid-19-crisis-worsens-in-thailand-international-schools-face-exodus-of-foreign-children>
- The Department of Labour Protection and Welfare. (1998). *The Labour Protection*. Retrieved from https://www.labour.go.th/attachments/article/47756/Labour_Protection_Act_BE2541.pdf
- Thu, P. M., Pratheepwatanawong, M., Pross, C., Engblom, A., Pottler, M., Piper, N., & Chantavanich, S. (2021). *The pandemic and beyond: Implications for migrant workers in Thailand and Southeast Asia*. Institute of Asian Studies, Chulalongkorn University. Retrieved from <http://www.ias.chula.ac.th/tag/asian-research-center-for-migration/?navmenu=events&post=5430>
- Verité. (2021). *Assessing labor risk for workers migrating from the Philippines to Europe*. Retrieved from https://verite.org/wp-content/uploads/2021/03/Labor-Risk-Philippines-to-Europe_Verite-March-2021.pdf
- Watanabe, A. (2014). The question of well-informedness in the pre-departure programs to the overseas Filipino workers bound for the "Middle East": A case of the United Arab Emirates. *Journal of the Faculty of International Studies, Bunkyo University*, 24(2), 25-45.
- Watts, J. (2022). Investigating wage theft: You may be a victim and not even know it. *CBS News*. Retrieved from <https://www.cbsnews.com/losangeles/news/wage-theft-costing-california-workers-an-estimated-2-billion-a-year/>
- Wongsamuth, N. (2021). Migrant workers suffer as coronavirus cases surge in Thailand. *Reuters*. Retrieved from <https://www.reuters.com/article/us-thailand-migrants-workers-trfn-idUSKBN29D11T>
- Yotwilai, N., & Ratchatawan, K. (2019). Comparison of implementation of international migrant worker protection in Thailand and Indonesia. *Journal of Liberal Arts Prince of Songkhla University*, 11(2), 303-327.
- Yufeng, K. (2021). Case of false declaration of Singapore migrant workers' salaries rising, says NGO. *The Straits Times*. Retrieved from <https://www.straitstimes.com/singapore/cases-of-false-declaration-of-migrant-workers-salaries-rising-says-ngo-0>



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Returns to Education in Different Industries of Thailand

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Abstract

In this study, an analysis of returns on education across industry levels and sub-industries was conducted. The main objective of this study is to find and analyze the different impacts on monthly wages as a result of different types of education across different industries and sub-industries. This could give a better understanding of the current situation of the Thai labor market. The main focus types of education in this study are high school, upper vocational, higher vocational, and bachelor's degree. The chosen five industries include agricultural, manufacturing, retail/ wholesale, hospitality, and entertainment. The chosen sub-industries are farming, fishing, automobile, electronic, textile, food manufacturing, petrochemical, hotel, and hospitality-related services. Labor Force Survey data from the years 2012 to 2022 was used with the extended Mincerian method to find a more current and insightful analysis of the return on education. The extended Mincerian equation is the primary method labor economists use when performing the return to education analysis. The data was restricted to those who work full-time and those who work in the public and private sectors only. The cleansed dataset also does not include those who have master's or doctorate degrees.

The results proved that there are not many differences when analyzing the industry and sub-industry levels, which means that the type of industry employed does not affect your returns on education ranking. However, the amount does vary between different industries so the labor force could understand that even though the ranking is the same, the income level is different for the same type of education in different industries. At the overall, industry, and sub-industry levels, it is proven that a bachelor's degree earns the highest followed by higher vocational, upper vocational, and high school. Those employed in the public sector will have an increase in monthly wages compared to the private sector. Being female will reduce the monthly wage. Bangkok will give the highest returns compared to other provinces. The type of occupation also affects the amount of income, and it varies when looking at industry and sub-industry levels.

Keywords: *Return to education; Extended Mincerian equation; Human capital; Labor economics*

1. Introduction

Returning to education is one of the most debated topics around the world as the world has been progressing at a rapid pace. This brought a question to many countries including Thailand, whether a bachelor's degree will always give the highest return compared to vocational degrees. The goal of the research is to find the differences in return in education between various education types in Thailand across chosen industries and sub-industries. The focus type of education is high school, upper vocational, higher vocational, and university (bachelor).

According to Hawley (2004), a university degree could give lower returns compared to vocational degrees. However, the data used from 1985 and 1995 might not be relevant today. Similarly, Moenjak, and Worswick (2003) used data from the years 1989 to 1995 and concluded that returns for vocational degrees are higher for high school degrees, however, still significantly lower than university level. Srinang (2014) used more updated data compared to the previous two studies by using data from 2001 and 2011. They also concluded that vocational school would give higher returns than high school, however, it will not be as high as university level. A more recent study was conducted by Tangtipongkul (2015) using data from 2007 to 2010 and they came to the same conclusion as the previous two

studies. All papers in Thailand mostly focus analysis on the overall level but this study will also conduct a sub-sample analysis based on five chosen industries which include agriculture, manufacturing, retail/wholesale, hospitality, and entertainment. Furthermore, there will be a sub-industries analysis on farming, fishing, automobile, electric, textile, food manufacturing, hotel, and hospitality-related services. Additionally, the number of studies on return to education in Thailand is very small even though it is indeed a very important concern in the Thai labor market therefore this paper should contribute to improving and updating the analysis on return to education.

On the international side, Ahmed, and Chattopadhyay (2016) conducted a study in India and also found that a vocational degree gives less returns compared to university degrees but higher than high school degrees. According to Chen, and Pastore (2021) in the case of China, higher vocational graduates suffer a wage penalty of around 20 percent compared to university graduates. Strawiński, Broniatowska, and Majchrowska (2016) explained that university graduates do earn more than vocational graduates, but the gap has been decreasing since 2010 due to the oversupply of university graduates in Poland. Fiaschi, and Gabbriellini (2013) in the case of Italy found that those on academic paths such as high school and university earn more than vocational paths. Contrary to prior study, Sakellariou (2003), in the case of Singapore found that the return on vocational education is slightly higher than the return on education at the university level. The author used data from mid-1998. According to Kahyarara, and Teal (2008), in the case of Tanzania, the return on education depends on the size of the firm the highest degree earned by vocational graduates is higher than by university graduates in larger firms than in smaller firms. All studies mentioned previously used the Mincerian equation as it is a standard method when studying returns to education.

There is a gap in previous literature as most focus on the overall level but not the industry and sub-industry level even though the results could be different from the overall level. This study will clarify whether the monthly wage in sub-sample analysis is vastly different from the overall level. Additionally, in the case of Thailand, more updated Labor Force Surveys are available therefore, this study will show the most recent view of the Thai labor market. With new jobs emerging rapidly this study also aims to update readers on the issue of whether the results found using more updated data still applies to results found more than a decade ago.

2. Objectives

1. To find and analyze the impact of education on wage/salary at different types of education in Thailand. The focus group will be as follows, high school, upper vocational, higher vocational, and bachelor's.
2. To find and analyze if the return on education at different education levels differs across industries and sub-industries in Thailand including agricultural, hospitality, manufacturing, wholesale/retail, and entertainment industries.
3. To give a better understanding of the current labor market situation as the result of the different types of education and occupation. If the average return to education differs across industries, stakeholders in each industry can be better aware of the situation.

3. Material and Methods

3.1 Data

Data are obtained from the Labor Force Survey conducted and recorded by the National Statistical Office Thailand (NSO) for the 3rd quarter between the years of 2012 to 2022. The National Labor Force Survey (LFS) is the collection of national household data. The main aim of the survey is to gather data on the labor force of the country as well as the situation regarding employment and unemployment in the country. In the case of Thailand, LFS is conducted every quarter of a year. Each quarter has a sample size of around 200,000 people. The questions on the survey consist of for example a person's highest education, type of employment, hours of work, work-seeking behaviors, level of income, overall individual expenses, and unemployment.

The LFS also uses the International Standard Classification of Occupations (ISCO) to classify people's occupations which are divided into ten major groups and many more subgroups. This research will use the first codes of ISCO to classify occupations. The types of occupations that are present across all five chosen industries are as follows:

1. managers,
2. professional,
3. technicians and associate professionals,
4. clerical support workers,
5. service and sales workers,
6. Other type of occupation

Furthermore, sub-industries level analysis will also be conducted. This includes farming and fishing sub-industries within the agricultural industry; automobile, electronic, textile, food manufacturing, and petrochemical sub-industries within the manufacturing industry; and hotel and service sub-industries within the hospitality industry. The retail/wholesale industry does not have sub-industries inside the LFS data therefore we will not be analyzing the sub-industry level for this industry. Furthermore, the entertainment industry has a very low observation when divided into a sub-industries level which means the result might not be statistically significant.

Data is restricted to those who work 30 or more hours per week only. The method follows Hawley's (2004) method to be able to analyze those who work full-time only. Furthermore, this study does not take those who are employed in state enterprises into account since the observation for those in this sector is very low. After the data is cleansed, the total number of eligible people is 299,226. Table 1 shows the full list of variables used in regression. Please also take note that there is a difference between upper vocational and higher vocational. Higher vocational education is an advanced program for those who want to pursue higher education after they finish the upper vocational level.

Table 1 Variable Used in Regression

Variable name in the model	Variable	Definition of variable	Measurement
ln_wage	Earning	Log of total monthly income	Number
noedu	No education/less than primary school	If a person has no or less than the primary level of education (0=no 1=yes)	Dummy
primary	Primary school	If primary school is the highest degree earned (0=no 1=yes)	Dummy
middle	Middle school	If middle school is the highest degree earned (0=no 1=yes)	Dummy
high	High school	If high school is the highest degree earned (0=no 1=yes)	Dummy
upper_voc	Upper vocational	If upper vocational is the highest degree earned (0=no 1=yes)	Dummy
higher_voc	Higher vocational	If higher vocational is the highest degree earned (0=no 1=yes)	Dummy
uni	University	If a bachelor degree is the highest degree earned (0=no 1=yes) (Omitted)	
female	Female	Gender male/female (0=male 1= female)	Dummy
age	Age	Age is used as a proxy for work experience according to Mincerian	Number
nor	Location	4 dummies for 4 regions of Thailand: North, North-East, South, East	Dummy
nor_ea		North (1=North, 0= other)	
sou		North-East (1= North-East, 0= other)	
cen		South (1=South, 0= other)	
bkk		Central (1= central, 0 = other)	

Variable name in the model	Variable	Definition of variable	Measurement
		Bangkok is omitted (1= Bangkok, 0 = other)	
married	Marital status	Marriage :Single/married (0= single 1=married)	Dummy
public	Working Sector	Sector that the person work in: Public/Private (0=private 1=public)	Dummy
agexpublic	AgeXPublic	Interaction between age and public	Dummy
	Occupation	Occupation in major groups	Dummy
professional		Professional is omitted	
manager		Manager (0=no 1=yes)	
technician		Technicians (0=no 1=yes)	
clerical		Clerical support workers (0=no 1=yes)	
servicesale		Service workers (0=no 1=yes)	
skillagri		Skilled agricultural worker (0=no 1=yes)	

3.2 Mincerian Equation

Mincer (1974) developed a model called the Mincerian equation to study and analyze factors that affect the labor market. The model explains that more years of education results in higher productivity and therefore results in higher financial return. In addition to the number of years of education, experience also plays an important role in the model. In the equation, age captures the experience of the person and as age increases in combination with years of education, return to education also increases. However, when age reaches a certain level, returns start to increase at a diminishing rate due to deteriorating health as humans get older. Most of the previous works used extended Mincerian equations as their methodology. According to Heckman, Lochner, & Todd (2006) the Mincerian equation is an extensively utilized method for labor economists when estimating the return to education and the gender wage gap impact. The Mincerian equation is the foundation for analyzing the return on education in developing countries (Heckman et al., 2006).

$$\ln w_i = \beta_0 + \beta_1 \text{Educ} + \beta_2 \text{Age} + \beta_3 \text{Age}^2 + X_i \beta_i + \varepsilon_i$$

$\ln w_i$ is the log of wage of the person, Educ is the type or year of education, Age is the age of the person and in the Mincerian model, it captures the experience of the person. X_i is other control variables that could affect the return on education such as sex, location, marital status, employment sector et cetera.

3.3 Extended Mincerian Equation

This is the extended Mincerian equation that is employed in this study:

$$\begin{aligned} \ln_wage = & \beta_0 + \beta_1 \text{noedu} + \beta_2 \text{primary} + \beta_3 \text{middle} + \beta_4 \text{high} + \beta_5 \text{upper_voc} \\ & + \beta_6 \text{higher_voc} + \beta_7 \text{female} + \beta_8 \text{age} + \beta_9 \text{age_square} + \beta_{10} \text{nor} + \beta_{11} \text{nor_ea} + \beta_{12} \text{sou} \\ & + \beta_{13} \text{cen} + \beta_{14} \text{married} + \beta_{15} \text{public} + \beta_{16} \text{year} + \beta_{17} \text{Occupations} + \varepsilon \end{aligned}$$

The main explanatory variables include completing high school, upper vocational, and higher vocational with the university being an omitted category. The coefficients β_1 to β_5 will provide the estimated return to education for each type of education. We expect the coefficient of education β_1 to β_5 to be negative. The estimation will be run based on four main samples of industries including hospitality, manufacturing, wholesale/retail, and entertainment with nine sub-industries including farming, fishing, automobile, electronic, textile, food manufacturing,

petrochemical, hotel, and services. Married is a dummy variable where 1 stands for if the person is married, otherwise it is 0. When the variable public is equal to 1 means the person works in the public sector and if the person works in the private sector, then it is 0. There will be six types of occupation which include manager, technician, clerical support worker, service worker, and skilled agricultural worker where professional is omitted. Epsilon ε is the error term.

Many of the chosen variables are based on previous literature with the most common being region, marital status, and gender. Occupation type was chosen as the occupation employed could affect earnings, not the type of education alone. The public sector system promotes their employee when they meet a certain age while performance is the main reason for promotion in the private sector thus including the interaction term between the public and age. LFS data is a survey implemented by the International Labor Organization which many countries have made use of. Most past literature also uses LFS which means it is up to the international standard. However, there will still be a limitation to the research as there could be other factors that contribute to returns to education but are not captured by the survey thus endogeneity will always be present, however, LFS and the Mincerian Equation are the best tools labor economists use at the moment.

4. Results and Discussion

Table 2 Regression Result of Overall Level and Industry Level

	Overall	Agriculture	Manufacturin-g	Retail/ Wholes- ale	Hospitality	Entertainment
Variables	ln_wage	ln_wage	ln_wage	ln_wage	ln_wage	ln_wage
noedu	-0.821*** (0.00354)	-0.254*** (0.0339)	-0.615*** (0.00671)	-0.490*** (0.00756)	-0.505*** (0.0110)	-0.701*** (0.0440)
primary	-0.670*** (0.00318)	-0.257*** (0.0336)	-0.529*** (0.00618)	-0.398*** (0.00637)	-0.433*** (0.0101)	-0.576*** (0.0347)
middle	-0.525*** (0.00314)	-0.209*** (0.0342)	-0.428*** (0.00599)	-0.305*** (0.00600)	-0.348*** (0.0100)	-0.509*** (0.0337)
high	-0.461*** (0.00305)	-0.209*** (0.0351)	-0.355*** (0.00605)	-0.240*** (0.00591)	-0.275*** (0.0102)	-0.385*** (0.0340)
upper_voc	-0.322*** (0.00407)	-0.112** (0.0447)	-0.286*** (0.00732)	-0.193*** (0.00750)	-0.239*** (0.0138)	-0.194*** (0.0476)
	Overall	Agriculture	Manufacturin-g	Retail/ Wholes- ale	Hospitality	Entertainment
Variables	ln_wage	ln_wage	ln_wage	ln_wage	ln_wage	ln_wage
	(0.00349)	(0.0439)	(0.00641)	(0.00657)	(0.0133)	(0.0400)
age	0.0230*** (0.000411)	0.0175*** (0.00148)	0.0391*** (0.000718)	0.0271*** (0.000850)	0.0261*** (0.00111)	0.0292*** (0.00528)
age_sq	-0.000174*** (5.04e-06)	-0.000237*** (1.75e-05)	-0.000456*** (9.08e-06)	-0.000297*** (1.11e-05)	-0.000292*** (1.38e-05)	-0.000238*** (6.64e-05)
female	-0.161*** (0.00156)	-0.198*** (0.00654)	-0.172*** (0.00260)	-0.116*** (0.00350)	-0.131*** (0.00498)	-0.0832*** (0.0191)
married	0.0701*** (0.00166)	0.0255*** (0.00749)	0.0509*** (0.00284)	0.0484*** (0.00333)	0.0557*** (0.00473)	0.0520** (0.0203)
public	0.0412*** (0.00218)	0.0736** (0.0368)	0.130*** (0.0383)	-0.0954 (0.0657)	0.0957*** (0.0280)	0.157*** (0.0413)
nor	-0.382*** (0.00329)	-0.398*** (0.0794)	-0.393*** (0.00613)	-0.378*** (0.00618)	-0.440*** (0.00904)	-0.386*** (0.0375)
nor_ea	-0.390*** (0.00328)	-0.461*** (0.0794)	-0.348*** (0.00641)	-0.350*** (0.00610)	-0.433*** (0.00919)	-0.364*** (0.0364)
sou	-0.315*** (0.00323)	-0.259*** (0.0791)	-0.299*** (0.00657)	-0.318*** (0.00599)	-0.234*** (0.00789)	-0.198*** (0.0329)
cen	-0.192*** (0.00293)	-0.129 (0.0791)	-0.152*** (0.00491)	-0.232*** (0.00562)	-0.241*** (0.00773)	-0.197*** (0.0259)
manager	-0.267*** (0.00447)	0.00103 (0.0732)	0.282*** (0.0118)	0.181*** (0.0147)	0.275*** (0.0232)	0.322*** (0.0598)
technician	-0.166*** (0.00368)	-0.00524 (0.0646)	-0.0978*** (0.00949)	-0.180*** (0.0136)	-0.0133 (0.0207)	0.00771 (0.0319)
clerical	-0.329***	-0.403***	-0.302***	-0.315***	-0.207***	-0.202***

	Overall	Agriculture	Manufacturin-g	Retail/ Wholes- ale	Hospitality	Entertainment
Variables	ln_wage	ln_wage	ln_wage	ln_wage	ln_wage	ln_wage
	(0.00367)	(0.0739)	(0.00988)	(0.0132)	(0.0189)	(0.0415)
servicesale	-0.368*** (0.00363)	-0.507*** (0.0702)	-0.339*** (0.0134)	-0.421*** (0.0124)	-0.314*** (0.0173)	-0.336*** (0.0371)
otheroccu	-0.454*** (0.00363)	-0.906*** (0.0601)	-0.435*** (0.00908)	-0.458*** (0.0127)	-0.380*** (0.0175)	-0.290*** (0.0324)
year	0.0314*** (0.000360)	0.0291*** (0.00144)	0.0314*** (0.000626)	0.0360*** (0.000759)	0.0407*** (0.00110)	0.0305*** (0.00473)
publicxage	0.0195*** (0.000162)	0.00612** (0.00277)	0.0195*** (0.00332)	0.00390 (0.00667)	0.0110*** (0.00251)	0.0171*** (0.00402)
Constant	9.554*** (0.00874)	9.684*** (0.100)	9.274*** (0.0163)	9.380*** (0.0200)	9.276*** (0.0280)	9.213*** (0.102)
Observations	299,225	20,597	72,941	43,499	25,943	1,940
R-squared	0.532	0.228	0.510	0.459	0.408	0.552

Note: Standard errors in parentheses and critical values are as follows *** p<0.01, ** p<0.05, * p<0.1

Table 3 The Effect of Dummy Explinator Variable of Wage (Percentage Change in Wage)

	Overall	Agriculture	Manufacturing	Retail/Wholesale	Hospitality	Entertainment
Variables	Percentage change relative to omitted category					
noedu	-56.00	-22.43	-45.94	-38.74	-39.65	-50.39
primary	-48.83	-22.66	-41.08	-32.83	-35.14	-43.79
middle	-40.84	-18.86	-34.82	-26.29	-29.39	-39.89
high	-36.93	-18.86	-29.88	-21.34	-24.04	-31.95
upper_voc	-27.53	-10.60	-24.87	-17.55	-21.26	-17.63
higher_voc	-24.19	-12.89	-17.22	-13.06	-14.36	-22.74
female	-14.87	-17.96	-15.80	-10.95	-12.28	-7.98
married	7.26	2.58	5.22	4.96	5.73	5.34
public	4.21	7.64	13.88	-	10.04	17.00
nor	-31.75	-32.83	-32.50	-31.48	-35.60	-32.02
nor_ea	-32.29	-36.93	-29.39	-29.53	-35.14	-30.51
sou	-27.02	-22.82	-25.84	-27.24	-20.86	-17.96
cen	-17.47	-	-14.10	-20.71	-21.42	-17.88
manager	-23.43	-	32.58	19.84	31.65	37.99
technician	-15.30	-	-9.32	-16.47	-	-
clerical	-28.04	-33.17	-26.07	-27.02	-18.70	-18.29
servicesale	-30.79	-39.77	-28.75	-34.36	-26.95	-28.54
otheroccu	-36.49	-59.59	-35.27	-36.75	-31.61	-25.17

Note: Conversion using $(e^{\beta_{\text{of chosen dummy}}} - 1) \times 100$

For example, for higher vocational from our model in section 3.2 $(e^{\beta_6} - 1) \times 100$

If the number is blank this means that it is not statistically significant at 5 and 1 percent

Gujarati, N. G. & Porter, C. D. (2021). *Basic econometrics*

Raw regression results for overall and five chosen industries are shown in Table 2 while Table 3 converts the coefficient associated with each dummy explanatory variable to the effect of each respective dummy on the percentage change in wage to facilitate interpretation. Most main types of education show negative signs relative to the university level which is consistent with previous literature. Having no education, primary education, middle school education, high school education, upper vocational education, and higher vocational education on average leads to a decrease in monthly wages of 56, 48.83, 40.84, 36.93, 27.53, and 24.19 percent relative to those with bachelor's degrees

respectively. This shows that the return to education increased as with higher education levels. This also shows that upper vocational graduates on average earn higher than high school graduates which is consistent with the previous literature in Thailand. When the gender is female, the monthly wages will be 14.87 percent less than male. Being married will give you a 7.26 percent increase in monthly wages compared to being single. Being employed in the public sector will increase the monthly wages by 4.21 percent. The coefficient associated with regional dummy variables all show negative signs which means that working in Bangkok gives you the highest monthly wages compared to other regions, this also holds for the five chosen industries. Having a manager, technician, clerical support worker, service worker, skilled agricultural, and other types of occupation on average will lead to a reduction of monthly wage by 23.43, 15.3, 28.04, 30.79, and 36.49 percent respectively. Take note that the average age of the person in the dataset is 39 years old. To interpret the result for age and age square the following equation will be used: $(\beta_8 + 2\beta_9 \text{average age}) \times 100$ since age is a continuous variable. If the age of the person increases by one from the average age then monthly wages will increase by 0.94 percent. The interaction term between public and age shows a positive sign which shows that as the age of public sector employees increases as along with the wages.

In the agricultural industry, people with no education, primary, middle, high, upper vocational, and higher vocational get a reduction in monthly wage by 22.43, 22.66, 18.86, 18.86, 10.6, and 12.89 percent respectively when compared to university graduates. Occupation variables show a negative percentage change for clerical workers (-33.17 %), service/sales workers (39.77%), and other occupations (59.59%) on average. When age increases by one from the average age, monthly wages decrease by 0.03 percent. This could be due to the agricultural industry being a physically demanding industry that deteriorates as age increases. However, it is a very small reduction in wages. Females experience a 17.96 percent reduction in monthly wage compared to males. Marriage is associated with an increase in monthly wages by 2.58 percent compared to being single. Public sector workers get a 7.64 percent increase in monthly wage compared to private sector workers. The wage penalty gap between different types of education is not huge compared to other industries, this could be due to the fact that the education requirement is not as significant compared to other industries. Furthermore, those with other occupations suffered the worst penalties in this industry.

The manufacturing industry shows a statistically significant result for all types of education. People with no education experience a significant reduction in monthly wages of 45.94 percent. Those who completed primary, middle, and high school also experienced a reduction in monthly wages by 41.08, 34.82, and 29.88 percent respectively compared to university graduates. Higher vocational and upper vocational give a reduction in monthly wages by 24.87 and 17.22 percent when compared to the omitted category which is the university. When age increases by one from the average age which is 39 then the wages are raised by 0.35 percent. When the gender is female, the monthly wages then decrease by 15.8 percent, and being married increases the monthly wages by 5.22 percent. The monthly wages are increased by 13.88 percent if one is employed in the public sector. Having a technician, clerical worker, service/sales worker, and others as an occupation gives a reduction in monthly wages by 9.32, 26.07, 28.75, and 35.27 percent respectively when compared to a professional. However, being a manager increases the monthly wages by 32.58 percent. It appears that the estimation results of the manufacturing industry seem to be consistent with the overall results of all industries combined except for managers.

In the retail/wholesale industry, the results for the type of education and types of occupation are very similar to that from the manufacturing industry. However, managers give a positive percentage change of 19.84 in monthly income when compared to professionals. As age increases by one from the average age, wages increase by 0.43 percent. Monthly wages are reduced by 10.95 percent when the person is female while monthly wages will increase by 4.96 percent if married. Again, the results of the retail/wholesale industry follow the overall result.

The results obtained from the hospitality industry closely follow the overall and previous industry results. It is noteworthy that females in this industry suffer from wage penalties by 12.28 percent which is in contrast with the popular belief that hospitality is a female-dominated industry. Additionally, wages are increased by 0.23 percent as age increases by one from the average age.

In the entertainment industry, people with lesser education suffered from a higher reduction in monthly wages compared to the university level. Those with no education get a reduction of 50.39 percent in monthly income,

which is the highest amongst the chosen five industries. Those who graduated from primary, middle, high, and upper vocational school get their monthly wages decreased by 43.79, 43.79, 39.89, 31.95, and 17.63 percent respectively. However, even though higher vocational education is more advanced than upper vocational, the reduction in monthly wages is 22.74 percent which is higher than upper vocational. This shows that this particular industry requires upper vocational graduates more than higher vocational graduates. Wages increase by 0.01 percent as age increases by one from the average age.

Table 4 Regression Result of Sub-Industry Level

	Farmin-g	Fishery	Automo-- bile	Electronic	Textile	Food	Petroche- m	Hotel	Hospitali-ty Service
Variable	ln_wage	ln_wage	ln_wage	ln_wage	ln_wage	ln_wage	ln_wage	ln_wage	ln_wage
noedu	-0.301*** (0.0409)	-0.478*** (0.0662)	-0.645*** (0.0254)	-0.617*** (0.0240)	-0.421*** (0.0391)	-0.503*** (0.0123)	-0.892*** (0.0348)	-0.399*** (0.0173)	-0.609*** (0.0337)
primary	-0.296*** (0.0406)	-0.400*** (0.0654)	-0.544*** (0.0202)	-0.519*** (0.0160)	-0.347*** (0.0367)	-0.454*** (0.0120)	-0.737*** (0.0297)	-0.343*** (0.0146)	-0.531*** (0.0268)
middle	-0.253*** (0.0413)	-0.335*** (0.0671)	-0.450*** (0.0174)	-0.374*** (0.0120)	-0.284*** (0.0365)	-0.414*** (0.0120)	-0.618*** (0.0275)	-0.255*** (0.0137)	-0.473*** (0.0256)
high	-0.250*** (0.0426)	-0.350*** (0.0739)	-0.383*** (0.0171)	-0.321*** (0.0116)	-0.233*** (0.0369)	-0.354*** (0.0123)	-0.515*** (0.0274)	-0.200*** (0.0130)	-0.414*** (0.0258)
upper_voc	-0.136*** (0.0527)	-0.148 (0.104)	-0.355*** (0.0197)	-0.280*** (0.0140)	-0.230*** (0.0477)	-0.264*** (0.0155)	-0.460*** (0.0348)	-0.165*** (0.0177)	-0.362*** (0.0369)
higher_voc	-0.172*** (0.0501)	-0.0311 (0.0951)	-0.249*** (0.0175)	-0.192*** (0.0122)	-0.133*** (0.0441)	-0.203*** (0.0136)	-0.185*** (0.0263)	-0.100*** (0.0161)	-0.286*** (0.0383)
age	0.0165*** (0.00177)	0.0251*** (0.00419)	0.0160*** (0.00293)	0.00940*** (0.00233)	0.0359*** (0.00346)	0.0320*** (0.00123)	0.0251*** (0.00472)	0.0205*** (0.00222)	0.0371*** (0.00407)
age_sq	-0.000225*** (2.11e-05)	-0.000260*** (5.01e-05)	-5.73e-05 (3.95e-05)	5.21e-05 (3.26e-05)	-0.000452*** (4.35e-05)	-0.000400*** (1.52e-05)	-0.000149*** (6.09e-05)	-0.000180*** (2.80e-05)	-0.000435*** (5.19e-05)
female	-0.131*** (0.00759)	-0.237*** (0.0279)	-0.120*** (0.00845)	-0.0809*** (0.00609)	-0.145*** (0.0145)	-0.145*** (0.00491)	-0.203*** (0.0151)	-0.107*** (0.00752)	-0.199*** (0.0171)
married	0.0108 (0.00910)	0.0983*** (0.0198)	0.0404*** (0.00889)	0.0229*** (0.00616)	0.00718 (0.0127)	0.0495*** (0.00530)	0.0767*** (0.0158)	0.0381*** (0.00794)	0.0379** (0.0154)
public	0.307*** (0.0704)		0.0291 (0.104)	-0.0258 (0.272)	0.117 (0.273)	0.181** (0.0793)	0.130 (0.151)	0.0925*** (0.0305)	-0.0494 (0.0815)
nor	-0.391*** (0.0861)	-0.175 (0.307)	-0.219*** (0.0313)	-0.306*** (0.0167)	-0.506*** (0.0183)	-0.334*** (0.0145)	-0.382*** (0.0418)	-0.450*** (0.0173)	-0.391*** (0.0281)
nor_ea	-0.409*** (0.0861)	-0.297 (0.299)	-0.230*** (0.0274)	-0.274*** (0.0185)	-0.404*** (0.0178)	-0.272*** (0.0146)	-0.182*** (0.0488)	-0.413*** (0.0186)	-0.440*** (0.0287)
sou	-0.346*** (0.0854)	-0.0842 (0.292)	-0.150*** (0.0307)	-0.131* (0.0767)	-0.459*** (0.0278)	-0.275*** (0.0141)	-0.220*** (0.0521)	-0.218*** (0.0147)	-0.173*** (0.0217)
cen	-0.167* (0.0854)	-0.0788 (0.292)	-0.0611*** (0.0164)	-0.134*** (0.0145)	-0.224*** (0.0158)	-0.173*** (0.0130)	-0.0909*** (0.0226)	-0.249*** (0.0151)	-0.244*** (0.0224)
manager	0.0486 (0.0947)	0.0843 (0.113)	0.299*** (0.0345)	0.0977*** (0.0254)	0.370*** (0.0749)	0.258*** (0.0254)	0.158*** (0.0421)	0.285*** (0.0316)	0.181** (0.0721)
technician	-0.110 (0.0924)	0.113 (0.116)	-0.131*** (0.0280)	-0.217*** (0.0203)	-0.0912 (0.0607)	-0.0984*** (0.0212)	-0.181*** (0.0349)	-0.00841 (0.0290)	-0.138** (0.0540)

Variable	Farmin-g ln_wage	Fishery ln_wage	Automo-- bile ln_wage	Electronic ln_wage	Textile ln_wage	Food ln_wage	Petroche- m ln_wage	Hotel ln_wage	Hospitali-ty Service ln_wage
clerical	-0.306*** (0.0967)	-0.315** (0.134)	-0.330*** (0.0300)	-0.386*** (0.0220)	-0.296*** (0.0613)	-0.311*** (0.0211)	-0.366*** (0.0388)	-0.256*** (0.0275)	-0.281*** (0.0505)
servicesale	-0.307*** (0.0918)	-0.480*** (0.134)	-0.348*** (0.0468)	-0.519*** (0.0362)	-0.480*** (0.0859)	-0.338*** (0.0249)	-0.437*** (0.0503)	-0.287*** (0.0272)	-0.242*** (0.0494)
otheroccu	-0.774*** (0.0793)	-0.608*** (0.113)	-0.407*** (0.0276)	-0.516*** (0.0194)	-0.586*** (0.0571)	-0.440*** (0.0204)	-0.416*** (0.0349)	-0.366*** (0.0273)	-0.337*** (0.0519)
year	0.0201*** (0.00172)	0.0444*** (0.00412)	0.0356*** (0.00185)	0.0297*** (0.00139)	0.0375*** (0.00269)	0.0322*** (0.00118)	0.0190*** (0.00349)	0.0379*** (0.00179)	0.0340*** (0.00356)
publicxage	0.190 (0.263)	-	-0.00464 (0.00688)	-0.00138 (0.00599)	0.0825 (0.0547)	0.0119* (0.00671)	0.0135 (0.0117)	0.0146*** (0.00280)	0.00959 (0.00772)
Constant	9.652*** (0.116)	9.304*** (0.320)	9.532*** (0.0578)	9.730*** (0.0447)	9.338*** (0.0850)	9.363*** (0.0316)	9.576*** (0.0953)	9.339*** (0.0501)	9.317*** (0.0886)
Observatio ns	13,299	2,535	5,440	9,072	4,710	17,699	2,769	7,141	2,647
R-squared	0.160	0.349	0.549	0.561	0.426	0.466	0.608	0.484	0.445

Table 5 The Effect of Dummy Explinator Variable of Wage for Sub-Industries (Percentage Change in Wage)

	Farming	Fishery	Automo -bile	Electronic	Textile	Food	Petroch -em	Hotel	Hospitality Service
Variables	Percentage change relative to omitted category								
noedu	-25.99	-38.00	-47.53	-46.04	-34.36	-39.53	-59.02	-32.90	-25.99
primary	-25.62	-32.97	-41.96	-40.49	-29.32	-36.49	-52.15	-29.04	-25.62
middle	-22.35	-28.47	-36.24	-31.20	-24.72	-33.90	-46.10	-22.51	-22.35
high	-22.12	-29.53	-31.82	-27.46	-20.78	-29.81	-40.25	-18.13	-22.12
upper_voc	-12.72	-	-29.88	-24.42	-20.55	-23.20	-36.87	-15.21	-12.72
higher_voc	-15.80	-	-22.04	-17.47	-12.45	-18.37	-16.89	-9.52	-15.80
female	-12.28	-21.10	-11.31	-7.77	-13.50	-13.50	-18.37	-10.15	-12.28
married	-	10.33	4.12	2.32	-	5.07	7.97	3.88	1.09
public	35.93	0	-	-	-	19.84	-	9.69	-
nor	-32.36	-	-19.67	-26.36	-39.71	-28.39	-31.75	-36.24	-32.36
nor_ea	-33.57	-	-20.55	-23.97	-33.24	-23.81	-16.64	-33.83	-33.57
sou	-29.25	-	-13.93	-	-36.81	-24.04	-19.75	-19.59	-29.25
cen	-	-	-5.93	-12.54	-20.07	-15.89	-8.69	-22.04	-15.38
manager	-	-	34.85	10.26	44.77	29.43	17.12	32.98	4.98
technician	-	-	-12.28	-19.51	-	-9.37	-16.56	-	-10.42
clerical	-26.36	-27.02	-28.11	-32.02	-25.62	-26.73	-30.65	-22.59	-26.36
servicesale	-26.43	-38.12	-29.39	-40.49	-38.12	-28.68	-35.40	-24.95	-26.43
otheroccu	-53.88	-45.56	-33.44	-40.31	-44.35	-35.60	-34.03	-30.65	-53.88

Note: Conversion using $(e^{\beta_{\text{of chosen dummy}}}-1) \times 100$

For example, for higher vocational from our model in section 3.2 $(e^{\beta_6}-1) \times 100$

If the number is blank this means that it is not statistically significant at 5 and 1 percent

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Regression results at the sub-industry level are shown in Table 4 and Table 5 converts the coefficient associated with each dummy explanatory variable to the effect of each respective dummy on the percentage change in wage to facilitate interpretation like Table 3 but at the sub-industry level. In farming and fishing sub-industries, it mostly follows the result found in the overall agricultural industry. However, the result for upper vocational and higher vocational are not significant in the fishing sub-industry. It is noteworthy that there are no public companies in the fishing sub-industry. In terms of region, the farming sub-industry gives similar results to the overall agricultural level. However, regions are not statistically significant in the fishing sub-industry. This could be because fishery farming could be done anywhere on land with the right equipment while farming sub-industries required a specific type of land made for farming crops. It is also noteworthy that those who are employed in the public sector in farming sub-industries will be able to gain the highest increase in monthly wage compared to other sub-industries. Other sub-industries give similar results to the results found at the overall level except for manager where it gives a positive sign. Furthermore, results for the public sector are not statistically significant for farming, automobile, electronic, textile, petrochemical, and hospitality-related service sub-industries. Females also suffer greatly in fishing and petrochemical sub-industries which could be due to these sub-industries requiring physical strength which is more suitable for males.

5. Conclusion

The paper used an extended Mincerian method similar to prior studies with the addition of taking industries, sub-industries, and occupations into account to find and analyze the return on education in Thailand. The study used the data from the years of 2012 to 2022 to give a more updated analysis of the current Thai labor market. The overall results show that the type of education does affect the monthly wage, university earns the most followed by higher vocational, upper vocational, and high school respectively. After doing sub-sample analysis on the industry and the sub-industries level, it was concluded that the results are not so different from the overall result. Both types of vocational degrees still earn higher than a high school level, but a vocational degree will not be able to earn as much as a bachelor's degree level. The results are consistent with older studies found in Thailand in terms of education. This proved that even results from sub-sample analysis show that the return on education shows similar ranking across industries. In terms of other variables in the study such as region, Bangkok shows positive signs relative to other provinces. Marriage shows a positive sign all across industry and sub-industry levels. Women gain less monthly income compared to men even in the hospitality industry, contrary to popular belief. Surprisingly, the public sector shows positive signs relative to the private sector. By adding occupation type into account, it shows that the monthly income of different types of occupation varies between industries and sub-industries.

Lastly, the number of eligible people in the LFS data that can be used in the analysis might not be enough for the results to become statistically significant at the sub-sample analysis level, hence the restriction in the number of chosen industries and their sub-industries. Future researchers should try to counter this problem.

6. References

- Ahmed, T., & Chattopadhyay, R. (2016). Return to general education and vocational education & training in Indian context: Policy implications. *International Journal of Educational Management*, 30(3), 370-385. <https://doi.org/10.1108/IJEM-10-2014-0135>
- Chen, J., & Pastore, F. (2021). *study hard and make progress every day*": Updates on returns to education in china (No. 787). Global Labor Organization (GLO).
- Fiaschi, D., & Gabbriellini, C. (2013, July). Wage functions and rates of return to education in Italy. In *Fifth Meeting of the Society for the Study of Economic Inequality (ECINEQ) Bari (Italy)*. Brewster, USA.
- Hawley, J. D. (2004). Changing returns to education in times of prosperity and crisis, Thailand 1985–1998. *Economics of Education Review*, 23(3), 273-286. <https://doi.org/10.1016/j.econedurev.2003.11.010>
- Heckman, J. J., Lochner, L. J., & Todd, P. E. (2006). Earnings functions, rates of return and treatment effects: The Mincer equation and beyond. *Handbook of the Economics of Education*, 1, 307-458. [https://doi.org/10.1016/S1574-0692\(06\)01007-5](https://doi.org/10.1016/S1574-0692(06)01007-5)

- Kahyarara, G., & Teal, F. (2008). The returns to vocational training and academic education: Evidence from Tanzania. *World Development*, 36(11), 2223-2242. <https://doi.org/10.1016/j.worlddev.2007.11.011>
- Mincer, J. (1974). *Schooling, Experience, and Earnings*. Cambridge, New York: Columbia University Press.
- Moenjak, T., & Worswick, C. (2003). Vocational education in Thailand: a study of choice and returns. *Economics of Education Review*, 22(1), 99-107. [https://doi.org/10.1016/S0272-7757\(01\)00059-0](https://doi.org/10.1016/S0272-7757(01)00059-0)
- Sakellariou, C. (2003). Rates of return to investments in formal and technical/vocational education in Singapore. *Education Economics*, 11(1), 73-87. <https://doi.org/10.1080/09645290210127525>
- Srinang, J. (2014). Vocational and general secondary education: the rate of return across regions in Thailand. *Southeast Asian Journal of Economics*, 2(2), 103-112.
- Strawiński, P., Broniatowska, P., & Majchrowska, A. (2016). *Returns to vocational education. Evidence from Poland*. Working Papers 2016-16. Retrieved from <https://ideas.repec.org/p/war/wpaper/2016-16.html>
- Tangtipongkul, K. (2015). Rates of return to schooling in Thailand. *Asian Development Review*, 32(2), 38-64. https://doi.org/10.1162/ADEV_a_00051



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Law Enforcement in Accordance with Directive Principles of Fundamental State Policies: Comparative Study with Foreign Countries

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Abstract

This research aims to analyze the law enforcement of directives principles of fundamental state policies in Thailand, comparing with nine foreign countries: Ireland, Germany, Spain, India, Bangladesh, China, the Philippines, Nigeria and Ghana. The study used a qualitative documentary research method and focus group discussions with 3 groups of key expert informants in order to determine why and how directives principles of fundamental state policies shall be enforced. The research results found that despite the provisions of all constitutions had not clearly provided the binding force of directive principles of fundamental state policies, the constitution of some foreign countries including Thailand trends to adopt increasingly the binding force and review mechanism of legal enforcement for directive principles of fundamental state policies, both the political enforcement by the parliament and the administrative enforcement by the government, especially the legal enforcement by the court or justiciability.

Keywords: *Law Enforcement; Directives Principles of Fundamental State Policies; Comparative Study with Foreign Countries; Legal Binding; Justiciability*

1. Introduction

Constitutions in countries with democratic governance have provisions specifying the framework of statehood, such as the form of the state and the state regime including institutions and organizations within that state, which determines the power relations between them and to check and balance power between organizations. This is an important condition in guaranteeing and protecting people's rights and freedoms as a guarantee of people's basic human rights (Keu-ngam, 1987). Constitutions in some countries also provide for increased protection of civil rights and liberties in addition to basic human rights. Directive principles of fundamental state policies have been established to serve as guidelines for the state to protect civil rights and liberties, as well as for the state's duties to develop the country in the areas of national security, politics, economy, society, culture, and justice process (Bhatia, 2015). Directive principles of fundamental state policies were first enshrined in the Weimar Constitution of The Weimar Republic, which later became modern day Germany. Its purpose was to provide guidelines for the government to comply with the provisions of the Constitution on issues related to fundamental state policies. This was a guarantee that the government policies were compiled with fundamental state policies and not vary according to any changing government. The German constitution was a model of fundamental state policies for other countries such as Ireland, Spain, and India (Blaustein, & Franz, 1990). Thailand introduced the directive principles of fundamental state policies into the Constitution for the first time in the 1949 Constitution, which were enshrined until the 2007 Constitution and the 2017 Constitution.

The directive principles of fundamental state policies that appear in the constitutions of many countries are merely guidelines for the government to use in formulating a national administration policy or for parliament to use as guidelines in enacting laws. But if the government or parliament neglects to follow the fundamental state policies, this provision does not have the capacity to use the rights of the courts to compel the government or parliament to comply in any way, such as Irish Constitution, Indian Constitution and Bangladesh Constitution stipulates that the provisions of the directives principles of fundamental state policies cannot be enforced in any court (Singh, 2000). Constitutions in some countries did not contain a provision that prohibits the rights to sue the

government, such as the Spanish constitution providing that parliament can enact enforcement laws in the event of violations of fundamental state policies in certain areas. But that provision is not enforceable if parliament has not enacted such a law (Bhatia, 2015). As with the Thai Constitution from 1949 Constitution to 1997 Constitution, 2007 Constitution, and 2017 Constitution, the supervision of fundamental state policies is considered the power of the parliament to set a question agenda for asking the government to implement government policy in accordance with the provisions of the fundamental state policies or the discussion for a no-confidence vote only (Charoenwongsakdi, 2012). Therefore, the directives principles of fundamental state policies are not mandatory. As shown in the decision of the Constitutional Court No. 48/2002 (Srivithaya, 2017), which is a decision that reflects the mandatory nature of the fundamental state policies according to the 1997 Constitution, which is a provision intended as a guideline for enacting laws and formulating government policies, which is a power under the control of the state affairs.

The 2007 Constitution has significantly changed the wording regarding mandatory conditions: in CHAPTER V, Directive Principles of Fundamental State Policies, Section 75, stipulated that “The provisions in this section are the **intentions** for the State the State to enact laws and determine policies for the administration of State affairs,” which is different from the previous constitution that used the word “**as a guideline.**” In this regard, the mandatory condition will be extended to the legal mandatory condition. It is not merely a condition of political compulsion or parliamentary control and organization that will have the power to enforce legal conditions. In cases where the executive or legislative branch does not comply with or neglects to comply with the provisions of this chapter, it must be the power of the judicial organization to come in and check the enforcement of the provisions in this section, namely the Constitutional Court and the Administrative Court. The Constitutional Court performs the duty of checking the legislation of the legislature so that it does not contravene or contradict the provisions of the Constitution. The Administrative Court has the power and duty to examine the actions of the executive branch so that they do not violate the provisions of the Constitution. By virtue of the Act Establishing the Administrative Court and Administrative Court Procedure, B.E. 2542, Section 9 (1) – (3), in cases where the executive branch neglects or does not comply with the directive principles of fundamental state policies, it will also be subject to the examination of the Administrative Court (Charoenwongsakdi, 2012). Therefore, it is very important to research the concepts, theories, and principles that form the basis of the directives principles of fundamental state policies, legal binding conditions and law enforcement in accordance with fundamental state policies with efficiency and effectiveness.

2. Objectives

The objectives of this research are as follows:

- 1) To study the evolution of concept, theory, and principle those are the basis for the foundation of the directive principles of fundamental state policies in the Thai constitution and foreign constitutions;
- 2) To analyze the concept and scope of examining fundamental state policies mandatory conditions and practices complying with fundamental state policies, both in Thailand and foreign countries.
- 3) To analyze case studies of decisions of the Constitutional Court and Administrative Court decisions in Thailand and opinions of the Council of State on issues related to fundamental state policies;
- 4) To recommend guidelines for amending the directive principles of fundamental state policies’ provisions and develop law enforcement mechanisms to be in line with fundamental state policies.

3. Materials and Methods

This research applied a qualitative research method by using documentary research and focus group discussions to collect data and information from 15 key informants divided into 3 groups: (1) a group of experts in government organizations and public administration (2) a group of qualified experts from judicial organizations and the justice process and (3) a group of experts from academic institutions in law and political science for achieving a triangular examination of data sources. After collecting data from 3 groups of key informants according to qualitative research method, then analyzing the data by content analysis, logical analysis, juristic method analysis and comparative analysis, as well as organizing the academic seminar to enquire opinions and suggestions from experts and related agencies, leading to improve the research results and to complete research conclusion and recommendations. By this research method, the author has undertaken a literature review and

related data collection from all document and information materials enough for the analysis framework of documentary research as follows:

The State will take any action for the benefits of the nation and people. The government must implement state policies for achieving national development goals. There is a constitutional provision as a guarantee to check government policies that every government must adhere to state policies that must be achieved. Scholars have defined the meaning of directive principles of fundamental state policy more clearly, stating that it refers to the guiding framework that are the main policies for the administration of state affairs that is the provisions stipulated in the Constitution to be used as evidence in enacting laws and setting administrative policies. All governments must adhere to and act in accordance with this framework (Sang-uthai, 1971; Keu-ngam, 1987; Cheuthai, 2011; Boonsuwan, 2005). To achieve the stability of statehood and respond to the people's needs, the parliament enacting laws and the government is responsible for executing administrative policies in according to the directive principles of state policies without fluctuating with political changes. The 1949 Constitution was first enacted in Chapter 5, the directive principles of State Policies. Until the 1997 and 2007 constitutions, Section 5 was changed from "Directive Principles of **State Policies**" became "Directive Principles of **Fundamental State Policies**" (Charoenwongsakdi, 2012) that are important for the administration of state affairs (Charuchinda, 2012) as follows:

- 1) The fundamental state policies are provisions that specify the important state duties that cover important missions and basic conditions necessary for national and people well-being in the long term;
- 2) They are central policies that bind the parliament and government to carry out important policies that are the basis for continuous national development, which is beneficial to the people as a whole;
- 3) They are guidelines for the administration of state affairs in any democracy because the people will receive guarantees in the state operation for the benefits of the people specified by the Constitution.
- 4) They express the principles of the national administration of Thailand to the people and the general public, at domestic and foreign levels, to receive clear guidelines for the administration of state affairs.
- 5) They are the parliamentary instruments used to check and control the power of the government administration to oversee whether it is in line with the directive principles set by the Constitution.

The state and the government are separate entities. The state is the sum of territory, population, sovereignty, and government, but the government is only one component of the state. The state policies and the government policies must be separated because the government is the center of individuals, political parties, and interest groups that take turns ruling the country according to their political agendas. The government therefore implements its policies that focus only on political goals for the benefit of political groups to the point of neglecting other policies that are beneficial to the people. There are six reasons for stipulating directive principles of fundamental state policies in the Constitution as follows (Traimas, 2002):

(1) Constitutional reasons: Stipulating fundamental state policies in the Constitution helps to make the elements of the Constitution complete in content and able to comply with the Constitution and produce real results. Because there are state policy guidelines that determine the responsibilities of the state and government that are binding obligations in the administration of the country;

(2) Reasons of state: This is because the state is the organization with the greatest responsibility for the public interest that is committed to the existence of the state (*raison d'états*) in order to preserve the benefits of the nation and the people. The Constitution must therefore establish fundamental state policies as an obligation for the state to administer the government according to the needs of the people;

(3) Reasons related to politics: The rotation of political parties in government causes legal uncertainty and public policy changes as the political parties take turns being in government. Therefore, there must be fundamental state policies as a central policy bound in the Constitution for every government to implement continuously;

(4) Governmental reasons: The fundamental state policies in the Constitution ensure that the state must have procedures in place to maintain fair benefits for the people. The people can use them as a tool to check the government performance according to people's desires and state policies in the constitution;

(5) Administrative reasons: The fundamental state policies in the Constitution is a guarantee to supervise the use of state powers conforming the principles of good governance, consisting of the rule of law, morality, transparency, participation, accountability and cost effectiveness (Srivithaya, 2015) in order to prevent unfair discrimination and implement constitutional provisions to achieve serious practical results;

(6) Reasons about the people: The fundamental state policies according to the Constitution are the common interests of society in which all citizens are guaranteed equal for equal benefits because the people have the right to participate in the initiative to propose draft laws related to fundamental state policies that are in the interests of the people as a whole for the President of the National Assembly to consider and proceed as specified by the Constitution.

The directive principles of fundamental state policies that define the state's missions related to many areas of state affairs are beneficial in many ways, namely: it helps the Constitution to have effective content and efficient practice; assuring the state to have requirements to solve the country's basic problems; developing the political system to ensure continuity in laws and policies; prevent discrimination against disadvantaged people in society; contribute fair governance of state affairs; maintain moral standards in national administration; protect citizens' rights, freedoms and citizens' participation in politics. However, the constitutional provisions regarding the directive principles of fundamental state policies cannot be concretely enforced because the measures of their legal enforcement deemed mandatory are not as efficient as they should be. As a result, the issue focuses of their enforcement whether relating to the political or legal enforcement. Their mandatory measures are flawed, whether the mechanism of political enforcement, such as the provision that the cabinet must declare the policy before entering into office in the parliament and the preparation of the cabinet's performance report under the directive principles of state policies to the parliament once a year. The question raising and the commencement of general debate are both neglected by the administrative. One mechanism is that the public can gather their names to propose a bill as prescribed the directive principles of state policies. In addition, the problems of the legal enforcement must be taken into consideration by the Constitutional Court and the Administrative Court, and also some organizations under the Constitution, cannot enforce the directive principles of state policies in practice (Sapchartanan, 2012). The issue regarding mandatory condition of the directive principles of state policies under the constitutions from chosen countries shall be taken for a comparative study in this paper (Srivithaya, 2017) as follows:

Table 1 Comparison of Mandatory Condition of the Directive Principles of State Policies

Countries	Provisions of the Constitution	Political Enforcement	Legal Enforcement
Ireland	Directive Principles of Social Policy	only political enforcement	no legal enforcement
Germany	Directive Principles of Social Policy	only political enforcement	no legal enforcement
Spain	Guiding Principles of Economic and Social Policy	only political enforcement	no legal enforcement
India	Directive Principles of Social Policy	political enforcement under the ideology of socialism, liberalism, Gandhi and Internationalism	Intention to have legal enforcement according to political, economic & social ideologies
Bangladesh	Fundamental Principles of State Policy	political enforcement under principles of Islam, nationalism, democracy and socialism	Intention to have legal enforcement according to political, economic, social, and religion ideologies
China	Provisions of State Policy	only political enforcement under the ideology of socialism	no legal enforcement
Nigeria	Fundamental Objectives and Directive Principles of State Policy	has political enforcement	no legal enforcement
Ghana	Directive Principles of State Policy	has political enforcement	Intention to have legal enforcement
Philippines	Provisions of State Policy	has political enforcement	Intention to have legal enforcement
Thailand	Directive Principles of Fundamental State Policies (Constitution 2007)	has political enforcement	Intention to have legal enforcement
	Directive Principles of State Policy (Constitution 2017)	has political enforcement	no legal enforcement

Source: Srivithaya, 2017

As shown in the above Table 1, the author has the reason for the countries selecting a comparative study in different criterion of countries selection: geopolitical difference in Europe, Asia, Africa and ASEAN; different mandatory conditions for political and legal enforcements for directive principles of state policies; different political, economic, social ideologies and religion principles.

4. Results and Discussion

The Constitution does not clearly provide for the directive principles of fundamental state policies to have legal binding clearly. The constitutions of Thailand and foreign constitutions tend to require that the fundamental state policies' provisions having more mandatory conditions and mechanisms for monitoring law enforcement in accordance with the fundamental state policies, both political enforcement by parliament and administrative enforcement by government, especially legal enforcement by the courts (justiciability) which relies on court decisions to interpret the constitution, such as the Supreme Courts of India, Bangladesh, Nigeria and Ghana. The German Constitutional Court has used "principle of practical concordance" for the principle of constitutional interpretation so that the Constitution is consistent between the fundamental state policies and other provisions in the Constitution, especially the chapter of basic rights of the people that supports the provisions of the fundamental state policy to have the legal enforcement. Later, the Court's rulings were developed that interpreted the provisions of the fundamental state policies and basic rights chapters equally, resulting in the fundamental state policies being more legally enforceable by the courts (Bhatia, 2015). The research results can be summarized and discussed as follows:

4.1 Law enforcement in accordance with the fundamental state policies in foreign countries

European countries

The Weimar Republic, which later became modern day Germany was the first country in the world to have the 1919 Weimar Constitution and it stipulated the provision of fundamental state policies included in Chapter 2, Basic Rights, without separating them into specific chapters. The 1937 Irish Constitution, which was the first constitution in the world prescribing state policies in a separate chapter, aim of being "general guidance" in enacting laws and having political enforcement only. If the parliament or the government does not enact laws according to the state policies, there will be no legal enforcement resulting in the right to sue for the people (Boyle, 2014). These two constitutions are models for many countries, namely Spain, India, Bangladesh, China, Nigeria, Ghana, the Philippines, and Thailand, which do not specify the legal enforcement of state policies in the Constitution. If the parliament does not enact laws or the government does not manage the country in accordance with state policy guidelines People cannot sue in court. The fundamental state policies therefore have political compulsions, such as the government's policy statements to parliament, setting up parliamentary commissions, posing questions to the government, debate for vote of no confidence. The mechanism of the parliament and government are thus used for enforcing state policy. The court mechanism rarely uses the power of the judicial review of state policy because it adheres to the principle of separation of powers in which the court will not use its judicial power to interfere with an act of government (Acte de gouvernement) that are within the power of the executive branch. The directive principles of fundamental state policies therefore have no legal enforcement for fear that if there is legal enforcement and the government is unable to comply with them for political, economic, and budgetary reasons, there may be many citizens using their rights to sue the government. In a decision of the German Constitutional Court, the Court used the "principle of practical concordance" as a principle of interpretation to ensure consistency between state policies' provisions and other provisions of the Constitution, especially in the Chapter on rights and liberties of the people. The outcome is that the fundamental state policies were served as a supplement to strengthen the rights and liberties provisions to be stronger than their own provisions themselves. In some cases, if we consider only the rights and liberties provisions alone, there may be problems in interpreting whether or not such cases will affect people's rights and liberties.

Asian countries

India is the second country in Asia to have the provision of state policies in Chapter 4 of the 1950 Constitution, after Thailand was the first country in Asia to have the provision of state policies in Chapter 3 of the 1949 Constitution. The Indian state policies are more obviously unique than the Thai ones because the Indian Constitution has set up the state policies in grouping of provisions based on 4 main principles of ideology: socialist

principles, liberal principles, Gandhian principles, and international principles that are mandatory according to the ideology of socialist democracy (Jaiswal, 2013). The Bangladesh Constitution of 1972, Chapter 2 stipulates that the state policies were classified in grouping of provisions based on 4 principles of ideology: secularity, nationalism, democracy and socialism. Later, it was changed from secular principles to Islamic principles. But the constitution of both countries stipulated that state policies have only political enforcement and not legal enforcement as well (Barakrishnan, 2009). China is a socialist-communist country. Its state policies are consistent with the context of Chinese society and the needs of the country, which has the spirit and ideology of governing the country in the socialist system with Chinese characteristics, based on the four principles of modernization and the reform for opening the country to the outside world under the leadership of the Chinese Communist Party. The 1982 Chinese Constitution therefore stipulates that the state policies are scattered in many chapters to be only “guidelines and recommendations” for enacting laws that have political enforcement and no legal enforcement (Ip, 2010).

The 1987 Philippine Constitution, Chapter 2 stipulates state policies, divided into 2 parts: Part 1: Principles specifying the mandatory conditions of state policies; Part 2: provisions of State Policies. The Thai Constitution, B.E. 2007 changed all previous constitutional provisions by specifying the fundamental state policies as "intentions" instead of "as a guideline", which requires this section to have political enforcement and administrative enforcement in an attempt to create more legal enforcement as well, but the constitution has no provision for legal enforcement by any court. Even though the constitution specifies this chapter as the basic principle of governing the country with very clear political enforcement like in other countries (Srivithaya, 2017). From the case studies of the decisions of the Indian and Bangladesh courts, it was found that there are rulings that are more prominent than those in every country where the courts try to decide on the issue of the compulsory nature and enforcement of state policies by interpreting them in connection with the basic rights provisions that have mandatory condition. From a status where the provisions of the state policies are only used as supplementary interpretations or under the basic rights mandate, to a status of equality in the interpretation of these two chapters of provisions together in order to make the state policies have the mandatory condition and legal enforcement in accordance with the state policies provisions. As a result, the court used its power to review and inspect the legislative and executive branches to determine if they performed their duties in enacting laws and managing the nation according to state policies (Singh, 2000). In the Philippines and Thailand, the courts often do not consider issues of mandatory condition and legal enforcement of state policies; for fear that they will interfere with legislative and executive powers, thus strictly adhering to the principle of separation of powers, such as in Europe.

African countries

The 1999 Nigerian Constitution provides that it is the responsibility of state organizations to operate and act in accordance with the objectives and directive principles of state policies. But it is clearly stated that the court does not have jurisdiction to decide whether which actions are consistent with or inconsistent with the objectives and directive principles of state policies. The 1992 Ghana Constitution stipulates that the directive principles of state policies are only guidelines for implementing policies and for interpreting the Constitution or other laws, which do not give rise to the right to bring legal action in court despite its clear provisions of political and administrative enforcement (Duru, 2011). According to a case study of the decisions of the Nigerian courts found that there are progressive rulings similar to the rulings of the Indian and Bangladeshi courts that have decided the issue of legal compulsory and legal enforcement of state policies, interpreted in connection with the chapter of basic rights that achieved legally enforceable outcomes. By interpreting these two chapters together, the provision of state policies and basic rights was equally achieved successful results of legal enforcement. In this case study, the court exercises its power to review and inspect the legislative and executive branches to prove whether they have performed their duties as specified by the chapter of state policies in the constitution that prescribed the state has a duty to enact laws and administer the country in accordance with the basic state policies as specified in the constitution.

4.2 Law enforcement in accordance with the fundamental state policies in Thailand

Nine Thai constitutions, including the 2007 Constitution, do not specify the legal enforcement of the directive principles of fundamental state policies, causing ambiguity in interpreting the mandatory condition of the Chapter 5 provisions when there is a dispute over law enacting by the parliament or government administration

according to the fundamental state policies that will that laws conflict with the state policies in the Constitution or not. Each judge of the Constitutional Court who has the authority to judge the constitutionality of laws has different interpretations of the enforcement of state policies. Therefore, it creates a difficult problem when deciding whether the directive principles of state policies have mandatory condition or not and how, which results in the following question: When a law has been enacted that clearly conflicts with the fundamental state policies, will the Constitutional Court be able to decide on the constitutionality of that law? To what extent will the law be enforceable? The unclear nature of such legal enforcement may also result in organizations with authority to carry out state policies not paying attention to this chapter of provisions because there is no legal obligation. As a result, the court is unable to inspect their compliance with fundamental state policies.

There is probably only a political enforcement, which is a check between the government and the parliament that may not be as effective as it should be because the political party that forms the government also has a majority in the parliament. The 2007 Constitution omitted the text "...and does not create the right to sue the state," leaving the provision that had been written in the previous constitution saying "state policies are only guidelines for enacting laws and determining state policy and does not create the right to sue the state". This is because Section 60 of the Constitution guarantees the right of individuals to sue government agencies, state organizations, state enterprises, local government agencies or others that are juristic persons can perform duties as specified by the Constitution, especially Section 76, paragraph one and paragraph two, stipulated that it is the duty of the council of ministers to make a government administration plan and a plan to enact laws necessary for the implementation of the fundamental state policies and government administration plan (Srivithaya, 2017). The state policies in the 2007 Constitution differ in each aspect from previous constitutions; it has been clearly divided into provision groups for state organizations and government agencies to plan government administration and legislation plan to prepare various projects corresponded to the fundamental state policies as specified in the Constitution.

4.3 The summary of data collected from the opinions and suggestions of 15 key informants

The focus group discussions to collect data and information from the opinions and suggestions of 15 key informants divided into 3 groups as follows:

Experts of government organizations and public administration

(a) The directive principles state policies should be determined based on state function criteria instead of state activity criteria, including state duties in five areas: (1) state welfare, (2) inequality remedies, (3) law enforcing process, (4) development and wealth, and (5) security and foreign affairs;

(b) The government should define the specific scope of state policies in three domains: (1) policy that is a major state function, (2) policy that is general basic needs and, (3) policy that is free from political partisan. This should be enacted a scope of principles and measures for implementing effectively.

(c) The state policies should have legal and administrative binding, not only political binding, because the members of parliament came mostly from election champagnes of unrealistic over-promising policies and then used them for corruption after winning the election. Thus, the parliament should be used as a mechanism to check the enforcement of state policy provisions as stipulated in the Constitution.

(d) It should establish the mandatory conditions of state policies by adopting an organic law specifying the implementation of administrative enforcement of state policies and having the mechanism responsible for inspection of the implementation of state policies by the government administration.

Experts of judicial organizations and the justice process

(a) All directive principles of state policies stipulated in the 2007 and the 2017 Thai Constitutions are important basic principles for governing our country. In Thailand, law enforcement does not arise from the provisions of state policies but it is caused by lack of awareness of respecting laws and public interests.

(b) The majority of experts in this group agreed that the Constitutions already have enough appropriate provisions on the directive principles of state policies. Therefore, it should not be further enacted to add more or less additional stipulation on directive principles of state policies in the Constitution.

(c) However, some experts in this group agree that the substance of the directive principles of state policies should be added to the constitutional provisions for 2 points: (1) state policy for developing the quality of citizens on morality and ethics; (2) state policy to encouraging the people to be good citizen.

(d) The directive principles of state policies should be stipulated in constitutional provisions that can be implemented. The mandatory conditions of state policies should be only political enforcement specified in the constitution to ensure effective implementation by the government and political parties.

(e) However, some experts in this group agree that the directive principles of state policies should have all political, administrative and legal mandatory conditions, including the establishment of the mechanism for monitoring the effective enforcement of state policies by the government and its agencies.

Experts of academic institutions in law and political science

(a) The constitution should determine the substantial contents of the directive principles of state policies to be implementing by administrative plans and clear operational goals. The evaluation period of the state policies implementation should be every years during of the term of government in office.

(b) The directive principles of state policies are not the policy guidelines of any government, which can be changed according to the wishes of any government and political parties. They will be basic policy guidelines that every government must follow and implement them as specified in the constitution.

(c) The constitution should have provisions of the directive principles of state policies to be compulsory conditions from political, administrative and legal mandatory to be consistent with the Thai social context because their enforcement is important to the national governance for the people benefits.

(d) The mechanism for monitoring the enforcement of directive principles of state policies should be clearly established by the constitution. The parliament mechanism system is sufficient enough for political enforcement, such as enacting laws to implement state policies, question sessions on state policies and report the results of compliance with state policies to parliament.

5. Conclusion

In the study and comparative analysis of the mandatory conditions and the mechanisms of law enforcement in accordance with the directive principles of fundamental state policies in the constitutions of ten foreign countries and Thailand, it can be concluded that every country, whether a European country, Asian, African, and ASEAN, including Thailand, there is political enforcement and administrative enforcement in accordance with the fundamental state policies by parliament and government mechanisms. Although the details of political enforcement organizations are varied and the level of intensity of political enforcement are differences, the constitutions of every country provide for political enforcement using parliamentary mechanisms, such as statements government's policy to parliament, a plan for the enactment of legislation and administrative plan in line with fundamental state policies, posting questions for political verification to determine whether the government has implemented the policies stated to parliament or not, and preparing an annual report on the results of implementation of fundamental state policies to the National Assembly every year, as well as debate for vote of no confidence. The parliament, especially the House of Representatives, has members of parliament who are representatives of the people that are directly elected by the people. Therefore, it is the parliamentary mechanism that has the authority and legitimacy to monitor politics in a democratic system. The government elected by the people for the administration of state affairs must operate in accordance with the political party's policies and the fundamental state policies stipulated in the constitution effectively for the benefit of the people and the country as a whole.

6. Recommendations

The recommendations of this research are as following:

(1) The Constitutional Court should be encouraged to play an important role in ensuring that certain fundamental state policies have the status of citizen's rights recognized by the Constitution because Section 27 of the 2007 Constitution states that "rights and liberties guaranteed by this Constitution expressly, by implication or by the decision of the Constitutional Court..." If the Constitutional Court has a decision confirming that the state policy on that matter is a right will receive protection and be directly bound by the parliament, the government, the courts, and other constitutional organs in enforcing certain state policies.

(2) The principles of the Portuguese Constitutional Court: “Unconstitutionality due to neglect to enact law” should be applied to control the constitutionality of legislation. If the legislature neglects to enact laws as specified by constitution on fundamental state policies, it will be considered unconstitutional. If this principle can be applied in Thailand, it will help push the parliament to enact more laws to implement the directive principles of fundamental state policies.

(3) The mechanism for exercising initiative rights to propose draft legislation by the people should be developed and improved because it can be served for pushing for the enactment of laws to implement certain fundamental state policies by people’s participation in the lawmaking process of parliament.

(4) There should be research on the mechanism of exercising initiative rights to propose draft legislation by the people so that the people can participate in enacting laws to implement the fundamental state policies to be enforced more efficiently and effectively.

(5) It is necessary to undertake a research on designing a mechanism to check law enforcement to be conformed to fundamental state policies, including political enforcement mechanism by the parliament, administrative enforcement mechanisms by the government and legal enforcement mechanism by the courts jointly ensure the effective and successful enforcement of fundamental state policies.

(6) There should be research and development into the mechanism of the Constitutional Court and the Administrative Court to play an important role in endorsing and verifying that certain state policies in the constitutional provisions of fundamental state policies have the status of basic rights guaranteed by the constitution the same as by foreign courts.

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8. References

- Barakrishnan, K. G. (2009). *Judicial Activism under the Indian Constitution*. Trinity College Dublin, Ireland.
- Bhatia, G. (2015). *Directive Principles of State Policy: Theory and Practice*. Oxford Handbook for the Indian Constitution. Oxford, UK: Oxford University Press.
- Blaustein, A.P., & Franz, G.H. (Eds). (1990). *Constitutions of the Countries of the World*. New York, US: Oceana Publications.
- Boonsuwan, K. (2005). *Dictionary of Parliamentary Terminology and Thai Politics*. Bangkok, Thailand: Tathata Publications Ltd.
- Boyle, R. (2014). *The State of Policy Evaluation in Ireland*. RESEARCH PAPER NO. 14: State of Public Service Series. Institute of Public Administration (IPA). Retrieved from https://www.ipa.ie/_fileUpload/Documents/Evaluation_Report_Sept_2014.pdf
- Charoenwongsakdi, K. (2012). National Economic and Social Advisory Council and Directive Principles of Fundamental State Policies. *Ratthasapasarn*, 51(1).
- Charuchinda, A. (2012). *Teaching Documents for the Course on Constitutional Law and Advanced Political Institutions, Unit 7: Directive Principles of Fundamental State Policies*. Nonthaburi, Thailand: Sukhothai Thammathirat Open University Printing House.
- Cheuthai, S. (2011). *Explanation of General Constitutional Principles*. Bangkok, Thailand: Thammasat University Printing House.
- Duru, O. (2011). *The Justiciability of Fundamental Objectives and Directives Principles of State Policy under Nigerian Law*. Retrieved from <https://dx.doi.org/10.2139/ssrn.2140361>
- Ip, E. C. (2010). The Supreme Court and the Making of Public Policy in Contemporary China. *The Michigan Journal of Public Affairs*. 1-15.
- Jaiswal, V. (2013). *Directive Principles of State Policy in the Indian Constitution*. Retrieved from <https://www.yourarticlelibrary.com/directive-principles/directive-principles-of-state-policy/49221>

- Keu-ngam, V. (1987). *Constitutional Law*. 2nd Edition. Bangkok: Nitibarnnakarn Publishing House.
- Sang-uthai, Y. (1971). *Constitutional Principles and General Election Law* (Master's thesis)., Faculty of Political Science, Thammasat University, Pathum Thani.
- Sapchartanan, S. (2012). Enforcement Mechanism of the Directive Principles of State Policy. *AU Law Journal*, 3(1), 178-190.
- Singh, M. P. (2000). Directive Principles of State Policy in the Constitution of India. *BV Lai and TR Vakotra, Fiji and the World*, 2, 269.
- Srivithaya, S. (2015). *Performance of Duties of Government Organizations According to the Rule of Law under the Constitution of the Kingdom of Thailand, B.E. 2007*. Bangkok, Thailand: Office of the Constitutional Court.
- Srivithaya, S. (2017). *Enforcement of laws in accordance with Directive Principles of Fundamental State Policies: A Comparative study with Foreign Countries*. Bangkok, Thailand: Office of the Constitutional Court.
- Traimas, Ch. (2002). *Encyclopedia of the Constitution of the Kingdom of Thailand 1997: Directive Principles of Fundamental State Policies*. Bangkok, Thailand: Teachers Council Trade Organization.



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Examining the Effect of China Foreign Aid and Diplomacy on Cambodia Good Governance and Growth Stability

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Abstract

Talking of Foreign Aid, or so-called foreign resource assistance, Cambodia sees reconstruction through the light of foreign aid, which has helped Cambodia to rebuild its economy and reconstructed the entire government structure after the country went through several years of bloodshed because of civil wars and the transitional phase of its government since the post-colonial era. Cambodia tended to normalize and open up for foreign aid since then, up to a point that the huge influx of foreign assistance raises such concern of negative consequences for the state. This research aims to examine the impact and risk of China foreign aid diplomacy in consequence to achieve a good governance and its growth stability. This research then analyzes the impact and risk of excessive reliance on China foreign aid in Cambodia by providing a wider and critical view toward the consequences of weaponized aid, and particularly the assessment to the effect of China foreign aid and diplomacy toward Cambodia's politics and her economic well-being. Significant issues affiliated with the back-bone of the received aid ranged from the politicized aid accumulation, reliance on aid, swing in notions of foreign policy, and the aid dependency fragmentation. Six participants from both the governmental sector and international organizations were interviewed. This research found that the motives of aid disbursement to Cambodia are strategically driven by the donor's hegemonic goals, which led Cambodia to encounter such difficulties in maintaining its well-being. Plus, considering the huge amount of aid received in Cambodia, it has given the country the dilemma of being over reliant on the aid in which would end up in fragmentation among its economy and diplomacy. Despite the fast-paced infrastructure development, Cambodia, on the other hand, would have to incur such debt and a huge source from one major donor would lead Cambodia to ignore countless sanctions and conditions for good governance through foreign aid from others donor agencies, making up the country isolated both of its market and politics.

Keywords: *Foreign Aid Diplomacy; Good governance; Foreign aid's motive and its risk; Official Development Assistance; Realism; Aid Dependency*

1. Introduction

Foreign aid is a form of resource assistance coming from donors in various picture including money flows, services, international institution or provisions of governmental guideline (Williams, 2022). It proportionately aims to support recipient countries or benefiting toward receiving countries' developmental state. Foreign aid can also simply be understood as the voluntary movement of resources from donors' country to recipient country regardless of resources' image. Hence, considering of the conjunction of foreign aid and development, the two factors are closely correlative and indispensable to not consider of each one factor. It is a true fact that foreign aid is commonly seen in a picture of developmental purpose. However, there are also other motivational factors for donors to provide resources, the so-called foreign aid, has been addressed. Foreign aid is prescript with donors' interests as driven forces behind the aid provision. The motivation of donors to provides the aid could be laid off in two reasons which are: (i) the pursuit to acquire the dominant power politically and economically in the receiving country, especially the pursuit of influence over foreign policy implementation of recipient's countries and (ii) the power to determine international orders by the uses of Geo-political power (Hopkins, 2000).

The nature of foreign aid under the globalization era deemed as an indispensable development assistance across continents (Murshed, & Khanaum, 2014). It is a particular of international standard of foreign aid initiated by the Organization of Economic Cooperation and Development (OECD) namely 'golden standard' which is known as Official Development Assistance (ODA) contributed by members of the Development Assistance Committee (DAC) to targeted economies. The ODA is a governmental resource assistance which purposely aims to promote economic and welfare of the developing countries (OECD, 2021a).

It is profoundly known that the United States is the largest contributor of foreign aid, the so-called ODA to the vast majority of developing countries among other members in DAC. It is indeed, the provision of foreign aid provided by the United States which tallied of USD \$47.8 billion in 2021 was such a huge amount of money, following by Germany and Japan. Comparatively, the amount of global foreign aid underlying as grants provided by China is also estimated at USD \$5.9 billion in 2019. China, which has the second largest economy in the world has also dispended its aid budget to many developing countries in various pictures including grants, non-traditional loans and development project (OECD, 2021b).

Cambodia is one of the benefiting country among the developing world. Foreign aid has played an important role in terms of reconstructing Cambodia. Historically, Cambodia has experienced many tragedies and political hostilities and whereby in the modern history of Cambodia after the French colonization era, the country has come across five revolutionary phases in which the whole structure of the country has been demolished. Therefore, Cambodia which heavily lacks resources to reconstructing the country at the time was heavily reliant on foreign assistance resources in the meant to develop their developmental states, the statecraft. In this sense, the foreign aid was indeed considered as an important element to rebuilt Cambodia including its infrastructure, institutions, governance structure, and partly assist of its constitution drafting process as well as its general election in 1993 which was operated by UNTAC (Roberts, 1994).

Cambodia has received aid via United Nations agencies, international financial institutions, European Union and through bilateral aid from partner countries likewise USA, China, Japan, and Australia. Cambodia still continues to receive aid from international donors to the current day, and are now dominated by China as the biggest donor to Cambodia due to prolonged friendship and its convenience of non-traditional loans provided – the loan with none conditions prescript (Vathanak, 2021).

For the past few years, foreign aid from China has been seen as the most important foreign policy agenda under the theme of the Belt and Road Initiative (BRI) which aims to gathered good relationships among the states along its sea route. By focusing on the foreign aid diplomacy, China have dominated its role in global governance. To some extent, countries who interacting with the BRI project and received huge amounts of aid should be wary about the side effects and the risk of falling into the Debt Trap Diplomacy of China. Hambantota port of Sri Lanka could be one example to further understand toward the consequences of debt trap diplomacy when Sri Lanka eventually has to hand over the port to China for 99 years lease due to its inability to repay the debt to China (Abeyagoonasekera, 2022). Considerably, China is Cambodia's biggest donor in which it tends to dominate its influential within the Cambodia political boundaries. Even if the China Aid is mostly referred to nontraditional aid yet it came along with China's interests in range of differential political desired. It is eventually exposed to involve in foreign policy direction of Cambodia when China need Cambodia's support in international communities. (Veasna, 2016). Those including foreign policy between Cambodia and others states and the fluctuation for a small state like Cambodia to hardly obtain the capability to remained its neutrality as well as to observes its independency (Kwak, 2021).

It is, therefore, becoming one of the key issues in analyzing toward the growth as well as the governance in the country and its political circumstances. Evidently, Cambodia received aid From China upholding for 14 domestic projects linked to government and civil society sector in the period between 2010-2014 (Open Development Cambodia, 2015). It should be noted that the disclosure of information regarding the distribution and utilization of aid deemed limited except the aforementioned year which have been fully disclosed. Hence, as the Chinese influence in the 21st century has become ever-increasingly influential to the world, especially countries in the Southeast Asia region, it is also alarming toward the Cambodia government to reconsidered of its huge amount of received aid coming from China in both types of aid; the granted aid and loans (Reuters, 2019). According to the latest data retrieved from the council for the development of Cambodia (CDC) regarding the disbursement of ODA, the data has shown that Cambodia have received the amount of USD \$494 million in 2020 which is comparatively high in the year of 2021 with a total own disbursement of USD \$420 million (Cambodia

Development Council, 2023). This tendency also questions whether China is trying to use money under the theme or curtain of development aid in order to buy influence in Cambodia politics or purely assisting recipient country. Therefore, these consequences of aid reliance of Cambodia over the foreign aid, not to mention the aid from China alone, are essentially shaping Cambodia politics and determine the growth in this particular economy in several ways.

In particular, the overreliance of foreign aid in Cambodia itself is exploiting its political neutrality. In 2012, Cambodia as the ASEAN's Chairman in cycle of rotation to host the ASEAN's meeting, failed to conclude a joint communique – a code of conduct which may criticize China over the issue of South China Sea's dispute (Heimkhemra, 2020). Cambodia has been criticized over the issue for its China leaning foreign policy. Following by the issue of Ream Naval Base back in 2019, Cambodia also allegedly secretly permitted renovation of its deep-sea naval base to China for its military facility (Nakashima, & Cadell, 2022). In response to that, the Government of Cambodia refused and clarified the issue as a fraud accusation from the western's community amid the concerns over the expansion of China military for South China Sea strategy in Asia-Pacific region (Nika, 2022). Yet, Cambodia denied full access for the US to visit the area due to national security concerns (Whong, 2021). It does not end there but to escalated the tensions over the renovation of the Ream Naval Base, and eventually, Cambodian officials and family have been banned from travelling to the United States in the future as well as the freezing of their U.S. assets (Psaledakis, & Lawder, 2021). Hence, critics have also argued that, despite the ever-increasingly infrastructure development projects going on in Cambodia, governance and democracy have been oppositely overturned and criticized over times.

The unsinkable friendship of the two, the so-called ironclad friendship of Cambodia and China has acted as the propaganda for Cambodia to stranding its political culture – the culture of governance of which can endure and resist from western community sanctions pressing over Cambodia to achieve a good governance (Sokvy, 2021). It is seemingly given the ruled political party the power to determine autocracy in this particular country which distinguished itself from the principle of democracy (Pheakdey, 2013).

It is also questioned whether Cambodia will fall into the debt trap if the country continues to rely on the foreign aid. As the emergence of Sino approach toward Southeast Asia and its pursuit of real global power through the Belt and Road Initiative, in a matter of time, Cambodia will have to encounter several strategic challenges. Plus, since foreign aid is a powerful strategy embedded in diplomacy which oftentimes has been used by the donor countries, especially to approach developing countries, to determine the recipient behaviors; at least the interference toward domestic and international affairs of recipient countries which it deem weaponized dependency from external powers, Cambodia could be risking her economy standing at the chore of the debt (Hutt, 2016). The aid withdrawal also exposes the recipient economy to a potential risk that the higher of poverty if the status quo of the economy failed to be compliant with the designated conditionalities imposed by the donors' countries in order to continue to receive the aid.

In short, there are several factors attached to the foreign aid which undermines the capability of independence for Cambodia. It is profoundly known that Cambodia has experienced several political transitioned and civil war which it weakened the country economy and structure. Therefore, Cambodia has no choice but to rely on foreign aid, the so-called foreign resource assistance. For decades, Cambodia still receiving external aid from donors but one factor to reconsider is the huge amount of aid coming from China to Cambodia, it has now raised such a concern whether the aid dependence could lead Cambodia's welfare to be worsen (Reuters, 2018). Therefore, this research aims to explore the aid dependence consequences and the impact of foreign aid interact with Cambodia politics and its growth.

This research paper is divided into six sections. The first section defines foreign aid diplomacy and debt trap diplomacy and literature review on foreign aid diplomacy, good governance and realism approach to foreign aid. The main research objectives are described in the second section. The third section then focuses on the methodology by describing the detailed information about participants in this research. The fourth section identifies research results and the fifth section discusses impact and risk of foreign aid diplomacy in consequences to achieve a good governance and impact and risk of excessively reliance of foreign aid in Cambodia. The last section is the summary and recommendations of this research.

1.1 Definition

Foreign Aid Diplomacy refers to a form of diplomacy in which a donor country aims to strengthen its diplomatic relations by using a dominant feature of its diplomacy, the so-called foreign aid diplomacy, contracting to the recipient country in the pursuit of its national interests.

Debt Trap Diplomacy is foreign policy implementation of any state that aims to provide or assist other states especially developing states in term of loans or resources assistance. The provider states will continue to aid the developing countries up to a point that the receiving states are incapable of repaying back the hefty amount of money that has been borrowed and eventually fall into the debt trap of creditors. Particularly, there is an implication of China's foreign policy which profoundly interacted with the use of its diplomatic strategies of providing aid contribute to global governance as to pursue its strategic interests. The philosophy of Debt Trap Diplomacy is a ploy which China, as the host country utilize all diplomatic means in order to encourage either recipient or borrower countries to borrow more until it reaches a point where the economies that borrowed cannot pay back the loan to the creditor, and eventually fall into the debt trap.

1.2 Foreign Aid Diplomacy

It is essentially important to study of the motives of the provided aid when it came to understands the nature of aid diplomacy – to what reason state as the main actor, providing aid to one another whereby being seen around the world through various forms of giving. To that extend, it is therefore would be beneficial for this paper to looks into both empirical and theoretical evidence of which *Realism* has been selected as the main theory to further developed the understanding of diplomacy of aid. It is now that foreign aid diplomacy has become an important tool in foreign policy implementation of developed countries to provide aid for the developing world through multilateral and bilateral cooperations (Runde, 2020). Foreign aid has been normalized and widely accepted since it is somehow enabled to serve a variety of its purposes known as developmental assistance, and humanitarian aid provisions to promote the human well-being in receiving states. Meanwhile, Foreign aid is also manipulated through visions of donor's interests which pose such fragmentation of the aid efficiency. The spectrum of provided aid aim to reiterate the strength of donor-recipient alignment relationship via aid diplomacy. In this sense, aid would have been disbursed in distribution to gain allies regardless of domestic political structure rather than to promote the political correctness (Lancaster, 2007).

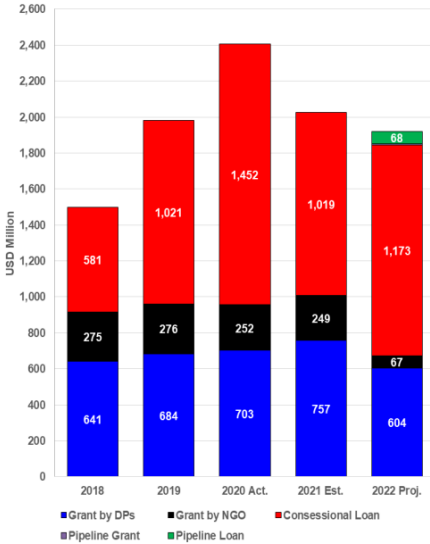
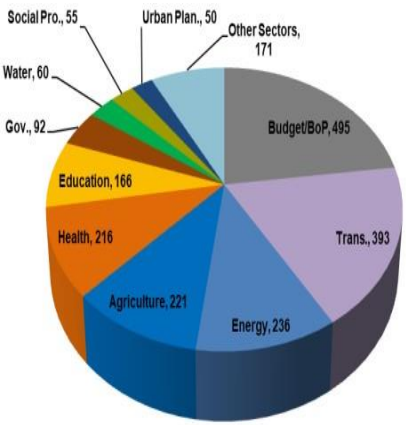
Aid diplomacy is now the most prominent feature operated by the western power countries and emerging power in the political race of global power (Savoy, & Staguahn, 2022). ODA disbursement by DAC has ever-increasingly risen for the past few years between 2012-2021. It dropped slightly in 2019 when Covid-19 hit, yet continues to increase to the latest amount of \$174.7 Billion (constant price) in 2021 which is equivalent to \$184.7 Billion of the current price (OECD, 2023). On the other hand, China as an emerging power also prioritizes its foreign aid diplomacy as an approach of state's foreign policy in determinant of China's strategic interests and cooperation among states along its Belt and Road Initiative route since its first commenced in 2013 during Xi's administration (McBride, Berman, & Chatzky, 2023).

1.2.1 Foreign Aid Diplomacy in Cambodia

Cambodia is one of the recipient countries of the tremendous foreign aid programs in forms of loans and grants from list of donors (Table 1). Empirically, the foreign aid was such a necessary conjunction with economic growth in many developing countries including Cambodia as currently a LDCs-listed country. It is reflected that foreign aid have played significant roles in sustaining the economy as well as increasing the national budget in order to improve the developmental states in recipient country. At the same time, China is the current largest donor to Cambodia due to Cambodia supportive role recognizing One China Policy, this perhaps did play an important role for China strategic goals which making up the relations unsinkable (Anqi, 2021) In this sense, foreign aid diplomacy would be an important key factor in strengthening the relation with Cambodia. One prominent aid diplomacy set out by China as its mega project was the Debt Trap Diplomacy (DTD) considered of which the main mechanism of empowering its strategy to gain global power. China would continue to offer the resources until the recipient countries are incapable of repaying the debt to the creditor and that is when the country fell into the trap (Challeney, 2020). Dated in 2012, Cambodia have been criticized of being failed to established a joint communique concerned with China over the South China Sea issue (Mogato, Martina, & Blanchard, 2016).

For these past years, Cambodia foreign policy have been seen as more incline toward China as one of its big allies in international community (Heng, 2020).

Table 1 Listed of Development Partner and Disbursement (Cambodian Rehabilitation and Development Board Council for the Development of Cambodia, 2022)

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Although, the public debt of Cambodia is coined at 24.4% compared to GDP in 2021, and slightly increased to 25.2% of GDP as of 2022 which is typically less than 40% of GDP (Table 2). Cambodia still has to consider the aid dependency which may hurt Cambodia's economy if the total debt exceeding 40% compared to

the total GDP of the country in case Cambodia did not manage the resource effectiveness adequately in its financial policy (Sarath, 2021).

Table 2 Public Debt Situation in Cambodia as of End of Q4-2022 (Ministry of Economy and Finance of Cambodia, 2023)

បរិយាយ / Description	អនុបាតគោល / Threshold	2021	Q1 to Q3 2022	Q4-2022	2022e
I. សន្និធិបំណុល / Debt Stock ⁽¹⁾		9,504.58	9,562.31	9,988.02	9,988.02
- ក្រៅប្រទេស / External		9,504.58	9,552.16	9,970.50	9,970.50
- ក្នុងប្រទេស / Domestic		-	10.15	17.51	17.51
II. ការចុះកិច្ចព្រមព្រៀងឥណទាន / Loan Signed		907.46	1,217.90	881.77	2,137.83
III. ការបោះផ្សាយលក់មូលបត្ររដ្ឋ / Government Securities Issuance			10.15	7.36	17.51
IV. ការដកសាច់ប្រាក់ / Disbursement		1,168.41	1,087.02	257.98	1,345.00
V. ការទូទាត់សេវាបំណុល / Debt Service Payment		382.78	404.57	59.65	464.22
1. ក្រៅប្រទេស / External ⁽²⁾		382.78	404.57	59.65	464.22
- ប្រាក់ដើម / Principal		285.66	309.37	46.04	355.41
- ការប្រាក់ និងកម្រៃផ្សេងៗ / Interest and Other Fees		97.12	95.21	13.61	108.82
2. ក្នុងប្រទេស / Domestic		-	-	-	-
- ប្រាក់ដើម / Principal		-	-	-	-
- ការប្រាក់ និងកម្រៃផ្សេងៗ / Interest and Other Fees		-	-	-	-
VI. សូចនាករ / Indicator					
1. តម្លៃបច្ចុប្បន្ននៃបំណុលសាធារណៈសរុប / PV of Total Public Debt					
- ធៀបនឹង ផលស / to GDP	55	24.40			25.2
2. តម្លៃបច្ចុប្បន្ននៃបំណុលសាធារណៈក្រៅប្រទេស / PV of Public and Publicly Guaranteed External Debt					
- ធៀបនឹង ផលស / to GDP	40	24.40			24.90
- ធៀបនឹង ការនាំចេញ / to Exports	180	32.82			33.90
3. សេវាបំណុលសាធារណៈក្រៅប្រទេស / Public and Publicly Guaranteed External Debt Service					
- ធៀបនឹង ការនាំចេញ / to Exports	15	1.83			2.10
- ធៀបនឹង ចំណូលថវិកាជាតិ / to Revenue	18	6.33			7.80

1.3 Good Governance

The governance here aims to discuss the transparency and the rule of law principle in implication with the aid utilization in the society which practiced by the government. Good governance at basic requirement associated with the well-being of a democratic society since it is important ingredient in generating such growth

stability and rule of law in a particular economy. United States Agency for International Development (2019) have reported the assessment of the governance in Cambodia of which human rights and democracy still remained strain to the good governance. Corruption is still the main obstacle for the effectiveness of the governance. Also, freedom of expression been addressed as the significant problem for Cambodia in sustaining a good governance. Hence, the good diplomatic relations and deepened economic cooperation between Cambodia and China have contradictory alleviate the relations of Cambodia to the United States and other western countries, led to the lack of checks and balances, and political neutrality under the international system. In addition, the Chinese's aid provisions somehow manipulate the monopoly power for Cambodia to ignore the international law on governance (Parikh, 2015).

1.4 Realism Approach to Foreign Aid

By looking through Realism's lens, the approach toward the foreign aid is a predominant feature of foreign policy of the modern states in this 21st century whereby countries around the world race to pursue the stake in global governance ruling the international order. It is theoretically conceptualizing foreign aid as a diplomatic perception which situated for donors' countries to gain its strategic and hegemonic goals from its recipient countries (Mughandu, 2011).

Realism tends to be rational when it comes to state construction – the idea of state independence and its liability of power shall underline on self-governance. It is quite rational to consider that even if the world is now collided under the international system, each state is indeed guided by its own national interests, and it is therefore outlining a very tactical nature of the world through realism's lens as it is no such free ride on earth (Mearsheimer, 1995). Realism school of thought has opposed to the idealistic views on international system as it is thought that there is no reassurance for morality of the global politics in the light of the international system (Elashkar, 2020).

This hypothesis linked to a realism's conclusion which approach to global foreign aid as it is considerably viable through visions and intentions of donor countries.

In this sense, Realism also views the aid's conditionality are merely exploited the sovereignty of the recipient state or the so-called periphery state, rather than distributing to the development of the receiving state. It is commonly seen of the aid's conditionalities as the sanctions-alike for recipient's country to comply with designated conditions of the aid. Conditionality of the aid is pragmatically deemed to challenge democracy, governance, economic structure, foreign policy implementation and its neutrality rather than to improve the pattern of the country (Sen, 2018). Despite the exploitation triggered by the aid's conditionality, core states also coherently benefitted of politics and economic by deploying aid to the developing countries. It is a dominant power for donor country to deployed its resource under the umbrella of development aid to targeted economies when the military means is incapable to gain its political influence. Realism has also demonstrated that the idea of providing aid is believed to be collectively fall into the sphere of hegemonic goals of the core countries.

2. Objectives

1) To examine the impact and risk of China foreign aid diplomacy in consequence to achieve a good governance and its growth stability.

2) To analyze the impact and risk of excessively reliance of China foreign aid in Cambodia.

3. Methods

This research will be used both primary and secondary resources. The research will be using qualitative method along with analysis of the existing resources, news, reports and some analytical data on aid provision, in order to adequately answer the research questions. This research will mainly examine the effects and risks of foreign aid associate with good governance - the accountability, transparency and efficiency of aid utilization – and growth stability in Cambodia. The focus of this analysis toward politics also wish to include the impact of foreign aid linked to state's diplomacy as it is quite crucial for states relations in the contemporary aspects, considerably state's political neutrality under the international arena. It also seeks to explore the consequences of foreign aid circulating in political boundaries of the recipient country, particularly Cambodia and its risk of overreliance on aid, whether foreign aid could be a wary factor for Cambodia to demolished in order to continue to grow and achieve good governance within democratic principles.

3.1 Data Collection

The sources used in this research paper have been derived from the previous studies, news, reports, and analytical paper as the secondary sources. The sources of this paper were deemed reasonable due to the comparative balanced of selected sources from both independent institutions of research and thinktank, and governmental report of Cambodia including the relative data from ministry's report on foreign aid. It is therefore, the researcher has been able to come up with a concrete foundation of both side perspectives in studying the issue of foreign aid in Cambodia and could have been avoided the one side argument by overlook of the others.

Researcher used interviews as the primary sources in answering the research questions in this research paper. The researcher conducted interview with 6 peoples from variety of backgrounds to enquire information and perspective over the issue of foreign aid in Cambodia. The interviews were conducted in form of semi-structured interviews within online methods and partially offline conducted due to protocol issues. For participants' privacy, all participants' names been labelled as participant A, B, C, D, E, F, accordingly. The interviews were conducted between the designated period started from 14th March, 2023 to 9th April, 2023.

3.2 Participants

In order to achieve credible results of interview, several criteria have been applied for selecting participants. The interview has been conducted with both parties of government's official, and independent organization personnel – thinktank and research institution – in order to avoid one sided argument; biased results. There are 2 different sets of questions which applied to different group of participants

3.2.1 Government's Personnel

This research employed three identical criteria for selected participants under the government's personnel. The criteria were based on individual working status in ministry, age limitation and work experience. The first criterion limited participants under this group to be currently working in ministry of the Royal Government of Cambodia by the time of interviews being conducted. Researcher believe that by having a government official to participated in this interview, the researcher is able to enquire perspective from a group of people who have a better understanding of the governmental strategy for state's development in Cambodia over the foreign aid spectrum. The second criterion were based on participants age which researcher limited to be at least 22 years old, who was born by the year of 2001. Cambodians tend to graduate from high school at the age of 18, by adding up another 4 additional years of limits, researchers believe that Cambodia in their 22 years old deemed more considerate and rational as well as they could have a better understanding of political milestones in Cambodia. The last criteria were work experiences. The researcher also conducted with listed participants who have obtained with work experiences in the ministry of at least 3 years, considered of which should be potentially efficient for the personnel to be capable of such works designed at work place and could have absorbed such skills and knowledge.

Researchers have conducted interviews with 2 government officials from Ministry of Economy and Finance (MEF) of Cambodia, and 2 officials from the Royal Embassy of Cambodia to the Kingdom of Thailand of which technically under division of Ministry of Foreign Affairs and International Cooperation (MFA.IC) of Cambodia.

3.2.2 Organization's Personnel

Researchers also chose to interview organizational staff in order to balance the accuracy of the research findings. Participants under the group of organization personnel should meet four criteria. First, all participants for this group needed to be Cambodians since the goal of this paper is to explore the causes and effects of foreign aid in particular countries of Cambodia only. As such example, Cambodians who work in any organization could have more chance of interacting with inter-ministerial meeting which conducted in monolingualistic if the organization authority is relevant. Second, the researcher scope to limit the criterion for organization's personnel further to be whom completed their bachelor's degree in related field of international relation, political science or economic only, in order to gather precise views from participants over foreign aid in Cambodia. This second criterion could maximize the accuracy of the source in answering the research questions. Thus, the third criterion was to conducted interview with organization personnel who work for organization that located or branched in Cambodia only. This criterion was to ensure that the organization goal is working to analyze with existing issues

in Cambodia, so does their goal of understanding Cambodia's status quo. Fourth criterion designed to shortlisted participants who work in the organizations for at least 2 years. It is a check and balance of work experience for organization personnel to ensure a certain level of working assessment in the organization and would be able to deliver reliable answers.

Overall, researcher have conducted interviews with 2 organization personnel which came from the same organization. Both of the participants in this group are currently a fellow/researcher and chief department at the Foundation Office of Konrad Adenauer Stiftung (KAS) in Phnom Penh, Cambodia. Both of which have majored in International Relations and International Studies.

Table 3 Participant's Information

No.	Participants	Gender	Work experiences	Position/Organization
1.	Participant A	Male	3 Years and 2 Months	Official – Ministry of Economy and Finance (MEF), Phnom Penh, Cambodia
2.	Participant B	Male	3 Years	Official – Ministry of Economy and Finance (MEF), Phnom Penh, Cambodia
3.	Participant C	Male	5 Years	Royal Embassy of Cambodia in Bangkok (REC), Thailand
4.	Participant D	Male	4 Years	Royal Embassy of Cambodia in Bangkok (REC), Thailand
5.	Participant E	Male	3 Years	Konrad Adenauer Stiftung (KAS), Foundation Office Cambodia, Phnom Penh, Cambodia
6.	Participant F	Female	3 Years and a Half	Chief Department – Konrad Adenauer Stiftung (KAS), Foundation Office Cambodia, Phnom Penh, Cambodia

3.3 Limitation

During the period of the interviews, researchers have encountered some difficulties in order to reiterate the research findings in this research paper. Those limitation are the professional field of eligible participants were differed and some of them lacked knowledge about the foreign aid in Cambodia. The term foreign aid deemed unfamiliar and have not been normalized among societies unless personnel who works closely to relevant authority or obtained experiences in such field of foreign aid. To encounter such problems, researcher have to replace and rearrange some of the participant in short period of time.

4. Results

The results will primarily look into all the participants' responses. It then also divides into 4 sub-topics which will looked into the in-depth phenomena of the foreign aid particular in Cambodia.

4.1 Consequences of Foreign Aid in Cambodia

Foreign aid in Cambodia resulted in both positive and negative outcomes in various factors. All participants see that the interaction of foreign aid within the development process in Cambodia has manipulate two main benefits to Cambodia yet, the struggle of the three main encountered disadvantages also been addressed during the interviews. Participants A, B, C, E and F, agreed that foreign aid is an important asset and an effective tool for the receiving state to sustain development resource; increase national income and fulfil national budget efficiency for national development plan, and circulate economic growth to reduce poverty. Meanwhile, participant A, B, E, and F also argue that foreign aid has caused pollution toward the economic growth and governance environment in Cambodia.

According to participant E, foreign aid has been a crucial mechanism to sustain development resource in order to generate the flows of capital in multi-disciplinary sectors under the government agendas, advancing the developmental state in Cambodia. Participant A also agreed that receiving aid from the donor countries, there are several benefits from such, for developing countries to gain sufficient resources to develop their infrastructure, retrieved technical skills to fulfil their needs to growth under the globalization era. Plus, Participant C has outlined that infrastructure development is one such needs for Cambodia to enhance the economic and generate the growth

in GDP rate in the country. Participant F strongly agreed that the infrastructure enables transportations in Cambodia, considered of which is an indispensable asset for the country to circulate the flow of economics' vessel in her economy by having the ability to initiated economic activities among neighboring country. Hence, participant B also stressed that foreign aid has indeed helped the economy of the recipient state by reducing the poverty in her country. It can be seen through viable evident of the rose in gross national income per capita (GNI per capita) with the preferential market access granted to Cambodia as least development country (LDC) from the European Union (EU) and the United States (US) and, more recently, large foreign direct investment (FDI) which ever-increasingly rise from \$290 in 1998 to \$1,060 in 2015 and eventually reached the amount of \$1,380 in 2018.

Cambodia has normalized the term of foreign aid since UNTAC first came to the country and the foundation of state reconstruction were basically relied on foreign assistance, the so-called aid disbursement from donors since then. For instance, received aid have circulated the economic vessel of Cambodia, pushing more industrialization led to reduction of poverty, and lift Cambodia's GDP. Furthermore, aid has significantly sustained Cambodia's economy by distributed to state development agendas. Likewise, foreign aid has funded many development projects in Cambodia till now, eventually push Cambodia economy to move forward.

However, foreign aid altered recipient economic temporarily in a designated period that the recipient economy could obtain ability to serve her own economy later on. Therefore, Cambodia should not rely much on aid to sustain its developmental resources. Participant B also saw that foreign aid could be badly distributed or mis-conceptualized the aid itself if the budget was not planned properly and transparently. Thus, Participants A, E, and F also agreed on a point that the information regarding the aid utilization in Cambodia was little been revealed. Participant F also raised some potential concerns that the received aid might exploit Cambodia's reputation of its leaning foreign policy, sovereignty and perhaps national security. Participant A (Personal Communication, April 4, 2023) has remarked that:

Most foreign aid is conducted under the picture of contract or agreement, which means those who accept the aid will need to also agree to some terms and conditions from the giver . . . and I think the developing country will need to give up some of its controls to the givers.

Furthermore, Participant E have stated that the foreign policy of the recipient states may seem skeptical to other international actors since the received aid could have been a political tool driven the receiving country to be overreliance on the aid.

4.2 Manipulation of the Foreign Aid's Motives and Its Risk

Participant E (Personal Communication, March 20, 2023) has illustrated that the motives for donor countries to providing aid is political driven,

In my own perspective, developed countries aid to Cambodia are sticking to the motives of their political ideologies and influences . . . Frankly speaking, every support comes with prices and intentions. There is no such free lunch and we are living in a system in which we cannot read war no more.

Moreover, participant F also agreed that the donor countries provided aid with visions and expectations. The motives of foreign aid also depended on the status of the donor countries whether it is the aid provided by the superpower state or middle-power state. The intention of the superpower is to gain hegemonic goals while the middle power focus on its international security, politics stability, and economic gain rather than focusing on the developmental state in Cambodia.

At the same time, looking at the risk of foreign aid, the aid disbursement based on donor's interest motives would do more harm than good to Cambodia. Participant A has responded that the risk of relying on foreign aid as a source of its development would render such panic and hinder the development of Cambodia once the sudden disappearance of such aid happens when Cambodia is no longer be donor's strategic interest or such causes. Participant B has also clarified that there is some certain risk of aid reliance for Cambodia as such political strain against one another in the region and global will be detrimental for Cambodia political sphere. Cambodia has been allegedly accused by the U.S. government on Cambodia's foreign policy of being leaned toward China due to its heavy investment in the country. This accusation was ultimately harmed the U.S. and Cambodia foreign policy on its diplomatic relations and Cambodia's image.

4.3 The Emergence of Risk and Impact of Foreign Aid Diplomacy

To some extent, foreign aid in Cambodia has shaped Cambodia's path of development and politics in international arena. Participants C and D agreed that the aid diplomacy was not the negative factor for Cambodia to sustain its good governance due to her extensive economic plan and financial well management of the state. However, Participant F argued that the foreign aid diplomacy could interfere Cambodia in sustain good governance due to the emergence of the opportunity for corruption to happens. The corruption could happen anytime if the received budget is in lack of its transparency and efficiency of used. It then could cause such economic disadvantage for the nation since the corruption acted as a barrier for such growth in Cambodia.

Additionally, Participant B (Personal Communication, April 2, 2023), also asserted that the foreign aid diplomacy is damaging the Cambodia's prestige and its relations among other states,

Given the amount of help received from China, the US government has made several assumptions that Cambodia is home to Chinese naval bases near Sihanoukville, and these claims have strained relations between Cambodia and the USA . . . ultimately had a negative impact on the US and Cambodian foreign policies.

Hence, Participant E added that the foreign aid diplomacy has influenced and interfered with the country's foreign policy direction. One of the examples given by the participant E was that the case of Everything But Arm (EBA), the preferential market access with duty-free to the European markets granted to Cambodia. The western community tried to balance the soft power in the kingdom by pressing over the case of EBA, which the west has threatened Cambodia to withdraw the EBA, which the market access is accounted for a massive economic leap forward for textile manufacturing exportation of the economy in exchange for good governance. However, it has forced Cambodia to rely even more on China, pushing more comprehensive partnership between the two to avoid economic gridlock.

4.4 Fragmentation Causes of the Foreign Aid Reliance in Cambodia

Despite the development in Cambodia distributed by the aid, foreign aid has contradictory manipulated tremendous consequences once the receiving country depends on the aid. There is such risk ignited by the aid reliance in Cambodia. Participant B (Personal Communication, April 2, 2023) has pointed that:

Foreign aid dependence frequently encourages underdevelopment in the dependent country (Cambodia); a country's adoption of policies that are tailored to the interests of a stronger country may hinder the weaker country's domestic growth . . . resulted in temporary growth that hinders long-term development and leads to economic independence stronger than before.

At the same time, participants B and D also strongly agree that foreign assistance for development may undoubtedly giving the impact or influence on the political stance of the recipient country. Naturally, stronger countries could be capable of exerting substantial control over the receiving country politically and economically through aid. It is because the recipient state as developing countries are economically dependent on the donor state. Greater reliance on aid could bring more harm to the state's diplomacy and image.

However, Participant C has suggested that foreign aid would result in a more positive outcome for the country which is potentially helping the country to growth. Also, Cambodia should not be wary of its debt since the country has foreseen the debt ceiling and have well prepared to repay the debt to its creditors. Similarly, participant D thought that Cambodia should be more worried of the sphere of the donor's strategic interests rather than worry of the influx of foreign aid and its debt. Yet. Participants A, and B, have argued that Cambodia should be wary of the debt trap due to influx of foreign aid even if it has not exceeded 40% compared to GDP of Cambodia yet, prepare is better than repair. Additionally, Participant F has included by outline one example of the Hambantota Port in Sri Lanka where the Sri Lankan government have to hand over the port for 99 years lease to China as its creditor due to incapability of repay back the debt. These could be somehow an illustration of the debt trap consequence for Cambodian foreign policy makers to consider in order to distinguish itself from the debt.

5. Discussion

In this section, the research findings will be discussed in order to get the research's questions from Chapter one be answered. The primary source of this research will also be inserted to further explain and support the arguments of the research objectives.

5.1 Impact and risk of foreign aid diplomacy in consequences to achieve a good governance and its growth stability

There are 3 main impacts of weaponized reliance on aid in Cambodia which deemed risky for the kingdom to sustain a good governance and growth stability. Those impacts are (1): Deficiency of Sovereignty, Prestige and National Security, (2): Emergence of Corruption, and (3): Escalation of the Debt Trap.

Theoretically, Realism illustrated the provided aid being weaponized considered of which urged as a foreign policy tool of international donors to gain power politics over small states. Indeed, Realism assessed that such aid from international donors, naturally, superpowers and middle power states, merely caused detrimental effects due to superiority of aid's visions. It views that donors tend to provided aid to recipient states in pictures of development assistance to conceal its strategic move in such scenarios. It is undeniable that the aid disbursement was viable due to the donor's in-depth visions of capturing the strategic interests in recipient states (Lancaster, 2007). For instance, China disbursed loads of aid to numerous economies along its silk road in exchange for its fulfilment of the strategic goals – the pursue for global power and regional power in Indo-pacific region. Supported by the theoretical of Realism theory, it further reaffirmed that such aid was motivated by the foreseen of donor's national interests, as such; pivoted economic advantages from Cambodia, and support for One China Policy voiced by recipient state rather purely fulfill recipient's needs. It then conceptualized threats for recipient country to maintain its sovereignty for state control over its navigation of foreign policy, while the economic dependency inclusively restraint maximization on own political stance.

First, the huge influx of aid into Cambodia has posed such impact and concerns toward the sovereignty, prestige and national security. The aid disbursement in Cambodia from China has gradually rose in the past few years since Cambodia have obtained such comprehensive partnership with Chinese government (Anqi, 2021). Whether or not, Cambodia will have to face the chore of donor's strategic sphere not to mention the debt trap. Participants A, B, D, E, and F have clearly pointed out that aid has always been provided with donor's desire of interests. Cambodia has allegedly facilitated the military base, the so-called Ream Naval Base to the Chinese government as the base deemed strategic important for China to strengthening its sea power in South China Sea region (Nakashima, & Cadell, 2022). In response, the receiving state government has denied the accusation several times stated that it was military renovation of Cambodia naval base as part of own national security (Nika, 2022). Whether it is true or not, it is already damaged the diplomacy of Cambodia among China's rivals as such United States and western community has imposed sanctions over three Cambodian Naval's officials of entering the US in the future. Cambodia has been overly criticized of leaned foreign policy to its biggest donor numerous of times (Heimkhemra, 2020).

Hence, it is hard to deny the mutual benefits between the two since realism also views that the foreign aid deemed mainstream for donor's strategic interests and recipient would also gain its benefits through the exercise of cooperation. Theoretically, Realists thought that the international system would not be idealistic as it tends to be, but states as a primary actor in realism's lens should pursue its own national interests as its nation come first. In this sense, it could be true that Cambodia would do so in exchange of the huge amount of aid from Chinese government. For instance, Cambodia and China are both strategically and economically dependent on one another since both economies enjoy the excessive mutual advantages. It is possible but hard to ensure state sovereignty while Cambodia continue to rely on aid as part of its development. Historically, Cambodia have been heavily criticized for its politically gridlock scenario once Cambodia as chairmanship could not established such statement pointing on issues of South China Sea during the 2012 ASEAN meeting.

It is because the leaning foreign policy of the state led to restraint of ASEAN joint communique in 2012 in which the statement might criticize its donors on South China Sea dispute. This tendency has deteriorated state's prestige, sovereignty, and national security of Cambodia in such circumstance that the country was unable to distinguish itself from China's influence due to its economic dependency has been strains for the country to achieve good governance, improving the well-being of people living in the country (Parikh, 2015).

Second, foreign aid has further given such impact on the Cambodia government to reach out for growth stability due to the transparency of the aid. The received aid could circulate such corruption within a small group of people if the aid was not handled properly and is in lack of its transparency and mostly happening on aid which coming from donors directly dispensed to the Cambodia's government without aid agency or third organizations. Cambodia government has reveals little information of the aid utilization in Cambodia. Participants A, E, and F also agreed that there was little information toward the aid utilization and distribution in Cambodia has been disclosed publicly. Plus, the study of the motives of foreign aid illustrated that the aid has been dispensed viable through focus of donor's strategic interests rather than the needs of recipients. It then, corruption could hinder the long-term development and capability of sustaining growth stability in Cambodia.

Third, foreign aid has additionally escalated the possibility of a debt trap. Cambodia has currently paced its debt under the debt ceiling (40% Compared to GDP) which meant that Cambodia still obtained its ability to repay back the debt in time (Ministry of Economy and Finance of Cambodia, 2023). However, the debt of the country has continued to increase while the value of GDP has slightly increase. Cambodia has not fallen into the debt trap yet, but Cambodia could not ignore the factor (Abeyagoonasekera, 2022). Even if Cambodia would have strengthened its economic institute and financial management before leaving the LDC list which would make Cambodia encounter none issues on stabilize its economy. However, the international pressure and sanctions toward Cambodia would pragmatically still stays input, causing such obstacle for Cambodia to maintain its growth pace. Participant E has also raised the same concerns over the debt trap issue by pointed out Sri Lanka as lesson learned for Cambodia to be prepared and look into the huge influx of all forms of foreign aid especially from China as its biggest donor.

It then come to conclude that the weaponization of the aid in Cambodia by its donor whether intentionally or unintentionally exploit the economic stability in Cambodia, it is unexceptionally risky to her economics' health despite the numerous of infrastructure projects emerged and loans being granted, yet aid dependency is still there to be considered of.

5.2 Impact and risk of excessively reliance of foreign aid in Cambodia

By being over reliant on the foreign aid from international donors, Cambodia as a developing state has and continue to experience 2 main impacts. Those impacts are (1): The Risks of exploitation of domestic political correctness and interference of good governance, and (2): Fragmentation in her economy and diplomacy.

First, once Cambodia relied on aid, it then caused Cambodia to ignored the principle of democracy leading the country to dispatch from good governance. An excessive support from one major source has given Cambodia the power dilemma to ignored the conditions of western community prescript with foreign aid conditioned Cambodia to favor pure democratic principle (Pheakdey, 2013). In this sense, it is because global power was less influential to Cambodia but its major donor. Additionally, conditionality of aid has been ignored since the economy of the state has been sufficient from its major donor, enough to ignore the global governance guideline. Participant F has also illustrated this point by outlines in the case of EBA, considered of which Cambodia experienced the threats of withdrawal of the duty-free market access, and Cambodia chose to exercise more comprehensive partnership with China, forcing the state diplomacy to imbalance among the superpower and emerging power in international system.

Second, heavily reliance on the aid also caused the fragmentation to the economics of Cambodia. It is indeed, relying on the external resource for its developmental state have generates uncertainty of the future. Participant A has supported the argument by stated that Cambodia's economy would be much more hostile once the sudden aid disappearance or withdrawal occurred. Plus, Cambodia would risks fallen into the debt trap once the debt has mounted over the debt ceiling, which could lead the country to encounter uncertain danger pavement of its economy; the economic over-dependent on its donor, which led the economy to confront the possible fragmentation (Sarath, 2021). Equally important, the diplomacy of Cambodia would pragmatically exploit due to its leaning foreign policy while ignore with one another. Whether or not, Cambodia has to favor the strategic desire of donor countries in order to continue to receive the aid. It is then, the kingdom would choose to ignore the criticism from international communities and diminished its political neutrality in global politics while underpin its donor's strategic interests.

6. Conclusion and Recommendations

6.1 Conclusion

To conclude, this research paper has adequately explored the impacts and risks of foreign aid diplomacy in Cambodia, considered of which are the main factors interfere the country in order to achieve and sustain a good governance and growth stability. The paper also studied the consequences of being excessively reliant on the aid. This research looks into both primary and secondary source and supported by realism theory in answered the two research questions.

The aid diplomacy has helped Cambodia reconstructed the whole state structure for the past few decades since UNTAC came. The developmental state in Cambodia including infrastructure has been improved inclusively and contributed by several aid programs to Cambodia. Being aided by international donors and aid agencies, enabled Cambodia to reduce poverty in the country as well as increased national income for Cambodia's citizens. Shifted in aid partners in the new era has urged the newly aid diplomacy spectrum. Numerous sources have asserted such impacts and concerns for the recipient country, particularly Cambodia to encounter as part of its confrontation of the aid consequences. The impacts and risks outweighed the benefits of such aid in the sense that people would choose good governance and ability for its own state to continue to growth rather than infrastructure. Thus, the huge influx of foreign aid in the country also demonstrated skeptical foreign policy direction, resulted in leaned foreign policy and exploited the recipient state's prestige, diplomacy, and national security as seen in such issues of the accusation of the Ream Naval Base and 2012 ASEAN chairmanship.

The received aid in Cambodia could be badly distributed if not handle properly, possibly emerging such corruptions in the country while the transparency of aid could not be ensured and disclosed. Meanwhile, the aid also posed such threats like leading the recipient state to falling into the debt trap as being seen in Sri Lanka when the financial of the country is having inability to repay back the debt in times, eventually forced to lease its port for 99 years to its creditor.

Last but not least, Cambodia is currently a developing and small state, and over-reliance on the aid would do more harm to the country. The study has explored that there are impacts for Cambodia to relied on the aid from international donors. Relying on aid pragmatically exploited the good governance and fragmentation of economy and diplomacy for Cambodia as a small state while the superpower race for its global power by the used of foreign aid. Plus, Cambodia continues to enjoy and rely on the economic cooperation with China as its iron-clad friendship has led Cambodia to ignore the countless sanction and conditions for good governance through foreign aid from others donor agencies included USAID, and many more. The weight of international pressures and sanctions did not fall to government alone but the Cambodian people.

6.2 Recommendations

In order to ensure the capability of Cambodia as a developing country to sustain its growth stability and achieve a good governance in such circumstance while encountering the foreign aid diplomacy spectrum, the recommendations are:

- Cambodia should enhance the reliability of the domestic government. In this sense, accountability and transparency of the domestic government is a priority for the sake of the nation. Authorized government should be capable of handling the national budget planning in order to pursue such growth stability and political correctness on aid.
- Cambodia needs to balance its strategic partnership and be conscious of the concessional loans in forms of foreign aid in which the creditor would use debt trap diplomacy in capturing the hegemonic power in the country.
- Cambodia should obtain its political neutrality at any cost to ensure the diplomatic relations with international communities with the two poles of superpowers in order to avoid international pressure and oppositely gain further economic advantages for her economy.
- Political correctness is important in which Cambodia should poses a strong stance on the adoption on the principle of democracy. It is quite crucial for Cambodia to show its attachment toward democracy as it is what Cambodian people desired through elections every five years.
- Cambodia needs to ensure the efficiency and transparency of the aid by allowing NGOs and IOs in observing the aid utilization missions. The transparency of aid shall be further disclosed by having a middle

segment of the aid distribution in order to prevent opportunity of corruption to occurred. Good governance can be then be ensured for the sake of the nation.

- Cambodia should not rely heavily on aid as part of its development plan, but rather strengthening the economic institutions, pushing more open diplomacy toward both superpower and emerging power, as well as securing the diplomacy direction as neutral state.

- Cambodia should prevent any sort of inference from donors toward the domestic affairs to happen. Sovereignty of developing state could be fragmented and influenced over the use of huge amount of resource assistance in the picture of development assistance. Aid is driven by the motives of donor rather driven by the foreseen of recipient needs. It is; therefore, Cambodia has to prioritize its national strategic plan rather than leaning on the comfort zone of donor's sphere.

7. References

- Abeyagoonasekera, A. (2022). Sri Lankan crisis between debt-trap and strategic-trap: the Chinese stake. *Institute for security & Development Policy*. Retrieved from <https://isdp.eu/sri-lankan-crisis-between-debt-trap-and-strategic-trap-the-chinese-stake/>
- Anqi, F. (2021). China-Cambodia relations stronger than ever: experts. *Global Times*. Retrieved from <https://www.globaltimes.cn/page/202107/1229930.shtml>
- Cambodian Rehabilitation and Development Board Council for the Development of Cambodia. (2022). *Development Cooperation and Partnerships Report*. Retrieved from <http://cdc-crdb.gov.kh/en/publicationview.php?id=8>
- Cambodia Development Council. (2023). *Cambodia ODA Database reporting year 2023*. Retrieved from http://odacambodia.com/Reports/reports_by_updated.asp?status=0
- Challeney, B. (2020). Why do so many Asian nations want to be in China's debt. *Nikkei ASIA*. Retrieved from <https://asia.nikkei.com/Opinion/Why-do-so-many-Asian-nations-want-to-be-in-China-s-debt>
- Hopkins, R. F. (2000). Political Economy of Foreign Aid. In F. Tarp (Ed.), *Foreign aid development: Lessons learnt and directions for the future*. (pp. 423 - 449). London, UK: Routledge.
- Elashkar, G. A. (2020). Realism between theory and reality in international relations. *ACTA Universitatis Danubius*, 13(1), 78-90.
- Hutt, D. (2016). How China came to dominate Cambodia. *The Diplomat*. Retrieved from <https://thediplomat.com/2016/09/how-china-came-to-dominate-cambodia/>
- Heimkhemra, S. (2020). No simple solution to China's dominance in Cambodia. *East Asia Forum*. Retrieved from <https://www.eastasiaforum.org/2020/12/26/no-simple-solution-to-chinas-dominance-in-cambodia/>
- Heng, K. (2020). The case for a Cambodian foreign policy reset. *The Diplomat*. Retrieved from <https://thediplomat.com/2020/11/the-case-for-a-cambodian-foreign-policy-reset/>
- Kwak, D. (2021). *Dynamics of democracy aid allocation: from democratic donors to authoritarian regimes* (Doctoral dissertation), University of Missouri--Columbia.
- Lancaster, C. (2007). *Foreign aid: diplomacy, development, domestic politics*. London, UK: The University of Chicago Press.
- Ministry of Economy and Finance of Cambodia. (2023). *Cambodia Public Debt Statistical bulletin (Publication vol. 17)*. Retrieved from <https://gdicdm.mef.gov.kh/en/2023/03/09/11009.html>
- Mughanda, M. (2011). Inquiry on self-interested foreign aid: Insights from the ODA-migrations link in SSA countries. *African Journal of Political Science and International Relations*, 5(4), 164-173.
- Murshed, M., & Khanaum, M., M. (2014). Impact of Foreign Aid in the Economic Development of Recipient Country. *Journal of the Bangladesh Association of Young Researchers*, 2(1), 33-37. Retrieved from <https://doi.org/10.3329/jbayr.v2i1.20539>
- Mearsheimer, J. J. (1995). The false promise of international institutions. *International Security*, 19(3), 5-49. Retrieved from <https://www.sv.uio.no/livet-rundt-studiene/studiestart/kollokviefadder/artikler-til-kollokvietreff/the-false-promise-of-international-institutions.pdf>
- McBride, J., Berman, N., & Chatzky, A. (2023). China's massive belt and road initiative. *Council on Foreign Relations*. Retrieved from <https://www.cfr.org/backgrounder/chinas-massive-belt-and-road-initiative>

- Mogato, M., Martina, M., & Blanchard, B. (2016). ASEAN deadlocked on south China Sea, Cambodia blocks statement. *Reuters*. Retrieved from <https://www.reuters.com/article/us-southchinasea-ruling-asean-idUSKCN1050F6>
- Nakashima, E., & Cadell, C. (2022, June 6). China secretly building naval facility in Cambodia, western officials say. *The Washington Post*. Retrieved from <https://www.washingtonpost.com/national-security/2022/06/06/cambodia-china-navy-base-ream/>
- Nika, C. (2022). *Cambodian foreign minister rejects accusations concerning Ream Naval Base*. Retrieved from <https://www.information.gov.kh/articles/77635>
- Open Development Cambodia. (2015). *Aid and development*. Retrieved from <https://opendevelopmentcambodia.net/topics/aid-and-development/>
- OECD. (2023). *Net ODA (indicator)*. Retrieved from <https://data.oecd.org/oda/net-oda.htm>
- OECD. (2021a). *What is ODA?* Retrieved from <https://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/What-is-ODA.pdf>
- OECD. (2021b). *Official Development Assistance*. Retrieved from <https://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/official-development-assistance.htm>
- Psaledakis, D., & Lawder, D. (2021). U.S. issues Cambodia corruption advisory, sanctions officials over navy base. *Reuters*. Retrieved from <https://www.reuters.com/world/china/us-blacklists-cambodian-officials-over-alleged-corruption-related-navy-base-2021-11-10/>
- Pheakdey, H. (2013). Chinese investment and aid in Cambodia a controversial affair. *East Asia Forum*. Retrieved from <https://www.eastasiaforum.org/2013/07/16/chinese-investment-and-aid-in-cambodia-a-controversial-affair/>
- Parikh, T. (2015). Cambodia faces turning point in foreign aid. *The Cambodia Daily*. Retrieved from <https://english.cambodiadaily.com/editors-choice/cambodia-faces-turning-point-on-foreign-aid-100205/>
- Reuters. (2019). *Cambodian leader, in Beijing, says China pledges nearly \$600 million in aid*. Retrieved from <https://www.reuters.com/article/us-cambodia-china-idUSKCN1PG0CZ>
- Reuters. (2018). *China pledges over \$100 million military aid to Cambodia*. Retrieved from <https://www.reuters.com/article/us-cambodia-china-idUSKBN1JF0KQ>
- Roberts, D. (1994). The Cambodian elections of 1993. *Electoral Studies*, 13(2), 157–162. [https://doi.org/10.1016/0261-3794\(94\)90033-7](https://doi.org/10.1016/0261-3794(94)90033-7)
- Runde, F. D. (2020). U.S. foreign assistance in the age of strategic competition. *Center for Strategic and International Studies*. Retrieved from <https://www.csis.org/analysis/us-foreign-assistance-age-strategic-competition>
- Sen, O. (2018). *Strategic Aid: Explaining the motives and choices of international donors*. (Dissertation), Georgia State University.
- Sarath, S. (2021). Cambodia's foreign debt tops \$9 billion, with China accounting for more than 40 percent. *Camboja News*. Retrieved from <https://cambojanews.com/cambodias-foreign-debt-tops-9-billion-with-china-accounting-for-more-than-40-percent/>
- Sokvy, R. (2021). How China became Cambodia's important ally and largest donor. *ThinkChina*. Retrieved from <https://www.thinkchina.sg/how-china-became-cambodias-important-ally-and-largest-donor>
- Savoy, M. C., & Staguhn, J. (2022). Global development in an era of great power competition. *Center for Strategic and International Studies*. Retrieved from <https://www.csis.org/analysis/global-development-era-great-power-competition>
- United States Agency for International Development. (2019). *Cambodia democracy, human rights, and governance assessment*. Retrieved from https://pdf.usaid.gov/pdf_docs/pa00tp92.pdf
- Veasna, V. (2016). Cambodia should be cautious when it comes to Chinese aid. *East Asia Forum*. Retrieved from <https://www.eastasiaforum.org/2016/07/09/cambodia-should-be-cautious-when-it-comes-to-chinese-aid/>
- Vathanak, C. (2021) China's Official Development Assistance: An Implication of the Transport Infrastructure Development in Cambodia. *Open Access Library Journal*, 8: e7697. <https://doi.org/10.4236/oalib.1107697>

- Williams, V. (2022). Foreign aid. In *The Encyclopedia Britannica*. Retrieved from <https://www.britannica.com/topic/foreign-aid>
- Whong, E. (2021). Cambodia denies U.S. full access to naval base during embassy visit. *Radio Free Asia*. Retrieved from <https://www.rfa.org/english/news/cambodia/base-06112021183328.html>

Tacit Knowledge Affects the Environmental Practice of Populations in Bangkok Metropolis and Vicinity

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Abstract

Bangkok Metropolis and the surrounding area were ranked the 5th worst in the world for the air quality index in 2023. These environmental problems stem from the lack of basic knowledge of the population's environmental management skills. This research analyzed the Tacit Environmental Knowledge factors affecting the Environmental Management Practice of Populations. This quantitative research study used a questionnaire to collect data from 410 respondents living in the Bangkok Metropolis and the surrounding area. Results showed the highest tacit knowledge of environmental management in The Skills for Saving Water Resources, with an average score \bar{x} of 0.94. The second was The Conservation of The Environment is a Public Responsibility, with an average score \bar{x} of 0.89. The lowest tacit knowledge of environmental management was The Contrast Between "Ozone" and "Clean Air", with an average score \bar{x} of 0.10. The highest practice in environmental management was the Repair Practice, with an average score \bar{x} of 1.85. The second was Using Energy-Efficient Products Behavior, with an average score \bar{x} of 1.67, and the lowest practice level was Taking Public Transportation Instead of a Personal Car Behavior, with an average score \bar{x} of 0.38. Results also showed that the factors affecting Environmental Management Practice by Correlation Analysis including Education, Environmental Learning Pathway, and Tacit Environmental Knowledge positively related to the Environmental Management Practice of Populations, with statistical significance at $\alpha = 0.01$.

Keywords: *Tacit Knowledge; Environmental Practice; Environmental Management; Practice of Populations*

1. Introduction

The world is developing toward transforming development processes that involve applying technology (UNESCO, 2023). This transformation promotes the convenience of consumer consumption but also has negative environmental impacts. Excessive use of resources, without awareness of their natural value, increase in various types of waste, and increased greenhouse gas emissions from the industrial sector all negatively impact the environment. Thailand recognizes the importance of these issues and has collaborated by agreeing to achieve sustainable development goals within the year 2030 (Sustainable Development Goals: SDGs) (United Nations Thailand, 2023). Thailand is one of 193 countries that have signed and recognized these sustainable development goals. The Bangkok Metropolis, as the capital city and main developmental center, had the 5th worst global air quality index (IQAir Air, 2023). This area faces environmental problems of urban waste totaling 22,472 tons per day (Pollution Control Department, 2022). One of the main causes of these environmental problems is the regional economic disparity, which is not evenly distributed or concentrated in the Bangkok Metropolis and the surrounding area. Populations from neighboring provinces seek economic benefits in the metropolitan area resulting in a total population of over 10M (Department of Provincial Administration, 2022). Moreover, the average population density is 5,660.1 people per square kilometer (National Statistical Office, 2022).

Therefore, environmental issues in the Bangkok Metropolis and the surrounding area are a significant concern that requires cooperation and responsibility from the government sector, the private sector, and most importantly, the inhabitants. Most people do not consider how pollution can harm the environment. Researchers, therefore, see the importance of studying the factors influencing the environmental management behavior of the population in Bangkok and its adjacent suburban areas. Tacit Environmental Knowledge is related to the

Environmental Management Practice of Populations in the Bangkok Metropolis and the surrounding area. Each individual has life experiences, circumstances during different life stages, and varying lifestyles, which are common factors influencing behavior due to changes in social structure, values, economic growth, political changes, and technology. This study investigated Tacit Knowledge factors as the knowledge acquired from individual experiences. These factors are variables that affect behavior in managing the environment, enabling everyone to lead a daily life that is environmentally friendly and understand how to promote environmental management. This study provided data to support guidelines for developing public behavior, thoughts, and attitudes of Populations in the Bangkok Metropolis and Vicinity to align with Thailand's sustainable development goals.

2. Objectives

- 1) Study the tacit knowledge of the environmental management of populations in the Bangkok Metropolis and the surrounding area.
- 2) Analyze the tacit knowledge factors affecting practices in the environmental management of the Bangkok Metropolis and nearby Populations.

3. Materials and Methods

3.1 Literature Review

Secondary data were collected by studying documents, research reports, and articles both nationally and internationally related to the factors influencing learning and environmental management behavior.

Environmental Issues from Population

Climate change is characterized by the increasing concentration of greenhouse gases in the atmosphere and reflects the balance between the release of greenhouse gases from human activities and natural sources, and the absorption by ecosystems and the oceans. The Paris Agreement limits the annual increase in average temperatures for each country to no more than 1.5 degrees Celsius (World Meteorological Organization, 2021).

The issue of climate change is a long-term problem due to global warming, erratic weather patterns, and the loss of biodiversity resulting from climate change crises, food crises, and energy crises as the three major global risks that cannot be solved collectively (World Economic Forum, 2022). Pollution worldwide has increased by 6%, while the use of coal has risen by 9%, further impacting the global food crises. Many countries are affected by changing temperatures and sea levels, leading to decreased agricultural production. The food production process produces more than one-third of all global greenhouse gas emissions. Both crises are interconnected and cannot be avoided. It is predicted that by 2593 (Thai calendar year), the world will need to increase food production by more than 60% to meet demands. Therefore, using technology to improve food production efficiency and reduce greenhouse gas emissions is the way forward for future food security.

In 2020, Thailand's average annual temperature was 27.5 degrees Celsius, higher than the 30-year average annual temperature from 1999 to 2012 of 27.1 degrees Celsius. The average temperature has increased by approximately 0.4 degrees Celsius (Meteorological Department of Thailand, 2021). Thailand is ranked as one of the top 10 countries most at risk from the long-term impacts of climate change (Germanwatch, 2021). Currently, Thailand is also facing air pollution issues, particularly severe PM2.5 pollution, which is becoming increasingly problematic. This issue is complex and is influenced by various factors including forest fires, climate change, and pollution from transportation and industries (Seub Nakhasathien Foundation, 2023). In 2019, there were over 7,000 forest fires in Thailand, an increase from 3,000 fires in 2008. Air pollution from transportation and industries is another significant factor affecting PM2.5 levels. In 2020, PM2.5 emissions were attributed to different sectors including transportation (25%), electricity generation (40%), industry (29%), and other sources (6%).

The air pollution situation in the Greater Bangkok metropolitan area and its surrounding provinces is particularly challenging. Managing particulate matter and air pollution in this region requires intensive efforts. The sources of this pollution are diverse and include factors such as traffic emissions, industrial activities, and open burning. Solutions and measures to control and mitigate these problems are crucial to address air quality challenges in this vulnerable area (Pollution Control Department, 2020) (Figure 1).

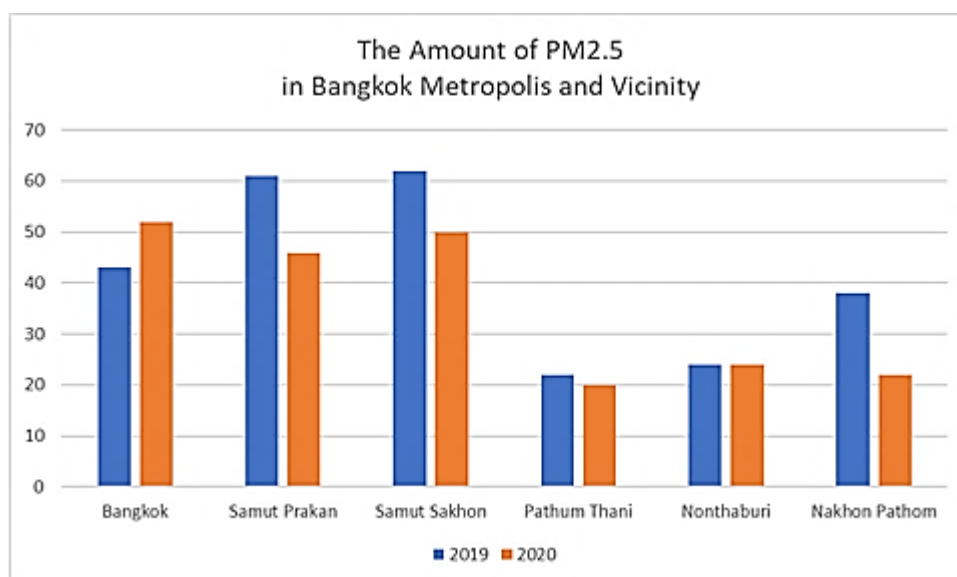


Figure 1 The Amount of PM 2.5 in Bangkok Metropolis and Vicinity
Source: Pollution Control Department (2020)

The impact of air pollution, including PM 2.5, on the health of the Thai population has become increasingly severe. The number of deaths attributable to air pollution has risen from 31,000 in the Thai calendar year 2533 to 49,000 in the Thai calendar year 2556. This increase can be attributed to the rapid industrial development in Thailand, particularly in densely populated areas such as the Greater Bangkok metropolitan region.

The consequences of air pollution and PM 2.5 can be severe, especially for individuals with respiratory issues, heart disease, and circulatory problems. Exposure to air pollution levels exceeding the standard of 10 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) in the short term can lead to eye and throat irritation, coughing, and difficulty breathing. Long-term exposure to high levels of air pollution can increase the risk of heart disease, lung cancer, and other health problems. Air pollution is also detrimental to plant life, ecosystems, and visibility. The average PM 2.5 concentration in Thailand in 2020 was $29.8 \mu\text{g}/\text{m}^3$, significantly higher than the recommended standard by the World Health Organization of $10 \mu\text{g}/\text{m}^3$. These high levels of PM2.5 pose a significant risk to life and contribute to premature deaths, with an estimated 14,000 people in six provinces, Bangkok, Chiang Mai, Chonburi, Samut Sakhon, Khon Kaen, and Rayong being affected. This situation calls for urgent measures to mitigate air pollution and its impacts on public health and the environment.

In most countries worldwide, including Thailand, the industrial, manufacturing, consumption, and service sectors are using natural resources without regard to the detrimental impact on nature and the environment. The ever increasing demand from consumers and unnecessary consumption behaviors lead to water, air, and soil pollution that exacerbates health problems and the degradation of natural resources and the environment. Due to excessive consumption behaviors, the United Nations predicts that out of the 1.3 billion tons of food produced annually, one-third will become waste, while 10.5% of the population faces food scarcity issues, indicating a deteriorating societal condition (Food and Agriculture Organization of the United Nations, FAO, 2021).

The industrial sector contributes to greenhouse gas emissions, accounting for 25-30% of total emissions (Pollution Control Department, 2019). Natural resources and the environment are increasingly exploited in the manufacturing sector to compete in business and develop technology in the world of free trade, including Thailand, without considering the principles of resource value in the business sector. All these factors contribute to the climate crisis caused by greenhouse gas emissions, resulting in a rise in global temperature (The Nature Conservancy, 2023).

Researchers recognize the importance of addressing these impacts. National public sectors have established measures, policies, and regulations for industrial sectors but significant variables of these issues arise from excessive consumption, lack of environmental management behavior, and insufficient access to

environmental knowledge among the population. Pro-environmental Behavior (PEB) is a conscious behavior individuals exhibit to reduce negative environmental impacts (Department of Environmental Quality Promotion, 2015). De Groot, and Steg (2009) stated that environmental behavior involves sacrificing personal convenience for the benefit of others, relying on academic knowledge and tacit knowledge embedded through experiences to influence decision-making and behavior. Therefore, emphasizing tacit knowledge to promote environmental management behaviors among the population is crucial for driving responsible consumption behavior and sustainable development.

Tacit Environmental Knowledge and Behavior

Knowledge is the truth. Reality is information that humans receive and collect as a mass of experiences resulting in the learning process, from responses to stimuli, and through thinking, analyzing, comparing, synthesizing, and connecting with knowledge or information. Whether people accept or reject something reasonably, they go through the process of acquiring knowledge or needing to know about that thing to make decisions. Truths or various pieces of information support and provide answers to questions. This clarifies understanding and promotes a positive attitude toward a particular subject by heightening awareness. This is why the process of gaining knowledge is a structure that combines data memory with psychological states. Therefore, knowledge is a carefully selected memory that aligns with the mental state (Carter, 1973 as cited in Mongkolkasem, 1996).

Education or knowledge is a process that influences the recipients. Individuals who have received education at different levels, in different eras, in various educational systems, or in different fields of study are likely to have diverse thoughts, ideas, and varying needs. Those with higher education or extensive knowledge on a subject or subjects tend to be more effective recipients because they possess a broad range of knowledge in multiple subjects that may facilitate connections, interpretation, or a deeper understanding (River, et al., 1971 as cited in Satavethin, 1997).

Knowledge can be categorized into two types as tacit and explicit. Tacit Knowledge is embedded within a person and acquired through personal experiences, intuition, or the spiritual essence of individuals in understanding various things. This type of knowledge is not easily transferable into words or written language. Examples include skills in performing tasks, craftsmanship, or analytical thinking. Tacit knowledge is sometimes referred to as implicit knowledge. Explicit Knowledge is clear and codified knowledge that can be collected and transferred through various methods such as documentation, theories, and manuals. Explicit knowledge is sometimes called formal knowledge. Knowledge management can be used as a tool to achieve at least four objectives including 1) Achieving work-related goals, 2) Developing individuals, 3) Advancing organizational learning, and 4) Fostering a sense of community and collaboration in the workplace.

Knowledge management involves at least six critical activities related to knowledge including 1) Identifying fundamental or crucial knowledge necessary for group or organizational tasks or activities, 2) Seeking the required knowledge, 3) Enhancing, modifying, or creating some knowledge to make it suitable for use, 4) Applying knowledge at work, 5) Exchanging and learning from work experiences and applying this knowledge, condensing 'knowledge nuggets,' and 6) Documenting 'knowledge nuggets' and 'knowledge cores' for use and improvement into more complete, in-depth, and interconnected knowledge sets that are increasingly suitable for use. These six activities are a synthesis of knowledge that encompasses both explicit knowledge in the form of general symbols or written language and tacit knowledge which resides in people in their hearts (Beliefs and Values), their minds (Reasoning), and in other parts of the body (Practical Skills).

Knowledge is connected to organizational culture (Auernhammer, & Hall, 2001). Tacit Environmental Knowledge and Environmental Management are relevant by the physical proximity, the relevance or participation, and the need to react. Tacit and explicit knowledge cannot be substituted for one another (Boiral, 2002). The findings of the study determined that Tacit Knowledge or deep-seated knowledge possessed by environmental workers who have experience and familiarity while performing their duties, can be utilized to benefit environmental management in three main aspects as identifying sources of pollution, managing emergencies, and developing preventive solutions.

3.2 Concept Framework

Tacit Knowledge affects the Environmental Practice of Populations in the Bangkok Metropolis and Vicinity. Geographical information was collected through a literature review to determine relevant concepts and theories. The fundamental contextual factors related to information perception, environmental management knowledge, and environmental management behavior of the population were investigated, leading to environmental management behavior at different life stages. Data collection via surveys identified key issues and factors relevant to the environmental management behavior of the population in the Bangkok Metropolis and Vicinity, as shown in Figure 2.

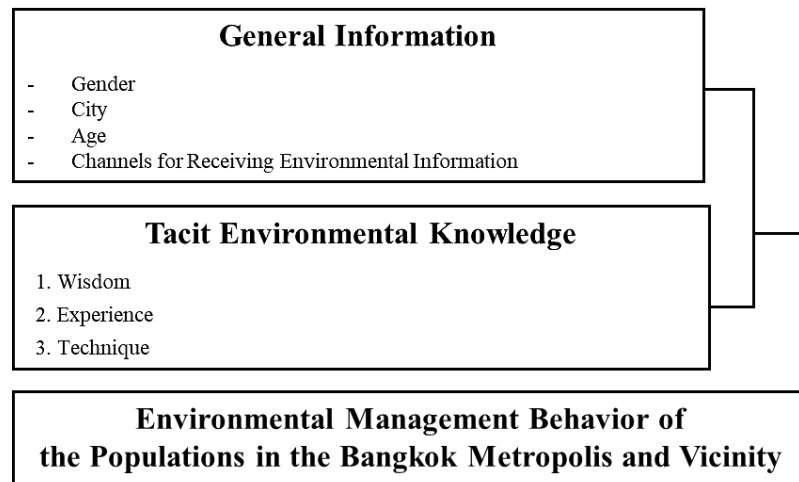


Figure 2 The Concept Framework

The research methodology and workflow comprised the study of Secondary Data on Environmental Management Knowledge and Environmental Management Behavior of the population. Results were used to develop a tool for quantitative Data Collection to analyze and compare the factors influencing the environmental management behavior of the population in the Bangkok Metropolis and the surrounding area.

Secondary Data were collected by studying documents, research reports, and articles both nationally and internationally related to the factors influencing learning and environmental management behavior.

Primary Data, as the key factors influencing the environmental management behavior of the survey respondents, were collected through a quantitative research survey. This survey asked about the fundamental aspects of environmental management in different age groups, the backgrounds of the participants, and how they acquired environmental knowledge, Tacit Knowledge, and the practice of environmental management. The survey was conducted on a sample group in the Bangkok Metropolis and Vicinity.

The sample population size was determined according to Taro Yamane's formula (Yamane, 1967) from a population residing in Bangkok and the surrounding areas comprising 10,605,191 people (Department of Provincial Administration, 2022). With a margin of error of 0.05 at a 95% confidence level, the population of the sample group required for the study was 400 individuals. This sample population was divided into those living in urban areas in the Bangkok Metropolis and the surrounding area as Bangkok, Nakhon Pathom, Nonthaburi, Pathum Thani, Samut Prakan, and Samut Sakhon Provinces.

The sampling strategy for data collection involved several methods including Multistage Sampling, Quota Sampling, and Convenience Sampling. Data were gathered from 400 individuals in the Bangkok Metropolis and Vicinity, subjected to Correlation Analysis using SPSS software, and summarized into descriptive statistics including frequency distribution, percentage, and item analysis to compare factors affecting environmental management behavior.

This study was approved by the Ethics Committee in Human Research (IRB) COA No. 2022/0076. To ensure that the quantitative tools were accurate, several validation steps were followed including Checking the Coverage of Questions and ensuring that the questions were comprehensive and covered the relevant aspects of the research. Language Validation verified the appropriateness of the written or spoken language for the questions.

Content Validation by Experts validated the relevance of the content, and Content Consistency Validation checked the internal consistency of the content of the questions. Six experts assessed the alignment of the questions with the research objectives, rating each question with a score of 1 (In Alignment), 0 (Uncertain), or -1 (Not in Alignment). Questions with an Item Objective Congruence (IOC) Index score higher than 0.5 were selected for use, while questions scoring lower than 0.5 were modified and improved. The Item Objective Congruence Index results indicated that all questions had an IOC value greater than 0.5.

4. Result and Discussion

The study results were as follows.

Information on the Population in the Bangkok Metropolis and Vicinity

The population sample in the Bangkok Metropolis and the surrounding area consisted of 410 individuals, 164 males, 245 females, and one non-binary person. They resided in different areas, with 200 people in Bangkok, 38 in Nonthaburi, 48 in Pathum Thani, 42 in Nakhon Pathom, 40 in Samut Prakan, and 42 in Samut Sakhon. The largest age group in the sample was 27-43 years (Generation Y), with 117 individuals accounting for 28.54% of the sample. The next largest group was aged 13-26 years (Generation Z), with 103 individuals making up 25.12% of the sample. The smallest group was aged 44-58 years (Generation X), with 89 individuals constituting 21.71% of the sample.

Most subjects completed undergraduate education, totaling 204 individuals or 49.76%. The next group had a high school education comprising 63 individuals or 15.37%. The smallest group had a degree higher than a bachelor's degree at 18 individuals or 4.39%.

Regarding the sources of environmental knowledge, most (273 people or 66.59%) obtained information through social media. The next group, 149 people or 36.34%, acquired environmental knowledge through radio and broadcasting. The smallest group, 73 people or 17.80%, obtained information through newspapers. The demographic population details are listed in Table 1.

Table 1 Demographic Information of Populations in the Bangkok Metropolis and Vicinity

Information	Total	%
Gender		
- Male	164	40.00
- Female	245	59.76
- LGBTQ+	1	0.24
Area		
- Bangkok	204	49.76
- Nonthaburi Province	62	15.12
- Pathum Thani Province	41	10.00
- Nakhon Pathom Province	63	15.37
- Samut Prakan Province	22	5.37
- Samut Sakhon Province	18	4.39
Age		
59-77 years (Baby Boomer Generation)	101	24.63
44-58 years (Generation X)	89	21.71
27-43 years (Generation Y)	117	28.54
13-26 years (Generation Z)	103	25.12
Environmental Learning Pathway		
- Newspaper	73	17.80
- Brochure	130	31.71
- Journal	127	30.98
- Television	120	29.27
- Magazine	120	29.27
- Library/Library/Bookstore (Books)	104	25.37
- Radio	149	36.34
- E-Book	130	31.71
- Various Exhibitions	141	34.39
- Social Media	273	66.59
Total	410	100

Tacit Environmental Knowledge

For Tacit Environmental Knowledge of the sample population, the highest level was related to the skill of conserving water resources, with an average score of 0.94, equivalent to 93.66%. The next in line was the knowledge that environmental conservation is a responsibility for everyone, with an average score of 0.89, or 89.27%, and the lowest level of knowledge was related to distinguishing between "ozone" and "clean air", with an average score of 0.10, or 9.76%. Details of Tacit Environmental Knowledge are listed in Table 2.

Table 2 Tacit Environmental Knowledge

Tacit Knowledge	\bar{x}	%	Level
1. Recognition of Environmental Duties	0.12	11.95	Low
2. Contrast Between "Ozone" and "Clean Air"	0.10	9.76	Low
3. Public Responsibility for Waste Segregation	0.81	80.73	High
4. Knowledge of Causes of Environmental Problems	0.20	19.51	Low
5. Distinguish between "Environmental Problems" and "Developed Countries"	0.17	16.83	Low
6. Conservation of The Environment is a Public Responsibility	0.89	89.27	High
7. Relate between "Private Vehicle Popularity" and "Environmental Impact"	0.82	81.71	High
8. Knowledge of Environmental Awareness	0.88	87.80	High
9. Efficient Consumption for Reduce Global Warming	0.84	83.66	High
10. Skills for Saving Water Resources	0.94	93.66	High
Total	0.57	57.49	Medium

Note: 0.00-0.33=Low / 0.34-0.66=Medium / 0.67-1.00=High

Environmental Practice

For the Environmental Practice of the sample population, the highest level of Tacit Knowledge was related to Repair Practice, with an average score of 1.85, equivalent to 92.44%. The next in line was Using Energy-Efficient Products Behavior, with an average score of 1.67, or 83.66%, and the lowest level of knowledge was related to Taking Public Transportation Instead of a Personal Car Behavior, with an average score of 0.38, or 19.02%. The details are listed in Table 3.

Table 3 Environmental Practice

Environmental Management Practice	\bar{x}	%	Level
1. Repair Practice	1.85	92.44	Very High
2. Organic Waste Management	1.61	80.49	Very High
3. Reduce Elevators' Energy Using the Stairs Instead of The Passenger Elevator	1.39	69.51	High
4. Using Reusable Paper	1.37	68.41	High
5. Cloth Bags Reduce Plastic	1.51	75.73	Very High
6. Refusing to Accept Plastic Bags from Stores	1.60	79.88	Very High
7. Participating in Activities Related to Environmental Management	1.41	70.37	High
8. Utilization of Plastic Bags by Reusing	1.56	77.93	Very High
9. Reuse or Refuse Drinking Straws	0.47	23.54	Low
10. Eating Out Without Waste	1.65	82.44	Very High
11. Saving Water While You Brush Your Teeth	1.67	83.54	Very High
12. Online Shopping More Environmentally Sustainable	1.56	78.17	Very High
13. Using Energy-Efficient Products	1.67	83.66	Very High
14. Sorting out Household Waste	1.58	79.02	Very High
15. Setting The Time to Turn Off The AC during The Night	1.58	78.90	Very High
16. Taking Public Transportation Instead of a Personal Car	0.38	19.02	Low
17. Turn Off The Conditioner In The Hotel Room When Do not Stay In The Room	0.48	23.78	Low
18. Dispose of Garbage Sorted.	0.40	19.76	Low
19. Waste Sorting	1.67	83.54	Very High
20. Turn on The Power Saving Mode on Appliances	1.59	79.51	Very High
Total	1.35	67.48	Medium

Note: 0.00-0.49=Low / 0.50-0.99=Medium / 1.00-1.49=High / 1.50-2.00=Very High

Results of Environmental Practice Factors Analysis

The Correlation analysis found that factors affecting the Environmental Practice of the Population in the Bangkok Metropolis and the surrounding area included Education, Environmental Learning Pathway, and Tacit Environmental Knowledge was positively related to the Environmental Management Practice of Populations in the Bangkok Metropolis and the surrounding area, with statistical significance at $\alpha = 0.01$ (Table 4).

Table 4 Environmental Practice Factors Analysis

Variable	Age	Gender	Area	Education	Pathways	Tacit Knowledge	Practice
Age	1.00						
Gender	-.054	1.00					
Area	-.008	.051	1.00				
Education	-.453**	.123*	.008	1.00			
Pathways	-.372**	.115*	.088	.508**	1.00		
Tacit Knowledge	-.132**	.031	-.029	.062	.056	1.00	
Practice	-.564**	.065	-.080	.443**	.364**	.157**	1.00

Note: **. Correlation is significant at the 0.01 level.

5. Conclusions

This article examined the relevance of Tacit Environmental Knowledge in the environmental management behavior of populations in the Bangkok Metropolis and the surrounding area. This study presented the factors affecting environmental behavior as an important issue of environmental problems in the Bangkok Metropolis and the surrounding area. These factors affected the environmental management behavior of people in Bangkok and the surrounding area. Data were collected by studying documents and reviewing relevant literature, both domestic and international. Through the literature review, the researchers recognized the importance of certain Tacit Knowledge factors since this knowledge is unique to everyone in understanding various elements that affect their behavior and actions (National Science and Technology Development Agency, 2010). Individuals in the Greater Bangkok area and its suburbs had different life experiences and lifestyles, influenced by changes in social structures, values, economic growth, political changes, and technology. All these factors contributed to developing behavior, thoughts, perspectives, and abilities to analyze the Tacit Environmental Knowledge factors and study the Environmental Management Practice of the sample population in the Bangkok Metropolis and the surrounding area. A questionnaire was used to collect the data, which was summarized and presented as frequency distributions and percentages to categorize issues and compare the factors influencing environmental behavior across different age groups.

Results showed that most of the sample population preferred to acquire environmental knowledge through social media, accounting for 66.59%. The next preference was radio at 36.34%, and the least preferred source was newspapers at 17.8%. The highest level of tacit knowledge of the population who lived in the Bangkok Metropolis and the surrounding area was saving water resources skills, with an average score of 0.94, equivalent to 93.66%. The next preference was the knowledge that The Conservation of The Environment is a Public Responsibility, with an average score of 0.89, equivalent to 89.27%, and the lowest level of Tacit knowledge was related to The Contrast Between "Ozone" and "Clean Air", with an average score of 0.10, equivalent to 9.76%. Results aligned with the environmental management behavior, showing that the sample population exhibited the highest level of environmental management behavior in The Repair Practice, with an average score of 1.85, equivalent to 92.44%. The second was Using Energy-Efficient Products Behavior, with an average score of 1.67, equivalent to 83.66%, and the lowest level of environmental behavior was Taking Public Transportation Instead of a Personal Car Behavior, with an average score of 0.38, equivalent to 19.02%. The data from correlation analysis by the SPSS program showed that individual factors of the population in the Greater Bangkok Area and its suburbs, such as education and information sources for environmental news, had statistically significant effects on environmental management behavior at $\alpha = 0.01$. Furthermore, the Tacit Environmental Knowledge factor significantly correlated with environmentally friendly service usage behavior at a statistically significant level of $\alpha = 0.01$. If the population receives more education or has more channels to learn about the environment or has more tacit environmental knowledge, the results are an increase in the frequency of environmental behavior among

the population. The Tacit Environmental Knowledge and environmental behavior of the population living in the Bangkok Metropolis and the surrounding area were at the medium level with an average score of 0.57 or 57.49%, and an average score of environmental practices of 1.35, or 67.48%. Therefore, the factors related to Tacit Environmental Knowledge impacted the environmental behavior or practice of the population, concurring with Yao, and Bell (2022) and Boiral (2002). They revealed that individuals with a comparative advantage in Tacit Environmental Knowledge, due to more conducive environments, showed increased learning opportunities with greater skills and experience in environmental management. Similarly, Conor, James, and Chris (2020) found that SMTE (Science, Math, Technology and Environment) managers motivated customers by transferring pro-Tacit Environmental Knowledge to engage in pro-environmental behavior. Having knowledge of the environment in the form of Tacit Knowledge cannot be directly communicated or transmitted through lessons but is crucial for influencing environmental behavior, and a significant indicator in fostering environmentally friendly behavior including actions such as waste sorting, energy conservation, and participating in environmental conservation activities. Individuals with Tacit Knowledge about the environment understand the importance of environmental impact and resource conservation, which contributes to their active involvement in these initiatives.

6. Suggestions

The findings of this research offer Environmental Practice Factors as guidelines and information support to agencies, departments, and ministries involved in managing the environment to effectively benefit the people living in the Bangkok Metropolis and Vicinity. The pro-environmental behavior of population support guideline from the government department, that would tacit environmental knowledge for information create include a sense of responsibility, wisdom, experience, technique, and more of potential in pro-environmental behavior of themselves, When public relations for various campaigns. This tacit environmental knowledge, in addition to sustainable and reduced environmental issues, is also for cultivating the social responsibility of the population to lead to creating respect for the rules of the new Thai culture.

The suggestions for future studies could also explore the involvement of natural and environmental disturbances in sectors affecting environmental issues, such as industry, business, and civil society, for stakeholder analysis or factor analysis of environmental disturbance. Which is to study guidelines with tacit environmental knowledge integration for pro-environmental behavior for another sector, for example, a study of guidelines for kindergarten school students to the growth of pro-environmental behavior by connecting with natural experience activity, a study of guideline to the potential of pro-environmental behavior development of business employees by CSR activity, etc.

Those are activities the indirectly tacit environmental knowledge created for environmental experiences, that for relationship creating between natural or environmental with whom knowledge receiving, have tacit pro-environmental behavior.

7. References

- Auernhammer, J., & Hall, H. (2014). Organizational culture in knowledge creation, creativity and innovation: Towards the Freiraum model. *Journal of Information Science*, 40(2), 154-166. <https://doi.org/10.1177/0165551513508356>
- Boiral, O. (2002). Tacit knowledge and environmental management. *Long Range Planning*, 35(3), 291-317. [https://doi.org/10.1016/S0024-6301\(02\)00047-X](https://doi.org/10.1016/S0024-6301(02)00047-X)
- Conor, M. T., C., James, M., & Chris, C. (2020). Conceptualizing trust as a mediator of pro-Tacit Environmental Knowledge transfer in small and medium sized tourism enterprises. *Journal of Sustainable Tourism*, 31(4), 1014-1031. <https://doi.org/10.1080/09669582.2021.1942479>
- De Groot, J. I., & Steg, L. (2009). Mean or green: which values can promote stable pro-environmental behavior?. *Conservation Letters*, 2(2), 61-66. <https://doi.org/10.1111/j.1755-263X.2009.00048.x>
- Department of Environmental Quality Promotion. (2015). *How People Make Decisions for the Environment*. Bangkok, Thailand: S. Paiboon Printing
- Department of Provincial Administration. (2022). *Official statistics registration systems*. Retrieved from <https://stat.bora.dopa.go.th/stat/statnew/statMONTH/statmonth/#/view>

- Food and Agriculture Organization of the United Nations (FAO). (2021). *Food Loss and Food Waste. Food and Agriculture Organization of the United Nations*. Retrieved from <http://www.fao.org/food-loss-and-food-waste/flw-data>).
- Germanwatch. (2021). *Global Climate Risk Index 2021*. Retrieved from https://www.germanwatch.org/sites/default/files/Global%20Climate%20Risk%20Index%202021_2.pdf
- IQAir Air. (2023). *2022 World Air Quality Report*. Retrieved from <https://www.iqair.com/world-air-quality-report>
- Meteorological Department of Thailand. (2021). *Climate variability and change 2021*. Retrieved from <http://climate.tmd.go.th/content/file/2475>
- Mongkolkasem, S. (1996). *News exposure behavior, knowledge, attitude, and safety belt behavior of motorists* (Master's thesis). Chulalongkorn University, Bangkok, Thailand
- National Science and Technology Development Agency. (2010). Explicit Knowledge and Tacit Knowledge. Retrieved from https://www.nstda.or.th/home/knowledge_post/explicit-tacit-knowledge/
- National Statistical Office. (2022). *The hidden population in Thailand 2022 Results Summary*. Forecasting Statistics Division National Statistical Office: Bangkok.
- Pollution Control Department. (2019). *Thailand Pollution Situation Report 2019*. Retrieved from https://www.pcd.go.th/wp-content/uploads/2020/09/pcd-new-2020-09-03_08-10-17_397681.pdf
- Pollution Control Department. (2020). *Thailand State of Pollution Report 2020*. Bangkok: Style Creative House Co., Ltd., 2020. Retrieved from <https://www.pcd.go.th/ebook/book1/>
- Pollution Control Department. (2022). *Solid waste community disposal sites situation in Thailand 2022 Report*. Retrieved from https://www.pcd.go.th/wp-content/uploads/2023/04/pcdnew-2023-04-11_03-13-24_292638.pdf
- Satavethin, P. (1997). *Principles of Communication Arts (2nd ed.)*. Bangkok, Thailand: Department of Public Relations Chulalongkorn University
- Seub Nakhasathien Foundation. (2023). *PM 2.5 in Thailand*. Retrieved from <https://www.seub.or.th/blogging/knowledge/2023-116/>
- The Nature Conservancy. (2023). *COP28: Your Guide to the 2023 UN Climate Conference*. Retrieved from <https://www.nature.org/en-us/what-we-do/our-priorities/tackle-climate-change/climate-change-stories/cop-climate-change-conference/>
- UNESCO. (2023). *Global education monitoring report, 2023: technology in education: a tool on whose terms?*. Paris, France: United Nations Educational. Retrieved from <https://doi.org/10.54676/UZQV8501>
- United Nations Thailand. (2023). *The Sustainable Development Goals in Thailand*. Retrieved from <https://thailand.un.org/en/sdgs>
- World Economic Forum. (2022). *Global Risks Report 2022*. Retrieved from https://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2022.pdf
- World Meteorological Organization. (2021). *State of Global Climate 2021*. Retrieved from <https://public.wmo.int/en/media/press-release/state-of-climate-2021-extreme-events-and-major-impacts>
- Yamane, Taro. (1967). *Statistics: An Introductory Analysis*, 2nd Ed., New York, US: Harper and Row.
- Yao, Z., & Bell, S. (2022). Tacit knowledge in water management: a case study of Sponge City. *UCL Open Environment*, 4. Article e031. <https://doi.org/10.14324/111.444/ucloe.000031>



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The Development of a Physical Environment Assessment Form for Safety and Security in Transitional Space between Mass Transit Stations and Buildings

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Abstract

Mass transit systems are vital in addressing traffic congestion and promoting the economy in the city and surrounding spaces. The transitional space connecting mass transit stations and buildings holds significance as it improves accessibility and convenience, especially along transit routes, with a focus on those serviced by electric train lines. The primary objective of travel is to reach one's destination safely and efficiently. This research aims to investigate the criteria and develop assessment forms for assessing the physical environment for safety and security in transitional spaces between mass transit stations and buildings. This qualitative research studies and filters criteria from regulations, laws, and theories related to the physical environment for safety and security. First, developing an assessment designed for an initial trial in the specific area. Next, ensuring the tool's compliance through an expert evaluation. Subsequently, conducting a second trial within the area to identify and implement any necessary improvements, with a final validation carried out by an expert. Only after all necessary corrections have been made and verified will this assessment be utilized in subsequent evaluations. The research found that the central concept of the assessment model focuses on good visibility throughout the journey, the lack of obstacles that can cause danger, and the importance of safety equipment and personnel readiness. The assessment consists of two main factors, seven sub-factors, and 46 criteria, including (1) the physical environment factor for safety and security consisting of boundaries, entrances, and positioning of transitional spaces (12 items), blind corners and obstacles (10 items), lighting (2 items), signs and information (7 items), cleanliness and maintenance (3 items), (2) the security equipment and security guard factor, consisting of safety equipment (6 items), and security guard (6 items) in maintaining a secure environment.

Keywords: *Assessment form; Transitional Space; Physical Environment; Safety and Security*

1. Introduction

1.1 Background

Mass transit systems, especially electric train systems, are a crucial alternative for commuting amidst the current traffic congestion, which can significantly save time and increase comfort. Economically, they are a vital factor in stimulating economic growth, resulting in trade development along electric train routes and creating activities during the transition from travel to surrounding spaces. While the development of an electric train route holds the potential to alleviate traffic congestion and promote economic growth along its path, it is essential to acknowledge that such land development and economic activities may introduce new problems and exacerbate traffic issues without a comprehensive plan in place. One effective long-term solution to mitigate traffic congestion involves the designation of specific areas for private car use. This strategy is particularly valuable in densely populated zones with a significant traffic impact, especially at intersections and locations with ongoing construction projects, such as shopping malls and government infrastructure developments, which include electric train systems and airports. The establishment of seamless connectivity between mass transit systems and structures in these areas is of utmost importance. Presently, there are ongoing efforts to finalize guidelines for the establishment of standards for Traffic Impact Assessment (TIA), which will have implications for future projects

(Office of Transport and Traffic Policy and Planning, 2020). This concept underscores the likelihood of creating numerous connecting areas in the future.

The most important thing for all types of travel is to reach the destination safely. Therefore, throughout the journey, it must be a place that is safe for life, property and prevents crimes or dangers to users (Jeffres, Bracken, Jian, & Casey, 2009; Badiora, Wojuade, & Adeyemi, 2020). The need for safety in travel corresponds to Maslow's Hierarchy of Needs, which indicates that when physiological needs are adequately met, humans will want safety and security in life and property (Maslow, 1954; Newton, 2018). This transitional space serves as a transition point between mass transit systems and surrounding spaces, connecting public spaces, semi-public spaces, and private spaces of private buildings connected to public stations, while promoting economic development along the route.

However, even though there are economic developments along electric train routes, it may also lead to crime along these routes (Zhong, & Li, 2016; Bowes, & Ihlanfeldt, 2001). If the travel connection is not safe, commuters may be at risk of losing life and property (Guthrie, & Fan, 2016), creating feelings of insecurity anxiety in travel, which may affect the image of the service provider in the perception of commuters, causing them to switch to other means of travel. This negative potential outcome would hinder the solution to traffic congestion and the development of transportation systems as a whole. When referring to spaces with travel connections, it involves transitioning from one space to another. Entrances and exits in these spaces are considered the most dangerous, followed by stairs, escalators, and train platforms. Furthermore, the walkway connecting the station platform to the parking space may also be unsafe (Deniz, 2018). In the context of Thailand, particularly in the present economic hub, office buildings and shopping centers are expanding rapidly. This growth has highlighted the prevalence of areas with a high-risk level and a significant need for safety measures. As a result, there is a critical demand for security personnel and equipment, particularly in locations linked to main roads, electric trains, mass transit systems, and entry-exit points. This necessity arises from the substantial flow of incoming and outgoing traffic within these areas. (Muanhong, 2016; Samboonraung, 2010; Thongmar, 2015)

Additionally, a physical environment that has blind spots and travel obstacles, along with inadequate lighting, could potentially cause safety issues. Having good visibility throughout the route and reducing problems with dark corners where potential criminals can hide can create a safer travel environment. Commuters will feel secure, and fear of travel can be reduced (The National Crime Prevention Council (NCPC) of Singapore, 2003; Welsh, Mudge, & Farrington, 2009; Newton, 2018; Ceccato, Gaudet, & Graf, 2022). However, despite having established regulations, laws, various theories related to the safety of transitional spaces and to address long-term traffic problems, we have initiated a Traffic Impact Assessment (TIA), which is currently in progress. Part of the legislation also requires the establishment of travel connectivity areas. Furthermore, when discussing travel behavior and human needs, it is crucial to consider the physical environment in these connecting areas. Adequate lighting, cleanliness, and effective security management, which includes CCTV installation and security personnel assisting users, can significantly improve user comfort and safety, resulting in better utilization. However, despite the existence of regulations and various laws governing safety in these travel connection areas, there is still a lack of detailed criteria concerning environmental characteristics and security management that align with Thailand's specific connectivity context.

Therefore, this research aims to study the criteria and develop tools for assessing the physical environment for safety and security in transitional spaces between mass transit stations and buildings. This tool is intended to be part of the assessment of transitional spaces, and the results from the space assessment may be used to improve and address safety issues related to the physical environment in transitional spaces, making travel safer in the future.

1.2 Literature Review

The review of literature related to the development of a physical environment assessment form for safety and security in Transitional Space between Mass Transit Stations and Buildings is as follows:

Definition of the Transitional Space

In this research, the term 'transitional space' refers to the space that serves as a transition point for travel between mass transit systems and surrounding buildings. It acts as a passage between public, semi-public, and private spaces, facilitating passengers to conveniently connect between mass transit stations and surrounding

buildings, such as shopping malls, office buildings, and condominiums. Moreover, this space is also where access rights are checked, and access of commuters passing in and out is screened (Benn, & Gaus, 1983) between mass transit stations and surrounding buildings, ensuring security for commuters and building users.

Definition of Safety and Security in Transitional Space

'Dangers' can be divided into two categories: natural disasters, such as flooding and poor environmental conditions, and those caused directly by humans. Dangers from human acts are categorized into two types: unintentional or accidental, primarily due to negligence or lack of awareness, leading to accidents. These dangers are typically overt and unintended. The other type of danger involves intentional acts, where perpetrators usually intend to hide their actions, such as robbery, coercion, bombing, shootings, and theft of property.

Therefore, 'safety' refers to being free from all of these dangers. Safety from natural hazards and unintentional or accidental human acts refers to safety from accidents, disasters, and health hazards. While these types of dangers may not always be preventable, preparations can be made to avoid the occurrence of accidents and mitigate any potential impacts. On the other hand, safety from intentional human acts relates to the danger posed to the well-being and property of organizations and building users. This type of safety involves preventing or inhibiting malicious harm to life, peace, stability, and the property of organizations and related individuals or groups. This prevention of intentional dangers is referred to as 'security'. Regarding safety in public transportation, it involves the perception and feelings of risk associated with crime for passengers and related staff. Every passenger has the right to travel safely, free from all forms of danger (Ceccato, & Newton, 2015). It provides an example of a secure transitional space is shown in Figure 1.



Figure 1 An example of a transitional space that is characterized by a secure physical environment. It is an area that sees through fencing covering a predictable route provides visibility. (Sources: Adapted and modified from The National Crime Prevention Council (NCPC) of Singapore, 2003)

Laws, regulations, and theories related to the physical environment for safety and security.

For this research, the study involves laws, regulations, and theories related to the physical environment for safety and security as follows:

1. Laws and regulations related to the physical environment for safety and security.

There are specific laws and regulations to provide guidelines for the construction and maintenance of transitional spaces, emphasizing the basis of structure safety and utility. They facilitate public service users and increase passengers' access to mass transit systems. The study of laws and regulations in Thailand related to the physical environment for safety and security currently consists of 6 issues as follows: (1) Ministerial Regulation No. 4, B.E. 2542, issued under the Empowerment of Persons with Disabilities Act, B.E. 2534 (Royal Thai Government Gazette, 1999a), (2) Mass Rapid Transit Authority of Thailand Act, B.E. 2543 (Royal Thai Government Gazette, 2000), (3) Regulations of the Rehabilitation Committee for the Disabled-on Control of Standards for Equipment and Facilities Directly to People with Disabilities, B.E. 2544 (Royal Thai Government Gazette, 1999b), (4) Bangkok Ordinance on Building Control Act B.E. 2544 (Royal Thai Government Gazette, 2001), (5) Announcement of Bangkok Metropolis Re: Criteria for Permission and Compensation for Construction of Links Between Transportation Systems Bangkok Mass Extension with outside buildings. (Royal Thai Government Gazette, 2012), (6) Ministerial Regulation Prescribing the Facilities in the Building for Disabled and

Old Persons (No. 4) B.E. 2564 (Royal Thai Government Gazette, 2021). The timeline for issuing regulations and laws is shown in Figure 2.

From the review of these six sets of laws and regulations, it is evident that they can be divided into three phases: Phase 1 - Before construction/design, Phase 2 - During construction, and Phase 3 - During use. The main objective of these phases is to ensure safety and convenience of use, from the preparatory phase for construction to the operation phase. They prescribe the width and height of entrances and exits to the transitional space, and there must always be public access. It is also specified that nothing should obstruct normal use. However, a notable observation is that no clear definition of safe physical environment criteria exists. The only specification is that it should be safe for use (Panpet, & Upala, 2020).

In addition to the relevant laws and regulations in Thailand, we reviewed international laws and regulations related to the design of physical environments and the safety of transitional spaces between mass transit stations and buildings which are usually linked with building control laws. When comparing international laws with those in Thailand, particularly regarding objectives, building safety, health, fire prevention, environmental considerations, and more, it is noted that both sets of laws aim to ensure adequate structural integrity and strength of buildings to prevent catastrophic failure and danger to occupants throughout the lifetime of the building. This includes fire prevention and measures for when a fire occurs. The laws cover the period from construction to utilization, including building modifications. Specific regulations and laws in Thailand related to transitional spaces between mass transit stations and buildings also emphasize the safety of public access, environmental preservation, and urban orderliness (Cozens, & Love, 2015; Cozens, Love, & Davern, 2019; Newman, 1977). However, no explicit mention is made of safety in using these spaces.

B.E. 2542 (A.D. 1999)	B.E. 2543 (A.D. 2000)	B.E. 2544 (A.D. 2001)	B.E. 2555 (A.D. 2012)	B.E. 2564 (A.D. 2021)
Ministerial Regulation No. 4 (B.E. 2542) was issued under the Empowerment of Persons with Disabilities Act, B.E. 2534.	Mass Rapid Transit Authority of Thailand Act, B.E. 2543.	Regulations of the Rehabilitation Committee for the Disabled on control of Standards for equipment and facilities directly to people with disabilities, B.E. 2544.	Announcement of Bangkok Metropolis Re: Criteria for Permission and Compensation for Construction of Links Between Transportation Systems Bangkok Mass Extension with outside buildings.	Ministerial Regulation Prescribing the Facilities in the Building for Disabled and Old Persons (No. 4) B.E. 2564.
		B.E. 2544 (A.D. 2001) Bangkok ordinance on Building Control Act B.E. 2544.		
1	2	3 4	5	6

Figure 2 Timeline of laws and regulations related to the design of the physical environment for safety and security in transitional spaces between mass transit stations and buildings in Thailand.

2. Theories related to the physical environment for safety and security.

This research employs two conceptual theories, namely Facility Management in terms of Security Management and Crime Prevention Through Environmental Design (CPTED).

- Facility Management in terms of Security Management

Facility Management refers to the administrative process of managing, supervising, and maintaining a building to ensure its readiness and effectiveness. The goal is to maximize benefits for building users and owners, with the organization's activities and objectives at the core and the building as a tool to support the organization's work. This aims to improve efficiency and achieve organizational goals, acting as a key business tool for competition with neighboring buildings. It enhances an organization's potential and productivity, supporting short-term and long-term organizational needs. Therefore, the relationship between the building, the organization,

humans, and the building's efficiency are crucial in the organization's business operations. The focus is on providing services to people within the building (People), work processes (Process), and physical spaces (Place) to ensure integrated operations towards achieving organizational goals. The physical system (Facility) comprises two components: (1) Physical Resources and (2) Operations or Facility Services (Alexander, 1993; BIFM, 2003; Julasai, & Chotipanich, 2004; Nutt, 2004).

Security management is a part of building operations/services, providing security to building users. This refers to managing operations to ensure the safety and protection of building users' well-being, life, and property from individuals or groups with malicious intent. The security system comprises three components: (1) Physical Components: These include fences around the space, walls, and doors of the building's entrances and exits, as well as internal walls within the building. (2) Security Operations: These refer to organizing security personnel to maintain order and security within the space, to inspect the premises, and respond to incidents. (3) Security Technology: This refers to equipment installed on the premises, such as CCTV, access control systems, traffic control systems, dangerous object detection systems, alert systems, etc. (Chotipanich, 2010). This is shown in Figure 3.

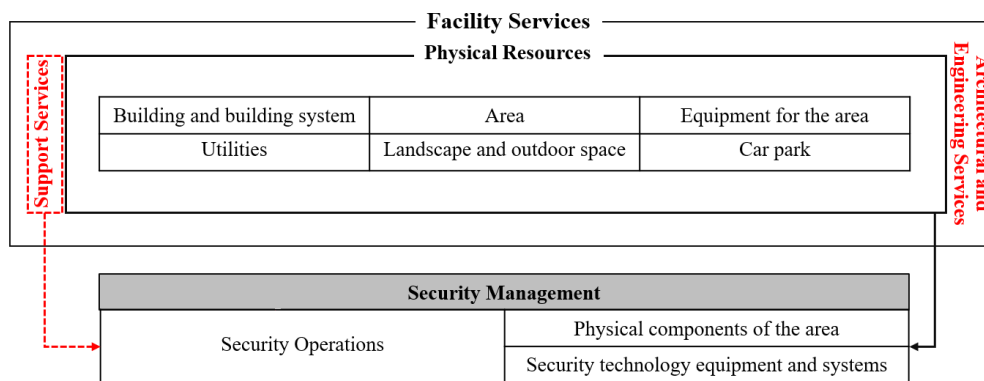


Figure 3 The components of Facility terms of building and physical resource management and security management.

- Crime Prevention Through Environment Design: CPTED

Crime Prevention Through Environment Design (CPTED) is a crime prevention theory through law enforcement and the relationship between crime and community conditions. The basic principle is appropriately and effectively designing the environment to reduce crime rates and residents' fear. In its initial stage, CPTED primarily focused on ensuring environmental safety through proper lighting, beautification, and habitability, which were considered secondary benefits. Later, in its second phase, CPTED expanded to include the use of spaces to accommodate activities, increase safety for people, and maintain well-lit spaces. Currently, in its third phase, CPTED has been expanded to diversify the activities within the space, providing more fun and diverse experiences and responding to the needs of the community and surrounding spaces (Mihinjac, & Saville, 2019).

The guidelines of CPTED are related to the physical design of the space, emphasizing the relationship between the purpose of the space's use, the management of people's behavior, and the physical environment. These can be new designs or improvements to existing spaces for better efficiency (Randall, 2008). The aim is to segregate, limit, and manage access to public, semi-public, and private spaces, which are considered one way to ensure safety. A well-designed space, according to CPTED, can prevent potential crimes and is composed of essential principles such as zoning, natural surveillance, strict access control, supporting legal activities, location management, and image management (Cozens, & Love, 2015; Cozens et al., 2019; Newman, 1977). Security measures in the perspective of CPTED include (1) physical measures focusing on hardware and technology such as access control systems, locks, alarms, closed-circuit television (CCTV), and metal detectors, (2) organizational or individual level measures that use personnel as the basis for security, defining groups responsible and authorized for security, such as patrol lines, security officers, etc., and (3) natural measures that focus on using natural zoning for security by dividing spaces into zones with different safety levels (Randall, 2008).

In conclusion, CPTED has been developed by emphasizing the limitation and segregation of entrances/exits and natural defense lines combined with good maintenance, proximity to and friendliness with the surrounding community, emphasizing participation and a sense of ownership of the place among the community.

However, installing security equipment in the space can increase safety, liveliness, beauty, and the feeling of naturalness which also create a sense of safety. Notably, the level of wayfinding capability in the users' space can influence their sense of safety. Good design promotes the natural use of the space and reduces the need for additional equipment and technology. (The National Crime Prevention Council (NCPC) of Singapore, 2003)

Concerning CPTED in the context of transit spaces, it is still comprised of the principles of CPTED, just like any other space. From the collection of strategic approaches and practical applications according to the design principles of crime prevention through environmental design, the main points for projects such as pathways, underground tunnels, overpasses, or connective spaces include territorial reinforcement of personal and public spaces, access control, maintenance and management, and natural surveillance (American Public Transportation Association, 2010; Cozens, & Love, 2015; Ministry of Justice: New Zealand, 2005; The Queensland Government, 2021).

Crime prevention through environmental design in transit-connective spaces emphasizes the prevention, rectification, and setting of guidelines so that these spaces have no hidden, obstructive, or impedimental points in transit. Spaces that are covered, blocked, and hard to escape from can lead to fear and a sense of danger. Solving these problems by reducing fear can increase the feeling of safety (Jack *et al.*, 1993), focusing on natural elements to ensure safe space usage and preventing the opportunity for criminals to commit a crime. Furthermore, it also reduces the chance of committing a crime by emphasizing the natural usage of the space safely. An open environment and good visibility are essential to creating safety. Perceived safety includes various factors such as personal characteristics, social characteristics, time and place related to lighting, amenities, information systems, mobile phones, coverage, location, open environment, and surveillance (Sundling, & Ceccato, 2022); this is shown in Figure 4.

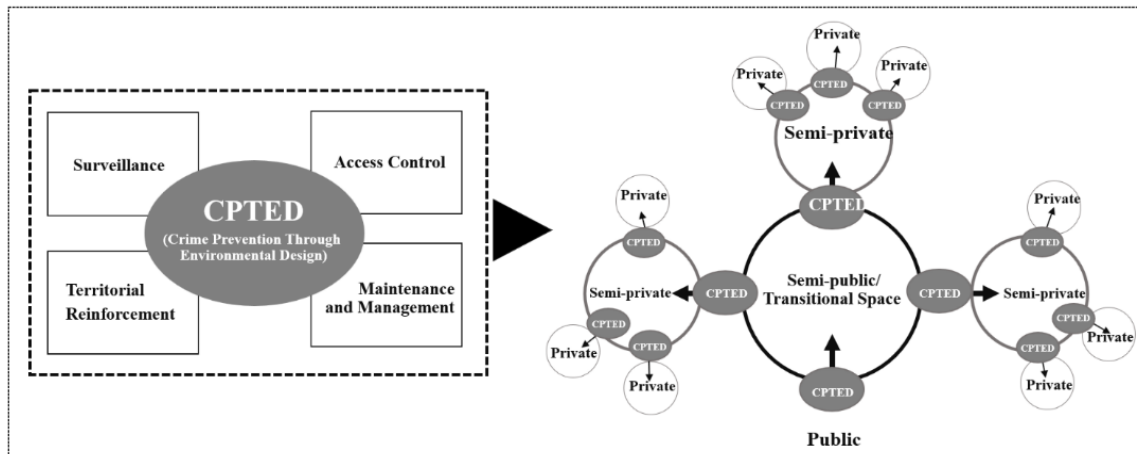


Figure 4 Crime Prevention Through Environment Design (CPTED) involves access to public, semi-public, and private spaces in transit areas (Sources: Adapted and modified from Cozens, & Love, 2015)

- Concepts of forms and methods for evaluating physical environment characteristics for safety.

After reviewing the literature on the main concept of Crime Prevention Through Environmental Design (CPTED), it is evident that there is a method for evaluating physical environment characteristics for safety. Specifically, most of these methods are presented in the form of manuals, categorized by building type, each containing a description of the assessment's purpose. These manuals list the safe physical environment characteristics for a given building type, allowing for an assessment to determine whether the space meets the specified safety physical environment criteria. Consequently, these manuals serve as documents providing guidelines for designing and managing the physical environment with safety and crime prevention in mind. However, it is worth noting that there is currently no assessment form available for evaluating the physical environment. The development of such an assessment tool would be invaluable for assisting administrative and area management agencies in evaluating their local conditions, ultimately leading to more efficient area management practices. (American Public Transportation Association, 2010; Cozens, & Love, 2015; Ministry of Justice: New Zealand, 2005; The Queensland Government, 2021).

2. Objectives

The research aims to achieve the following objectives:

- 1) Investigate the criteria relevant to assessing the safety and security of the physical environment in transitional spaces between mass transit stations and buildings.
- 2) Select the most pertinent criteria for creating a physical environment assessment form to ensure safety and security in these transitional spaces.
- 3) Develop an assessment form that can be utilized to evaluate the physical environment's safety and security in the transitional areas between mass transit stations and buildings.

3. Materials and Methods

This research was a qualitative study, and the methodology consisted of the following five steps:

Step 1: A literature review and related research were conducted concerning transit between mass transit stations and buildings, public spaces, laws, regulations, and theories related to the physical environment for safety and security, and security management in transitional spaces between mass transit stations and buildings.

Step 2: Criteria relevant to the physical environment for safety and security were screened from the information gathered in Step 1 using content analysis.

Step 3: A tool for assessing the physical environment for safety and security in transitional spaces between mass transit stations and buildings was developed based on the criteria identified in Step 2. This assessment tool was then pilot tested in the first research space to filter the most suitable criteria for real-world conditions.

Step 4: The index of Item Objective Congruence (IOC), which was the physical environment assessment form for safety and security in transitional spaces between mass transit stations and buildings, was verified by three experts who were designers, academics, teachers, or practitioners related to the management of physical resources and security management. After the experts checked the consistency of the research tool, their suggestions were used to make adjustments. The revised tool was then pilot tested in real space for a second time and further refined.

Step 5: The physical environment assessment form for safety and security in transitional spaces between mass transit stations and buildings from Step 4 was sent to experts to check for correctness based on their suggestions. Once there were no further edits or suggestions, this assessment form was used in subsequent research.

The research framework is shown in Figure 5, while examples of research areas where tools are being pilot tested are displayed in Figure 6.

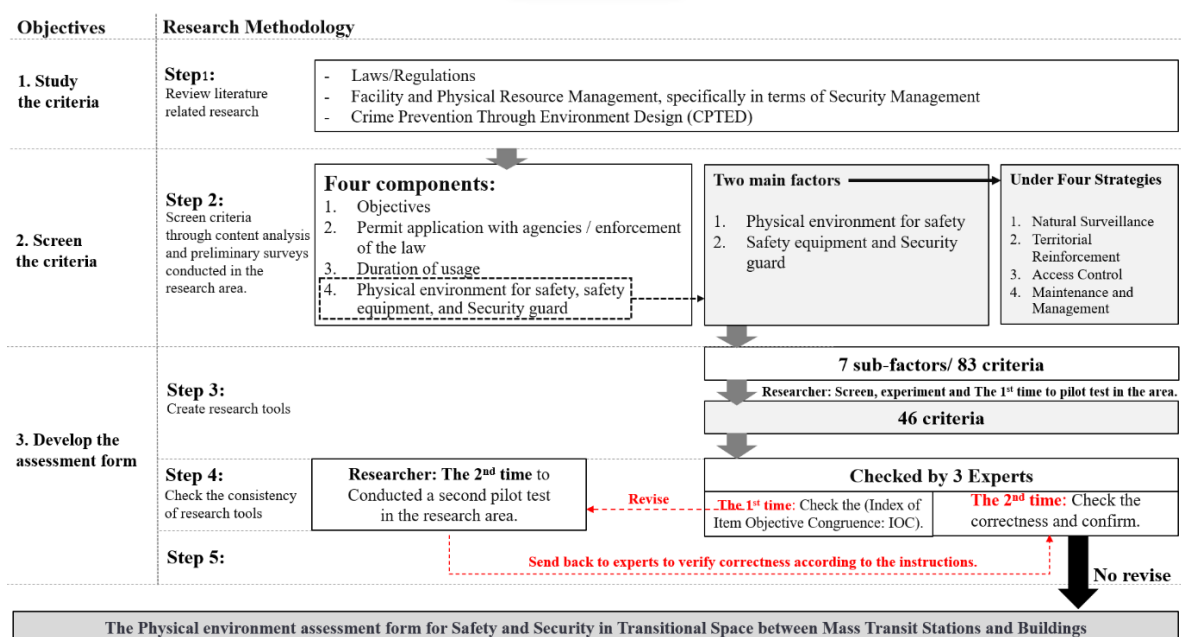


Figure 5 The research framework



Figure 6 CEN-Siam Station is an example of a research area where tools are being pilot tested.

The research results were as follows:

4. Results and Discussion

4.1 Studying the criteria for assessing the physical environment for safety and security in transitional spaces between mass transit stations and buildings.

From the review of criteria related to the physical environment for safety and security in transitional spaces between mass transit stations and buildings, we identified three distinct parts: (1) Six sets of laws and regulations, (2) Facility Management focusing on Security Management, and (3) Crime Prevention Through Environment Design (CPTED). These main criteria could be further summarized into four main components.

Component 1: The objectives, laws, regulations, and theories associated with the physical environment for safety and security in Transitional Spaces between Mass Transit Stations and Buildings all aim for safety but have some differences. Regulations and laws are designed to ensure the structural integrity of buildings, fire prevention and suppression, and good hygiene when using buildings. On the other hand, Security Management focuses on ensuring the safety of life and property when the facilities are in use, relying on the preparedness of security plans, equipment, and security personnel. This is security in terms of management. This aligns with the objectives of Crime Prevention Through Environment Design (CPTED), which also emphasizes the preparedness of equipment and security personnel, but additionally focuses on the characteristics of an environment with good visibility throughout the travel route to prevent and reduce risks to the life and property of space users.

Component 2: The submission of permits to authorities and enforcement of laws. Laws and regulations require obtaining permission before construction and have direct legal enforcement consequences for damages resulting from structural failure. Meanwhile, Security Management and Crime Prevention Through Environment Design (CPTED) do not require permission but are crucial aspects that ensure the safety of the building's users and enhance the organization's productivity. Although these do not have direct legal consequences, they can have legal implications if any danger to life and property occurs when using the building.

Component 3: The time frames for use, laws, regulations, and theories related to the physical environment for safety and security are divided into 3 phases: Phase 1 is pre-construction/design, Phase 2 is during construction, and Phase 3 is building usage. Regulations and laws are related to Phase 1, pre-construction/design, and Phase 2, construction, with the primary objective being the structural safety of the building. In Phase 3, they relate to the safety of the building from the danger of structural collapse and fire prevention throughout the usage of the building, however it does not provide specific detail on how security is managed. Security Management and Crime Prevention Through Environment Design (CPTED) are relevant to Phase 3, aiming to ensure safe space usage is free from threats to life and property. However, Security Management focuses to Define the scope of work during building usage, ensuring users' safety and convenience when using the building. CPTED focuses to Define the physical environment regarding good visibility along the walking path, including determining the necessary equipment and security personnel.

Component 4: Factors related to the physical environment for safety and security, equipment, and personnel. Component 4 encompasses considerations pertaining to the physical environment, safety, security, equipment, and personnel. Within this component, several factors related to safety and security within the physical environment are addressed. These factors include aspects such as boundary definition, entrance design, positioning of transitional spaces, identification and mitigation of blind spots and pathway obstructions, lighting, signage, and compliance with relevant laws and regulations. In more detail, Component 4 involves specifying structural characteristics that ensure sturdiness and safety to prevent collapses. It also defines the required height for convenient access by fire trucks in case of emergencies. Notably, it stipulates that transitional space

entrances/exits must have a minimum width of 2 meters, with the height matching the floor height of the ticket office within the system. These measures are all aimed at enhancing safety, preventing accidents and disasters, and maintaining high standards of hygiene (Safety).

In contrast, Security Management places a strong emphasis on various aspects, such as providing security personnel, establishing methods for job performance, conducting inspections to assess job performance, and ensuring the availability of security equipment and personnel. This approach shares similarities with Crime Prevention Through Environmental Design (CPTED) in its dedication to enhancing security. Security Management directs its attention to high-risk areas, particularly focusing on the entrance-exit zones and the boundaries that separate the building's transitional areas from other zones. This involves a concerted effort to maintain clarity and appropriate positioning of the connection area, which is ideally situated in front of the building and within the same area as the activity zone. Additionally, CPTED adds criteria for the physical environment with good visibility throughout the travel route. This is shown in Table 1.

Table 1 Components of the concept related to the physical environment for safety and security in Transitional Space between Mass Transit Stations and Buildings.

Components	Physical Environment / Security Management		
	Laws / Regulations	Security Management	CPTED
1. Objectives	For safety and security involving the structural integrity of the building, the excellent health of the building's users, fire prevention measures, and the provision of standard facilities for people with disabilities or frailties and the elderly.	Supporting organizations and maximizing the utility of physical resources helps ensure the safety of life and property for users in the building (Security).	For safety and security from crime by utilizing the principles of crime prevention through environmental design.
2. Permit application with agency / Law enforcement			
Application for permission	Permission must be obtained in the pre-construction phase.	No permission is required.	
Law enforcement	There are direct legal consequences for damages resulting from structural failure.	There are no direct legal implications.	
3. Duration of usage			
Phase 1: Before construction/design	Define safe building structure characteristics.	-	-
Phase 2: During construction	Control and inspection during construction	-	-
Phase 3: During use	Specify that it must be safe from dangers of unstable structure.	Define the scope of work during building usage.	Define the physical environment regarding good visibility along the walking path.
4. Factors related to the physical environment for safety and security, equipment, and personnel.			
4.1 Factors related to the physical environment for safety and security.			
Boundary, entrance, and positioning of transitional space	The width of the transitional space entrance/exit must be at least 2 meters, and the height must be equal to the ticket office's floor height in the system and sufficient for a fire truck to enter and exit quickly.	There must be a security management plan for the entrance/exit and transitional space between the building and other spaces.	Establish clear boundaries for transitional spaces, which should be located at the front of the building and near or within the same activity space.

Components	Physical Environment / Security Management		
	Laws / Regulations	Security Management	CPTED
Blind spots and obstructions in the path	The space for going up and down should be unobstructed for everyday usage.	-	The pathway should provide a clear line of sight.
Lighting	-	Establish a method for maintaining the lighting system.	Provide adequate lighting to identify faces from a distance of at least 10 meters.
Signs and information	-	-	Ensure clarity and visibility of both information and location from various viewing distances.
4.2 Factors related to security equipment and security guard.			
Security equipment	-	There must be control over entrances and exits and screening access to the transitional space, with security equipment.	
Security guard	-		

4.2 Screening of criteria and development of a physical environment assessment form for safety and security in Transitional Spaces between Mass Transit Stations and Buildings.

From the laws, regulations, and theories related to the physical environment for safety and security in Transitional Spaces between Mass Transit Stations and Buildings, four elements can be analyzed, namely objectives, permissions/licenses/legal enforcement, usage duration, and factors related to physical environment for safety and security, security equipment, and security personnel. For this study, the fourth element was analyzed for criteria to develop a physical environment assessment form for safety and security in Transitional Spaces between Mass Transit Stations and Buildings under the principle of Crime Prevention Through Environment Design (CPTED) with four strategies: Natural Surveillance, Territorial Reinforcement, Access Control, and Maintenance and Management.

After analyzing safety-related criteria in the transitional space using content analysis, it was found that they can be divided into two main factors, seven sub-factors and 83 criteria. After pilot testing these criteria in a pilot study within the research space, 46 suitable criteria were identified, divided as follows:

Main-factor 1: Factors related to physical environment for safety and security, comprised of 5 sub-factors: boundaries, entrances, and positioning of transitional spaces; obstructed and obstructing travel points; light; signs and information; cleanliness and maintenance, divided into 34 criteria. Main-factor 2: Factors related to security equipment and personnel, comprised of 2 sub-factors: security equipment and security personnel, divided into 12 criteria.

After conducting a pilot test on the assessment form by evaluating the transitional space, which is the research space, for the first time, three experts checked the form for research tool congruence (Index of Item Objective Congruence: IOC). The IOC value for each item and the entire form had to be ≥ 0.5 . After inspection, the overall IOC value for the entire form was 0.95. The IOC value for the 46 items ranged from 0.67 – 1. Therefore, it can be concluded that the survey form is congruent with the research objectives and can be used to survey the transitional spaces.

The experts' result of the research tool congruence check (Index of Item Objective Congruence: IOC) is shown in Table 2.

Table 2 Results of Index of Item Objective Congruence (IOC) for the safety assessment form for the physical environment in Transitional Space between Mass Transit Stations and Buildings.

Factors	No. of questions	IOC index by item
Main-factor 1: Factors related to the physical environment for safety and security		
Sub-factor 1: Boundaries, entrances, and positioning of connecting spaces	12	0.92
Sub-factor 2: Blind spots and travel obstructions	10	0.93
Sub-factor 3: Lighting	2	0.84
Sub-factor 4: Signs and information	7	0.95
Sub-factor 5: Cleanliness and maintenance	3	1
Main-factor 2: Factors related to security equipment and security guard		
Sub-factor 6: Security equipment	6	1
Sub-factor 7: Security guard	6	1
IOC in full	46	0.95

Further recommendations for improving the tool include qualitative criteria and adding more detailed descriptions which could provide more precise insights. If measurable numerical indicators could be specified for quantitative criteria, it would make the survey more precise and explicit.

5. Conclusion

The development of the Physical Environment Assessment Form for Safety and Security in Transitional Space between Mass Transit Stations and Buildings can significantly enhance the safety of the travel connection from mass transit stations to the end destinations for commuters. The criteria for evaluating the physical environment for safety and security in these transitional spaces in this study are derived from laws, regulations, and theories related to the physical environment, facility management, security management, and Crime Prevention Through Environment Design (CPTED). The study identified four key components: (1) Purpose, (2) Usage duration, (3) Permit applications and law enforcement, (4) Physical environment factors, safety equipment, and safeguards.

This research utilized the fourth component to develop the Physical Environment Assessment Form for Safety and Security in Transitional Space between Mass Transit Stations and Buildings. From the analysis, the critical points were categorized, validated by experts, and tested in natural environments. As a result, a tool for assessing the physical environment for safety and security in transitional spaces was developed, focusing on creating safe physical environments and preventing crime in connecting spaces with minimal reliance on systems and technology. The fundamental key principle is maintaining good visibility throughout the travel route. In conclusion, this research yielded the Physical Environment Assessment Form for Safety and Security in Transitional Space between Mass Transit Stations and Buildings, which comprises two main factors, seven sub-factors, and 46 criteria.

Main Factor 1: Physical Environment Factors for Safety and Security - 34 criteria in total, consisting of: Sub-factor 1.1: Boundaries, entrances, and placement of transitional spaces - there should be a clear distinction between the mass transit stations and buildings, with activities serving as natural surveillance. There are 12 criteria for this sub-factor, Sub-factor 1.2: Blind corners and obstacles to movement - the design should avoid blind corners and ensure good visibility throughout the pedestrian routes. This sub-factor has ten criteria, Sub-factor 1.3: Lighting - the pathway should be clearly lit, adequately illuminated, and natural outdoor light should be used to enhance natural surveillance. This sub-factor has two criteria. Sub-factor 1.4 includes seven criteria: Signs and Information - they should be clear, visible, easy to read, and display necessary information for navigation, such as walking routes, location identification, alternative routes, operating hours, current location, and emergency procedures and equipment. Sub-factor 1.5 has three criteria: Cleanliness and Maintenance - materials used should be durable and easy to maintain. Regular cleaning and maintenance are necessary to foster a sense of ownership and safety in the space.

Main Factor 2: Safety and Security Equipment and Security Guard - 12 criteria in total, consisting of: Sub-factor 2.1: Security Equipment - In this sub-factor, all criteria focus on identifying security devices, with an emphasis placed on equipment for access control. This includes screening access to connected areas, such as CCTV cameras, access control systems, and hazardous object detection equipment. Sub-factor 2.2: Security Guard -

all criteria in 2.2 sub-factor give importance to controlling access and filtering access to the transitional space by security personnel to minimize unauthorized access.

A physical environment assessment form is used to survey the transitional space for safety and security between the mass transit station and the building which two main factors, seven sub-factors, and 46 criteria mentioned above will be evaluated. The assessment results are given as "yes" or "no". "Yes" means the physical environment in the transitional space complies with the set criteria, while "no" means the space does not meet the set criteria. The survey includes definitions of physical characteristics to clarify various terms, such as: "Understand" which refers to knowing the subject, understanding the meaning, and understanding what others want to communicate, "Remember" means keeping something in mind, "Adequate" refers to having as much as needed, enabling further action from what is available, "Clean" means being free from undesirable stains and dirt in the space. If present, they should not exceed 30% of the space, "Obstruct" refers to obstructing or being a barrier to using the space, and "Hide" refers to no blind corners where suspicious objects can be placed or where someone can hide or obstruct, that may cause harm to pedestrians.

Details of the physical environment assessment form for safety and security in the transitional space between mass transit stations and buildings are shown in Table 3.

Table 3 Physical environment assessment form for safety and security in Transitional Space between Mass Transit Stations and Buildings

Main-factor	Sub-factor	Item	Criteria	Assessment Result
Main-factor 1: Physical Environment Factors for Safety and Security	Sub-factor 1.1: Boundaries, entrances, and placement of transitional space	1	Accessibility and visibility of the transitional space from the street and its adjacency to general pedestrian spaces.	Yes/No
		2	The transitional space's role as an activity space.	Yes/No
		3	If the transitional space serves as an activity space, it should be at the front of the building.	Yes/No
		4	Presence of a waiting space in the transitional space aids in travel connections.	Yes/No
		5	If a waiting space for travel connections is present, it should be adjacent to or within the activity space and located at the front of the building.	Yes/No
		6	The boundary between the mass transit station space and the building is clearly defined and easily observable.	Yes/No
		7	The entrance to the transitional space is easily identifiable.	Yes/No
		8	There are restrictions on accessing the upper part of the transitional space from the public space below at all times.	Yes/No
		9	There are restrictions on accessing the upper part of the transitional space from the public space below during certain times (e.g., during operating hours of the space, etc.).	Yes/No
		10	There is unrestricted access to public spaces at all permitted times without obstructing everyday use.	Yes/No
		11	The height of the transitional space is greater than or equal to the height of the ticket sales floor of the system or the height of the entrance/exits via the Sky Walk and is high enough to allow convenient access for a fire truck.	Yes/No
	Sub-factor 1.2: Blind corners and obstacles to movement	12	The width of the transitional space is at least 2 meters.	Yes/No
		13	There is good visibility along the straight walking path (if there are branches, consider visibility along the straight path only).	Yes/No
		14	There is good visibility all around the transitional space.	Yes/No
		15	There are no fences, railings, or barriers along the walkway.	Yes/No
		16	If fences, railings, or barriers along the walkway, they should be transparent and provide clear visibility at a height of 1.50 meters.	Yes/No
		17	There are no enclosed or hidden spaces.	Yes/No
		18	If there is a concealed or hidden space, mirrors must be installed in that concealed space to allow passersby to see around the space.	Yes/No

Main-factor	Sub-factor	Item	Criteria	Assessment Result
		19	There are no turning points that exceed a 60-degree angle.	Yes/No
		20	If a turning point exceeds a 60-degree angle, a full-length mirror must be installed at that turning point to allow pedestrians to see around the corner.	Yes/No
		21	If a turning point exceeds a 60-degree angle, and a full-length mirror is not installed at that turning point, the turning point space must always be clear and visible.	Yes/No
		22	There are no physical obstacles, such as poles and sharp corners, that could potentially cause harm.	Yes/No
	Sub-factor 1.3: Lighting	23	Natural or artificial light allows for face recognition from a distance of 10 meters (able to see the details of the face clearly).	
		24	There is a consistent level of lighting along the route (i.e., there are no alternating dark or bright spots along the route that would hinder visibility).	Yes/No
	Sub-factor 1.4: Signs and Information	25	There are clear directional signs when approaching the connecting space.	Yes/No
		26	There is a pedestrian path that is separated from other paths with fewer people.	Yes/No
		27	Suppose there is a pedestrian path separated from other paths with fewer people. In that case, signs must indicate the position and path leading to other paths, or there are clear and sufficient choices in different paths.	Yes/No
		28	There are signs displaying necessary travel information, such as walking paths, location identification, alternative routes, operating hours, standing positions, methods, and various equipment in case of emergencies, within a visible range.	Yes/No
		29	Directional signs in suitable positions can be seen from a distance of 15 meters or more.	Yes/No
		30	The connecting space is transitioning into a private space.	Yes/No
		31	If the connecting space is transitioning into a private space, there must be clear signs or "no trespassing" signs.	Yes/No
	Sub-factor 1.5: Cleanliness and Maintenance	32	The space is kept clean and well-maintained. If there is any debris, it should not cover more than 30% of the space.	Yes/No
		33	Furniture is used along the road, entrance, or central space.	Yes/No
		34	Suppose the furniture is used along the road, entrance, or central space. In that case, it must be made from materials resistant to damage, and the furniture must be securely fastened or removed from the connecting space after operating hours.	Yes/No
		Mass transit station (origin)		
		35	There is screening and monitoring at the entrances and exits of the mass transit station using safety and security equipment such as CCTV cameras.	Yes/No
		36	There is screening and monitoring at the entrances and exits of the mass transit station using safety and security equipment such as Access Control and hazardous object detection equipment.	Yes/No

Main-factor	Sub-factor	Item	Criteria	Assessment Result
Main-factor 2: Security Equipment and Security Guard	Sub-factor 2.1: Security equipment.	Transitional space		
		37	There is screening and monitoring at the entrances and exits of the connection space using safety and security equipment such as CCTV cameras.	Yes/No
		38	There is screening and monitoring at the entrances and exits of the connection space using safety and security equipment such as Access Control and hazardous object detection equipment.	Yes/No
		The building or mass transit station (destination)		
		39	There is screening and monitoring at the entrances and exits of the building or mass transit station (destination) using safety and security equipment such as CCTV cameras.	Yes/No
	Sub-factor 2.2: Security guard	40	There is screening and monitoring at the entrances and exits of the building or mass transit station (destination) using safety and security equipment such as Access Control and hazardous object detection equipment.	Yes/No
		Mass transit station (origin)		
		41	There is proactive screening and monitoring at the entrances and exits of the mass transit station by dedicated security guards stationed at checkpoints.	Yes/No
		42	There is proactive screening and monitoring at the entrances and exits of the mass transit station by patrolling security guards.	Yes/No
		Transitional space		
		43	There is proactive screening and monitoring at the entrances and exits of the connecting space by dedicated security guards stationed at checkpoints.	Yes/No
		44	There is proactive screening and monitoring at the entrances and exits of the connecting space by patrolling security guards.	Yes/No
		The building or mass transit station (destination)		
		45	There is proactive screening and monitoring at the entrances and exits of the building or mass transit station (destination) by dedicated security guards stationed at checkpoints.	Yes/No
		46	There is proactive screening and monitoring at the entrances and exits of the building or mass transit station (destination) by patrolling security guards.	Yes/No

These survey results yielded quality information allowing us to proceed with the study, nonetheless, there are some additional suggestions for the "Physical Environment Assessment Form for Safety and Security in Transitional Space between Mass Transit Stations and Buildings":

This assessment form is designed for those involved in constructing and maintaining safety in transitional spaces between mass transit stations and buildings, requiring specific knowledge, understanding, and relevant experience in the physical environment, architecture, engineering, or related fields. Therefore, the form is specialized and may not be suitable for the public. However, if the language and content are adapted, or if additional illustrations are included for easier understanding, the public can widely use it.

In addition, this assessment form evaluates transitional spaces that have already been constructed and opened for use, focusing on identifying and addressing safety issues in the physical environment. However, if the principles of this assessment can be applied from the beginning of the construction process, it would complement the concepts of Facility Management and Crime Prevention Through Environment Design (CPTED). This approach could proactively mitigate potential safety issues from the start.

However, there are significant limitations when applying the findings derived from this evaluation in the early stages of design and construction. This limitation arises because this approach offers safety recommendations but lacks legal enforcement mechanisms. This distinguishes it from building control laws, which prioritize ensuring the structural integrity and security of buildings. These laws include regulations

governing building inspections, which mainly focus on structural stability. It is important to note that this approach does not address safety concerns related to the preservation of human life and property or areas vulnerable to human influence. Additionally, when evaluating the effectiveness of the survey from an investment perspective, building owners may inadvertently overlook its importance if they fail to prioritize it or perceive it as merely a financial obligation. This oversight could lead to a failure to establish a vital safety compliance framework in accordance with the specific guidelines outlined in this research.

This assessment focuses on evaluating the characteristics of the physical environment in relation to security management and its connection to crime prevention. To achieve this goal, it is essential to develop an assessment model capable of identifying potential threats to life and property. The findings from this evaluation will be instrumental in improving overall safety measures. Additionally, it is crucial to address security concerns related to Thailand's variable climate due to its distinct seasons. This variability plays a significant role in creating a more comprehensive safety plan, especially in areas where travel connections are exposed to the elements. Climate change further compounds this vulnerability. To bolster our understanding and preparedness, further research should include in-depth studies on assessment models pertaining to climate and environmental safety. This research should also explore the use of suitable materials that can mitigate these challenges and consider a variety of locations for additional connected areas.

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8. References

- Alexander, K. (1993). *Developing facilities for competitive advantage*. University of Strathclyde, Centre for Facilities Management.
- American Public Transportation Association. (2010). *APTA Standards Development Program Recommended Practice Crime Prevention Through Environmental Design (CPTED) for Transit Facilities*. Washington, DC, U.S.A. Retrieved from https://www.apta.com/wp-content/uploads/Standards_Documents/APTA-SS-SIS-RP-007-10.pdf
- Badiora, A. I., Wojuade, C. A., & Adeyemi, A. S. (2020). Personal safety and improvements concerns in public places: An exploration of rail transport users' perception. *Journal of Place Management and Development*, 13(3), 319-346. <https://doi.org/10.1108/JPMD-03-2019-0013>
- Benn, S. I., & Gaus, G. F. (1983). *Public and private in social life*. New York, US: St. Martin's Press.
- BIFM. (2003). *Rethinking FM*, London, UK: BIFM Press Release.
- Bowes, D. R., & Ihlanfeldt, K. R. (2001). Identifying the impacts of rail transit stations on residential property values. *Journal of Urban Economics*, 50(1), 1-25. <https://doi.org/10.1006/juec.2001.2214>
- Ceccato, V., & Newton, A. (2015). *Safety and Security in Transit Environments. An Interdisciplinary Approach*. England, UK: Macmillan Distribution Ltd.
- Ceccato, V., Gaudelet, N., & Graf, G. (2022). Crime and safety in transit environments: a systematic review of the English and the French literature, 1970–2020. *Public Transport*, 14(1), 105-153. <https://doi.org/10.1007/s12469-021-00265-1>
- Chotipanich, S. (2010). *Facility Management: Principles and Theories*. Bangkok, Thailand: The Chulalongkorn University Press.
- Cozens, P., & Love, T. (2015). A Review and Current Status of Crime Prevention through Environmental Design (CPTED). *Journal of Planning Literature*, 30(4), 393–412. <https://doi.org/10.1177/0885412215595440>
- Cozens, P., Love, T., & Davern, B. (2019). Geographical Juxtaposition: A New Direction in CPTED. *Social Sciences*, 8(9), Article 252. <https://doi.org/10.3390/socsci8090252>
- Deniz, D. (2018). *Improving Perceived Safety in Public Transportation Through Design*. Southampton, UK: WIT Press. <https://doi.org/10.2495/UT180191>
- Guthrie, A., & Fan, Y. (2016). Developers' perspectives on transit-oriented development. *Transport Policy*, 51, 103–114. <https://doi.org/10.1016/j.tranpol.2016.04.002>

- Jeffres, L. W., Bracken, C. C., Jian, G., & Casey, M. F. (2009). The Impact of Third Places on Community Quality of Life. *Applied Research in Quality of Life*, 4(4), 333–345. <https://doi.org/10.1007/s11482-009-9084-8>
- Julasai, B., & Chotipanich, S. (2004). *Facility Management*. Bangkok, Thailand: The Chulalongkorn University Press.
- Maslow, A.H. (1954). *Motivation and personality*, New York, US: Harper & Brothers.
- Mihinjac, M., & Saville, G. (2019). Third-Generation Crime Prevention Through Environmental Design (CPTED). *Social Sciences*, 8(6), 182. <https://doi.org/10.3390/socsci8060182>
- Ministry of Justice: New Zealand. (2005). *National Guidelines for Crime Prevention through Environmental Design in New Zealand Part 1: Seven Qualities of Safer Places*. Retrieved from website <https://www.justice.govt.nz/assets/cpted-part-1.pdf>
- Muanhong, A. (2016). *Security Management in Shopping Mall: A Case Study of Six Shopping Mall in Central Business of Bangkok* (Master's thesis). Chulalongkorn University. Bangkok, Thailand.
- Newman, O. (1977). *Defensible space: people and design in the violent city*. London, UK: Architectural Press.
- Newton, A. (2018). Macro-Level Generators of Crime, Including Parks, Stadiums, and Transit Stations. In Gerben J. N. Bruinsma., & Shane D. Johnson (Ed.), *The Oxford Handbook of Environmental Criminology*, (pp. 497–517). New York, US: Oxford University Press.
- Nutt, B. (2004). Infrastructure resources: forging alignments between supply and demand, *Facilities*, 22(13/14), 335-343. <https://doi.org/10.1108/02632770410563031>
- Office of Transport and Traffic Policy and Planning. (2020). *Organized a seminar to listen to opinions for the 3rd time. Study on the preparation of TIA traffic impact analysis standards*. Retrieved from <https://www.otp.go.th/post/view/3275>
- Panpet, T., & Upala, P. (2020). Laws and Regulations for Designing Physical Environment and Safety of Transitional Areas between Mass Transit Stations and Buildings. *Proceedings of the 13th ATRANS (Asian Transportation Research Society) Symposium*, Bangkok, Thailand.
- Randall, I. A. (2008). *21st Century Security and CPTED Designing for Critical Infrastructure Protection and Crime Prevention* (2nd ed.). New York, US: Harper & Brothers.
- Royal Thai Government Gazette. (1999a). *Ministerial Regulation No. 4 (B.E. 2542) was issued under Empowerment of Persons with Disabilities. Act, B.E. 2534*. Retrieved from <http://web1.dep.go.th/sites/default/files/files/law/45.pdf>
- Royal Thai Government Gazette. (1999b). *Regulations of the Rehabilitation Committee for the Disabled-on control Standards for equipment and facilities directly to people with disabilities, B.E. 2544*. Retrieved from <https://dl.parliament.go.th/handle/20.500.13072/284241>
- Royal Thai Government Gazette. (2000). *Mass Rapid Transit Authority of Thailand Act (MRTA), B.E. 2543*. Retrieved from <https://www.mrta.co.th/en/act/14466>
- Royal Thai Government Gazette. (2001). *Bangkok ordinance on Building Control Act B.E. 2544*. Retrieved from https://webportal.bangkok.go.th/upload/user/00000075/about_us/O6/Tedsakij/Legis_BKK_Building_2544.pdf
- Royal Thai Government Gazette. (2012). *Announcement of Bangkok Metropolis Re: Criteria for Permission and Compensation for Construction of Links Between Transportation Systems Bangkok Mass Extension with outside buildings*. Retrieved from https://info.dpt.go.th/app-service/wan/lawdpt/data/02/2559/129_187g_131255.pdf
- Royal Thai Government Gazette. (2021). *Ministerial Regulation Prescribing the Facilities in the Building for Disabled, and Old Persons (No. 4) B.E. 2564*. Retrieved from [https://download.asa.or.th/03media/04law/cba/mr/mr64\(02\)-68c.pdf](https://download.asa.or.th/03media/04law/cba/mr/mr64(02)-68c.pdf)
- Samboonraung, D. (2010). *Managing of Security in Shopping Malls Located in The Pathumwan Area: Three Case Studies* (Master's thesis). Chulalongkorn University, Bangkok, Thailand.
- Sundling, C., & Ceccato, V. (2022). The impact of rail-based stations on passengers' safety perceptions. A systematic review of international evidence. *Transportation Research Part F: Traffic Psychology and Behaviour*, 86, 99-120. <https://doi.org/10.1016/j.trf.2022.02.011>
- The National Crime Prevention Council (NCPC) of Singapore. (2003). *Crime Prevention Through Environment Design Guidebook*. Retrieved from <https://appdev.ifdemo.com/ncpcorgsg/images/media/CPTED.pdf>

- The Queensland Government. (2021). *Crime Prevention through Environmental Design guidelines for Queensland*. Retrieved from <https://www.police.qld.gov.au/sites/default/files/2021-07/Crime%20Prevention%20Through%20Environmental%20Design%20-%20Guidelines%20for%20Queensland%202021%20v1.pdf>
- Thongmar, T. (2015). *Development of Standard Criteria for Risk Assessment in Facility Management Office Building* (Master's thesis). Silpakorn University, Bangkok, Thailand.
- Welsh, B. C., Mudge, M. E., & Farrington, D. P. (2009). Reconceptualizing public area surveillance and crime prevention: Security guards, place managers and defensible space. *Security Journal*, 23(4), 299–319. <https://doi.org/10.1057/sj.2008.22>
- Zhong, H., & Li, W. (2016). Rail transit investment and property values: An old tale retold. *Transport Policy*, 51, 33–48. <https://doi.org/10.1016/j.tranpol.2016.05.007>



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Transformational Strategy of Community Library Related to Epidemiological Insights: A Case Study in China

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Abstracts

Throughout the previous epidemiological history, airborne transmission of viruses causing health problems has consistently posed a significant threat to public health and safety due to the high fatality and infectivity rates. This study focuses on addressing the issues faced by the Lu-yang Ju community in Zhongshan City through an epidemiological lens, employing a comprehensive approach that includes literature review, field research, case studies, and experimental methods. Additionally, an online questionnaire was conducted with 260 randomly selected participants (45% male and 55% female) across different age groups to assess community satisfaction levels. Satellite mapping and photography were utilized for observing the surrounding environment of the community in Guangdong province. The findings revealed that 67.31% of respondents expressed a desire for additional library space within the community, while only 22.69% reported being satisfied with their current living environment. Analysis of the Lu-yang Ju community's surroundings highlighted an abundance of commercial spaces but a lack of cultural exchange facilities, with the nearest library located at a distance of 2.2 kilometers away.

Therefore, this paper proposes redesigning part of the existing commercial space into a library within the Lu-yang Ju community as per epidemiological considerations. The layout plan for this redesigned space will strictly adhere to social distancing guidelines by maintaining at least one meter (or ideally between one to two meters) between individuals. The outcomes derived from this work can serve as practical and valuable references for similar urban community transformation projects aiming towards improvement.

Keywords: *Interior Design; Community; Library; Transformation Design; Epidemiology*

1. Introduction

Airborne virus transmissions cause very serious health problems (Shown in Figure 1).

Throughout the public health crisis, viral evolution has constantly existed in our lives and has afflicted humanity for thousands of years (Kelly, 2006). Epidemiologic studies mentioned that the Antonine Plague had caused the death of over 5 million in AD165-169, and the plague had spread to Gaul and the legions along the Rhine (Liu, 2020). The fourth-century historian Eutropius noted that a large proportion of the empire's population died from this outbreak (Fears, 2004). This was followed by the Great Plague of Athens in ancient Greece, which killed almost half of the people in Athens in 430-426 BC (Liu, 2020). And then the Plague of Justinian destroyed Byzantine ambitions as the Byzantines pursued a grand strategy to build up their own lands. The Plague of Justinian reunited the Roman Empire and killed twenty-five to fifty million people; Europe was in the Dark Ages in 541-542 AD (Peterson, 2020). In the past, people were weak and hopeless in the face of a public health crisis until we overcame the technical problem with vaccinations. In one successful case, smallpox, which is thought to be transmitted by airborne droplets more than any other disease, had killed a hundred million people before it was eradicated by a global vaccination campaign in 1980 (Berche, 2022). Amidst the joy of a better life after the vaccination campaign, it saved our lives. The Black Death, the most significant public health crisis in human history, was a devastating global public health crisis caused by the bubonic plague that killed about a quarter of the European and Asian population in the mid-13th century (Liu, 2020). The Black Death killed about 50 million people in Europe during the five year outbreak (Wagner & Reifegerste, 2022).

There are many reasons why a hundred million people have died from the public health crisis. One of the most important reasons for the severe public health crisis is the airborne transmission of respiratory viruses.

During the SARS pandemic (1993–2007), there were 2,500 cases of hantavirus with an overall mortality rate of 30% (Clement, Maes, Ducoffre, Van Loock, & Van Ranst, 2008). This viral pathogen was airborne and could spread widely, which was generally accepted. In addition, previous experience with public health crises suggested that H5N1 was airborne after modification, and H5N1 had killed up to 150 million people worldwide (Petsko, 2005). Tuberculosis transmission was thought to occur indoors and had occurred almost every year prior to the decline of tuberculosis in the UK from the mid-19th century (Hobday & Dancer, 2013). The literature also indicates that tuberculosis is mainly transmitted by airborne droplets (Hobday & Dancer, 2013), which kills approximately 2 million people annually (Fattorini, Piccaro, Mustazzolu, & Giannoni, 2013). SARS epidemic was not only a public health problem. On July 11, 2003, there were only 8437 SARS cases worldwide, resulting in 813 deaths. By early 2019, a novel coronavirus had infected the world with rapid speed and wide reach, leading to an unstoppable global public health crisis. According to global coronavirus data, the coronavirus pandemic led to an estimated 6.63 million deaths worldwide and infected 643 million people in December 2022 (Data, 2022). The main reason for the spread of the coronavirus is airborne droplets. Nevertheless, the public health crisis is linked to deaths and economic losses.

From another perspective, the spread of the virus has caused enormous economic damage as people have spent huge amounts of money on medical and psychological care. Some statistics from the US in 2002 put the healthcare costs of building-borne respiratory infections at 10 billion US dollars (Mendell et al., 2002). With no way to eliminate virus transmission, poor performance in public health risk detection and community prevention (Wu, Chen, & Chen, 2021) has led to a historic epidemic crisis. However, the public health crisis has also created opportunities to rethink critical issues related to public space design (Campioli & Peraboni, 2022). Begum, Roknuzzaman, and Shobhane (2022) collected online data from 71 public libraries and conducted semi-structured interviews with eight librarians. He proposed guidelines for developing library infrastructure and showed that it is necessary to redesign public spaces (Begum, Roknuzzaman, & Shobhane, 2022). The redesigned space increases public safety. There are some previous studies on redesigning spaces after a public health crisis. Based on standard epidemic prevention and control, Tao (2023) conducted a design study on the improvement of public space in old communities (Tao, 2023). It pays attention to the health of residents at the three levels of physiology, psychology, and society, and creates a vibrant community public space. Peng (2023) proposed three strategies for renovating old communities based on preventing and controlling infectious diseases, controlling the source of infection, interrupting the channel of infection, and protecting the end of infection. Integrate the critical points of landscape transformation into the design of healthy landscape transformation of old urban communities (Peng, 2023). Similar cases are based on the prevention and control of infectious diseases (Ying-ying Song, 2023).

Public health crisis	The "Antonine Plague"	AD 165-169	Over 5 million
	The Great Plague of Athens	BC 430-426	Nearly half of the people
	The Plague of Justinian	AD 541-542	Twenty-five to fifty million people
	Smallpox	AD 1156-1980	A hundred million
	The Black Death	Year 1348-1361	50 million
	Hantavirus	Year 1993-2007	Mortality of 30%
	H5N1 avian influenza	Year 1997-2003	150 million
	Tuberculosis	Before 19th century	2 million annually
	SARS epidemic	Year 2003	over 813 deaths
	COVID-19	Year 2019-2023	6.63 million deaths infected 643 million

Figure 1 Histories of public health crisis.
Source: Researchers, 2023

Studies refer to the prevention measurement to enhance the spatial health of the library, and prolonged prevention is one of the effective transformational strategies. The Department of public services reported that normalization of prevention should focus on venue control to construct the health environment (Department of Public Services, 2011). Venue control is significant to ensure space safety. Spatial distance is one effective measurement of venue safety control when public spaces are designed. In related studies, these practices would minimize the risk of contact contamination, including limits on the number of people in the library, disinfecting floors/surfaces, keeping doors open, social distancing, digital services to library users and a dedicated quarantine space for the incoming documents (Jan, 2020). Begum et al. (2022) mentioned that spatial distancing is a practical non-pharmaceutical approach to limiting disease transmission. Bar-On, Flamholz, Phillips, and Milo (2020) proposed that the virus is roughly 0.1 mm (100 nm) in diameter. To characterize Droplet transmission by someone within 1 m or in “close contact” with someone with respiratory symptoms (Organization, 2020); (Bar-On, Flamholz, Phillips, & Milo, 2020). Recommend a 1 m distance in Hong Kong, Singapore, and Norway; In England, the recommended distance is now at least 1 m. In New Zealand, 1 m was recommended in schools and workplaces at high alert levels (Han et al., 2020). Nevertheless, evaluation criteria are different in many countries. For instance, 1.5 m is in Germany and Spain; and 2 m is in Japan and South Korea. 2 m distance between people is recommended in public spaces in New Zealand (Gray et al., 2021; Han et al., 2020). The guidance in the United States from November 2020 is six feet, or 1.8m (Schneider et al., 2023). Overall, Limited spatial distance became the prevention measurement that the required distance is better than keeping a distance from 1m to 2m, at least one meter, for reducing the risk of droplet transmission.

In addition, this study focuses on transformational design in the Lu-yang Ju community—the result of transformed strategy was considered as a reference for the upgrading design of another community library.

2. Objectives

- 1) To research the problem of the Lu-yang Ju community and propose transformational strategies ideas on community library related to epidemiological insight.
- 2) To utilize some design factors to achieve health and tranquility in the community library.
- 3) To propose a method of visualization design on the transformation of community library.

3. Materials and Methods

3.1 Literature review

3.1.1 Community library

The community library is an essential part of the public cultural service system, providing information guidance services, social education and recreational activities (G. Li, 2016). There is no hierarchy level in a community library, only different sizes compared to other standard libraries. A community library collects books compiled by the community (Liao, 1992) and serves all residents by selecting information, organizing, storing and sharing documents in a certain area (Huo & Guo, 1995). The relationship between the library and the community is remarkably close. Usherwood (2002) found that public libraries had a positive impact on communities through their social, educational, and cultural roles and by developing trust in individuals and communities (Usherwood, 2002). As the service function of community libraries has expanded and the cultural needs of community residents have been strengthened, the importance of community libraries has steadily increased. However, a common point regarding community libraries is based on the function of a community, which aims to enhance cultural exchange and community competitiveness through information exchange. Kretzman, and Rans (2005) found that public libraries have contributed to community development by providing free community space, technological resources, connections to the local economy, a sense of belonging to the community, and a high level of trust in the community (Aabø & Audunson, 2012; Kretzman & Rans, 2005). EA community library is a public space with a significant meaning. Usherwood (2002) alleged that public libraries positively impact communities through their social, educational, and cultural roles and developing confidence in individuals and communities (Usherwood, 2002). The relationship between the library and the community is intimate. Greenhalgh and Manjarrez stated that community Libraries supported stability, safety, and quality of life in neighborhoods (Aabø & Audunson, 2012). The benefit of a community library is obvious.

Moreover, the six characteristics of these new public reading spaces and compared them with the traditional public reading spaces. First, based on the population density of residents and the flow of people as the primary information for local distribution, which was closer and more attractive than traditional libraries. Second, although the area could have been more significant and all small libraries with the primary service function, the

new one is for ordinary book lending rather than ordinary book borrowing. Thirdly, the interior design of the new library was original, and the environment was elegant, which was more attractive than a traditional community library. Fourth, it integrated high-tech means such as wireless networks, automatic borrowing and returning, card processing, e-book scanning and downloading, automatic control of lighting and temperature, remote monitoring of cell phones, and comprehensive intelligent and digital services. Fifth, the main branch of the town library system was integrated, and a standardized management and service system was introduced. Sixth, various forces were brought together, such as libraries, enterprises and institutions, grassroots communities and volunteers, which included high social participation and sustainability (Tiao, 2019).

In principle, people should live in a balance of three circles, including family, work, and social circles. The American sociologist Oldenburg (1989) wrote in his book that the best place to combine snack bars and coffee is in the heart of the community (Oldenburg, 1989). In the book, he pointed out some places for restaurants, bookstores, bars, hairdressers, and other meeting places that modern citizens need for a healthy life. He called these places the third place. According to his induction, the third place must have iconic characteristics. Community library mentioned that the library is located in the community. Community libraries should consider the characteristics of the community and the library. Community libraries are cultural and educational institutions and that information exchange centers are established in communities and used by community residents.

As for the internal function of the community library, Chang Song Chen stated that the reading space includes a public space, a group space, and a personal space (Chen, 2009; Tiao, 2019). The theory of social space by American sociologists Erving Goffman and John Lofland analyzed and summarized that the personal reading space is private and not subject to outside control or interference, and that everyone has their own personal space. Therefore, the community library should consider the three parts of space design.

3.1.2 Case studies of spatial distance

The safety distance is closely related to the transmission of droplet viruses. In order to avoid the transmission of viruses, we should design physical distancing in public areas. There are some cases related to the physical distance in public space, for example, the outdoor restaurant in New York City designed by American designer, which transformed the streets of New York City into outdoor restaurants, thus creating social distance from the dining place, as shown in Figure 2. The expansion area of the restaurant was located near the sidewalk and streets. The design included the restaurant, sanitation station, sidewalk and landscape, complemented by lighting, umbrellas, fans, flowers and other amenities. The aim was to create a module that would adapt to the different parts of the city and provide potential revenue for the restaurant operators. At the same time, people had a sense of security as the restaurant met the requirements for social distancing in the allotted space.



Figure 2 Outdoor restaurant scheme
Source: American designer, 2020

Another case is the studio named Curl la Tourelle Head in Great Britain. The classroom was to keep students safe when they return to school. They envisioned a creative temporary classroom in schools that increased social distancing for students to learn and reduced reliance on transportation. After the redesign, the detailed

spacing was changed from 600mm to 2m to create safe social distancing. The design can effectively protect students' health during a health crisis (Figure 3).

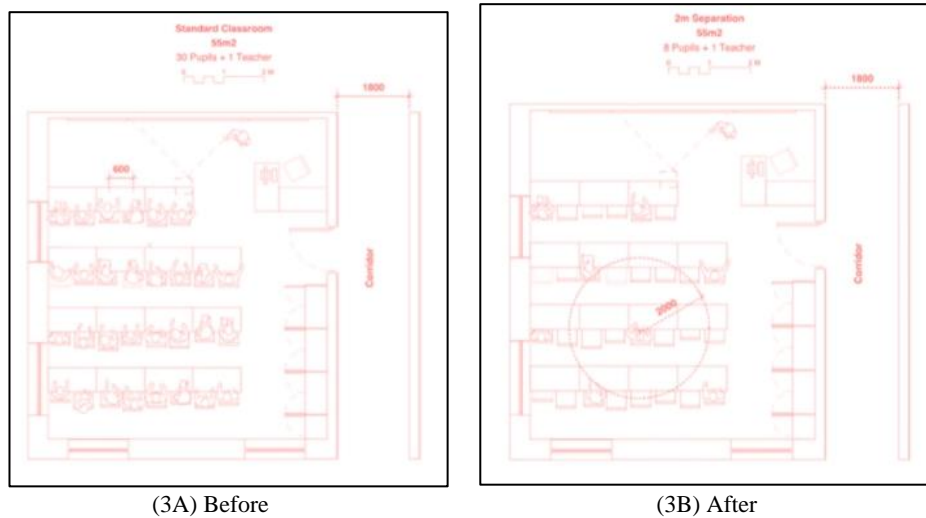


Figure 3 Comparison of classroom
Source: Britain studio named Curl la Tourelle Head, 2022

3.2 Field research

3.2.1 Research framework

According to our observations, we inferred that community spaces are facing numerous challenges in meeting new demands. It is crucial for us to pay more attention as the correlation between social dynamics and the urban context has undergone significant changes. The research process is illustrated in Figure 4. Firstly, various issues identified through observation, such as residents' needs and surrounding factors, were addressed. Based on these problems, objectives for the transformational strategy of this study were formulated. Secondly, a comprehensive literature review provided essential theories and references for further investigation in order to develop a redesigned community space. Thirdly, data collection was conducted through three methods: situation analysis, field research, and questionnaires. Additionally, an online questionnaire was distributed across multiple cities including Zhong-Shan in Guangdong Province, China to capture residents' demands or satisfaction levels and gather insights for improving Lu-yang Ju community space through transformative strategies. Fourthly, an experiment on spatial distance was conducted to evaluate the effectiveness of associated design strategies aimed at transforming the community space.

Finally, after undergoing transformational changes guided by both modern art aesthetics and public health considerations, the community library now offers a more relaxing and enjoyable environment that enhances people's lives. This paper serves as a practical and valuable reference for upgrading other urban community libraries with public health aspects taken into account.

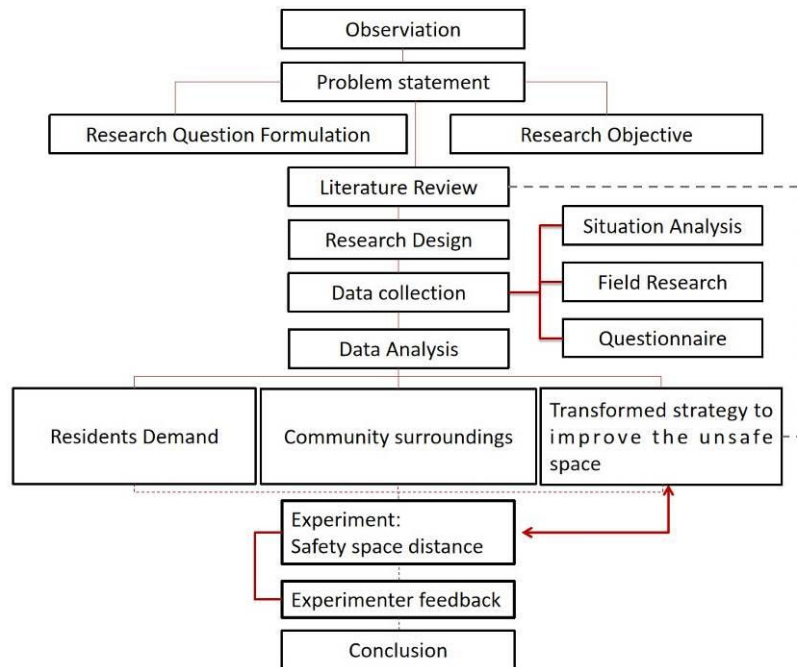


Figure 4 Research framework.
Source: Researchers, 2023

3.2.2 Research problem

The main internal problem of the community is the inadequate consideration of the needs of the residents. The survey found that the area surrounding the Lu-yang Ju community is full of commercial space. Cultural facilities such as libraries, museums, galleries, and other facilities related to spiritual pursuits and tranquility are far from the community. This situation has become common in many cities, especially second and third tier cities. The literature states that Baoding in Hebei Province has studied the range of 15-minute living circles of more than 1,000 communities by calculating the proportion of public service facilities in each district. The allocation of medical and commercial facilities in urban community life circles was relatively perfect, but the allocation of public cultural facilities was inadequate (Li, Zheng, & Zhang, 2019).

On the other hand, when the public health crisis occurred, people suffered from fear, anxiety, stress, and depression, while the related kinds of literature facilities can alleviate these matters (Alnazly, Khraisat, Al-Bashaireh, & Bryant, 2021; Fitzpatrick, Harris, & Drawve, 2020). Public cultural institutions, such as churches, sometimes influence the mood and purify the mind. Therefore, the transformation strategy of the redesigned community should consider the needs of residents, including mental health and surrounding environmental amenities. Moreover, a community library, an important public space within the community, is a great choice.

3.2.3 Questionnaires

The quantitative research was to conduct online data collection. Online questionnaires were constructed on a Chinese online survey website, "Wen Juan Xing" (www.wjx.cn) (Jiang et al., 2020). In order to understand people's demands, the questionnaires (n = 260) were mainly responsible for collecting data about the community's satisfaction. There are 143 women and 117 men, respectively, in the questionnaire. Four age grades in the questionnaire include those below 18 years old, between 18 and 35 years old, between 36 and 50 years old, and above 50 years old. Among these groups, one hundred seventy-three are all young people aged between 18 and 35—moreover, questionnaire questions set up an evaluation, single and multiple-choice items. The highest score is 5 points, and the lowest is 1 point among the evaluation answers. The multiple-choice question includes at least two answers to understand their demand accurately. Some questions to ask can include, but are not limited to:

Question 1. Your sex?

Question 2. Your age?

Question 3. Are you satisfied with the public space in your community? (Maximum score is 5)

- Question 4.** Do you agree that the environment of your community is poor and public health is weak? (Maximum score is 5)
- Question 5.** Which space function would you like to add to your community?
- Question 6.** Do you agree that your community's public space lacks vitality, indifference between people? (Maximum score is 5)
- Question 7.** Which public space do you prefer to go to?

3.2.4 Situational Analysis

The data on the location of the Lu-yang Ju community was collected through direct observation using photographs and satellite maps. According to the traditional neighborhood concept (TND), parks are within three minutes walking distance and public areas and other necessary facilities are within five minutes. The satellite map was used to measure the scale of the floor plan of the original building, which allowed the distribution characteristics of the functional space to be quickly understood and provided primary data for the redesign. Photographs of the community were also used to analyze the issues of the original building. Figure 5 shows the natural environment of the Lu-yang Ju community. Site A is the original trading place to be remodeled.

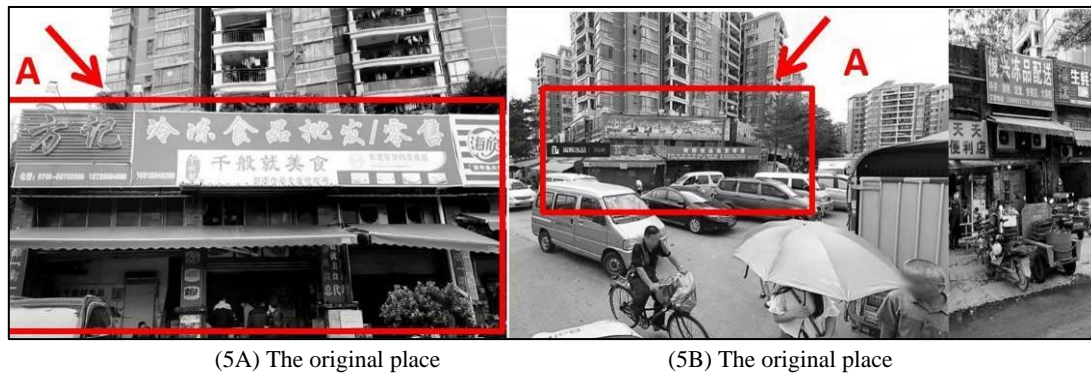


Figure 5 Circumstances of Lu-yang Ju community.
Source: Researchers, 2023

Other data came from the nearest spaces around the Lu-yang Ju community, where we have thoroughly scrutinized the commercial establishments in the living circle. The place has a mixed pedestrian and vehicular access system and a hectic and unsafe environment. The preliminary collection of the life circles in the satellite map revealed that there are about 30 restaurants and food wholesalers around the Lu-yang Ju community, the number of hotels and condominiums is about 4. The number of hospitals, salons and express services is about 6, as shown in Figure 6b. The nearest library is about 2.2 kilometers or 22 minutes away by car, which is inconvenient for residents, as shown in Figure 6a.

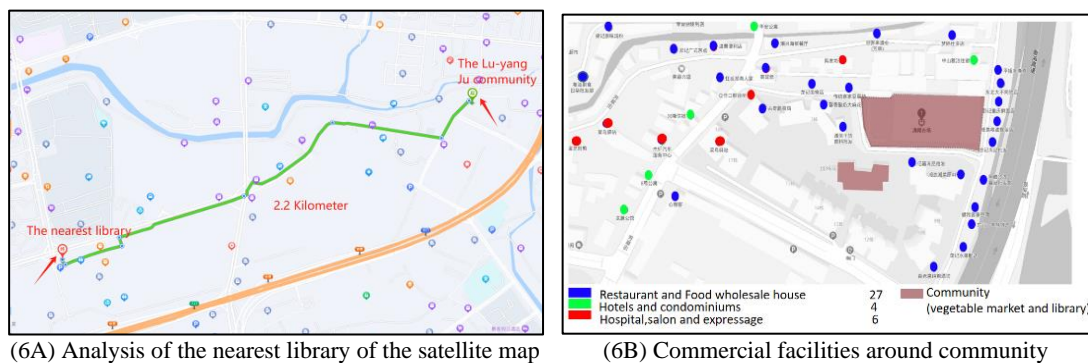


Figure 6 The satellite map in Lu-yang Ju community.
Source: Researchers, 2023

3.3 Experiment: Safety space distance

3.3.1 Material Type

Organic polymer material (plastic baffle), metal material (measuring tape), school table and school chair. Further information can be found in Table 1.

3.3.2 Description of the test model

Table: 1300 mm x 750 mm x 750 mm, Chair: 420 mm x 500 mm x 900 mm.

Baffle: 600 x 450 mm.

The distance between the front and rear table is 1000 mm and 1500 mm respectively.

3.3.3 The experimental group

Number: six people (undergraduate).

Experimenters 1, 2: Shan-Shan Teng, Yan-ting Luo

Experimenters 3, 4: Ying-Zhang Li, Shanni Li

Experimenters 5, 6: Xi Diao, Yong-Yi Liang

The table was set up at a distance of 1000 mm and a clear divider was placed in the middle of the table. Experimenters 1 and 2 performed the experiment with the spatial distance, and the researcher took photos and recorded the course of the experiment. After the recordings of subjects 1 and 2 were made, the same procedure was repeated with the other experimenters.

The spatial distance was set to 1500 mm between the front and back desks, and the experimental procedure and recordings were repeated.

All experimenters described their feelings and drew their conclusions from the two experiments. At the end of the experiment, the researcher summarized the results (Figure 7).

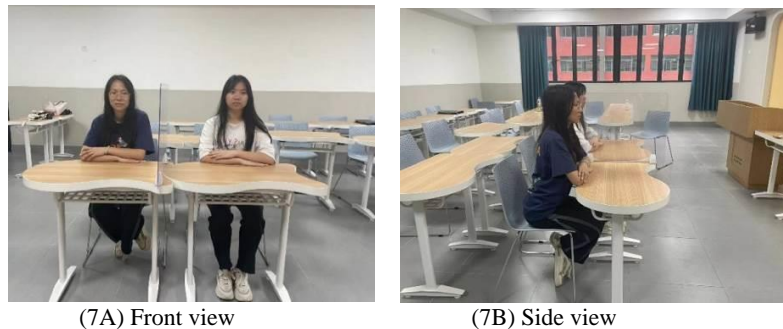


Figure 7 The Experiment: Safety space distance
Source: Photography by Researchers, 2023

3.4 Experimenter feedback

3.4.1 Summarizing the feedback and keywords (spatial distance).

Feedback Summary: If the distance is 1000 mm, the room is small, narrow, and uncomfortable and the air circulation is poor. After the distance was adjusted to 1500 mm, the room was spacious, the seating position was more comfortable, and the air circulation was adequate (Table 1).

Keywords: comfortable, spacious, air circulation, pleasant mood

Table 1 The feedback of spatial distance experiment (Source: Researchers, 2023)

Experimenters	Summary of opinions
1	The larger room was less crowded than the smaller room when it was overcrowded.
2	The distance of 1500 mm would be more comfortable.
3	Experimenters felt less pressured at the 1500mm distance than at the 1000 mm distance.
4	The distance between the seat and the table has been extended and will be even more spacious once the distance has been increased.
5	People got more ventilation when they had more distance.
6	The 1500m space would not be depressing and became more comfortable

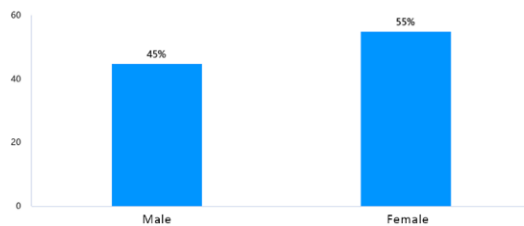
4. Results and Discussion

4.1 Data Analysis

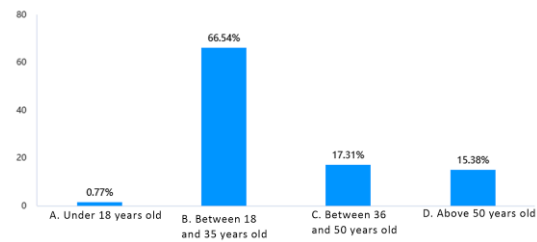
Data were collected randomly through online surveys (n=260) in various cities in Guangdong province, including residents of Lu-yang Ju community, as shown in Figure 8. The purpose of the questionnaire was to find out the residents' satisfaction with the current situation in the community and the majority's demands for the transformation of the community. Judging from Question Three, the average satisfaction with the community they live in was 3.55 points among the 260 questionnaires. The percentage of 22.69 indicated a high level of satisfaction with their community. A percentage of 32.69 had a moderate attitude. Only 7.69% were very dissatisfied with the environment in their community. The result shows that few people were satisfied with their surroundings, which means that the community still has a lot of room for change.

In terms of facilities and public health, 13.85% of the respondents in Question Four fully agreed that the facilities and public health in their community are dirty and weak and 26.54% of the population held a moderate attitude and gave a satisfaction level of 3 points. Only 23.46% disagreed at all that the environment and public health in their community are poor, but the average score in question Four was 2.89, indicating that some communities in Guangdong have specific problems, including poor facilities and weak public health. The results of Question Five showed interest in the different functional spaces. The highest percentage of 67% was for community libraries, indicating that most people wanted to establish a community library in their community. This was followed by the gym and art gallery. Thus, the primary remodeling strategy was to convert a portion of the original commercial space into a library to enrich the community's diversity function. Question Six explains that only 23.46% of the respondents disagreed and gave 1 point, but still have 26.54% of people held a moderate attitude, 20.38% gave 4 points and 13.85% totally agreed, which means that most people agree community lacking of vitality, and indifference between people. The community library will serve as a space for fostering connections among neighbors. The line graph in Question Seven explains that 87% of the respondents preferred an excellent natural environment in the community and the percentage 71 chose proximity to home.

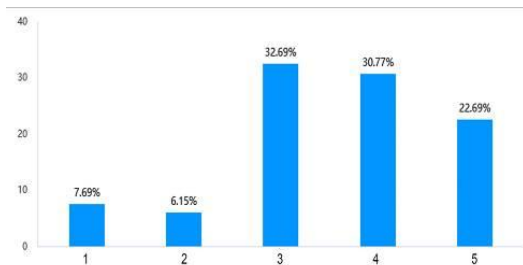
In contrast, only 13.85% preferred other population areas. It was easy to see that most people placed more value on the natural environment. The community should pay more attention to the creative natural environment during reconstruction. In addition, according to the questionnaire, residents wanted a community close to home, an excellent natural environment and a community library



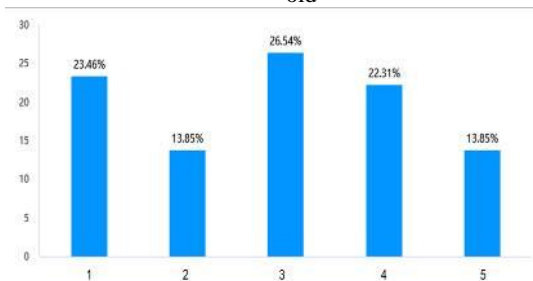
(8A) Question 1 Result: Male 45%, Female 55%



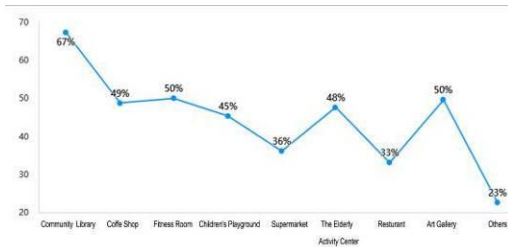
(8B) Question 2 Result: 66.54% are between 18 and 35 years old



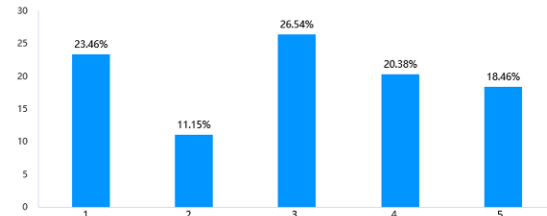
(8C) Question 3 Result: the average score is 3.55.



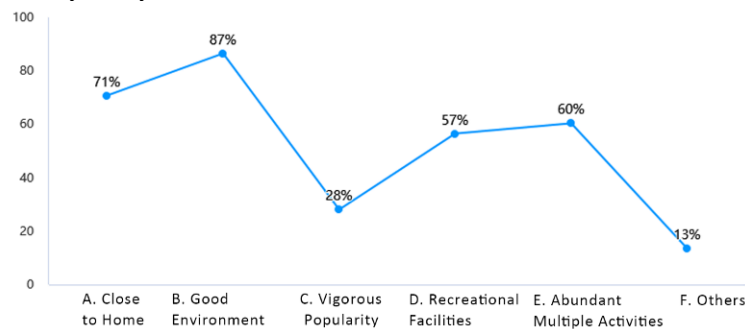
(8D) Question 4 Result: the average score is 2.89.



(8E) Question 5 Result: the highest percentage is 67% of community library.



(8F) Question 6 Result: the average score is 3.17.



(8G) Question 7 Result: 87% of people choose public space with good environment

Figure 8 The results of online questionnaire.
Source: Researchers, 2023

4.2 Case study: community library

4.2.1 Design concept

The transformational strategy of the Lu-yang Ju community was to transform part of the commercial space into a community library. The original commercial building would keep the framed structure. For instance, concrete columns, beams, load-bearing walls, and ceilings should be retained. The shape of the original space is a rectangle, and with more columns, sufficient lighting, and no trivial space, the entrance position faces north.

The “scroll” as a new element was extracted from the books and simplified. In the design, the thin gauze of a curtain was used to imitate the scroll hanging from the ceiling. The ceiling and interior were elegantly fitted with soft lighting. The whole design aims to create a vibrant cultural atmosphere.

The functional space was to reasonably divide combining with different human behavior to enhance different reading experiences. The public reading area has several combined ways of reading: single high seats, single room seats, two opposite seats, and three or four people in a group. The high seat and desk design linked with the unique perspective through the window made the reading experience different. Single-room seating was designed for one-person, separate spaces were protected from disturbance and better isolated from virus transmission. Two opposite seats with the plants and windows integrated with the bookshelf, sometimes people could change posture lying instead of sitting, taking a nap when tired. This design considered privacy when they sat opposite each other. Three or four people in a group, the desk kept sitting apart, and the middle desks were all boarded up, to avoid air transmission caused by droplets (Figure 9).



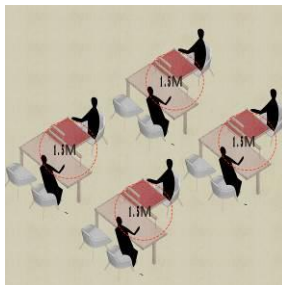
(9A) Single high seats



(9B) Two opposite seats



(9C) Two opposite seats



(9D) Three people in a group



(9E) Four people in a group



(9F) Independent study room



(9G) Independent study room



(9H) Public study hall



(9I) Public study hall

Figure 9 Library furniture with different behaviors.

Source: Researchers, 2023

People feel very vulnerable when they unexpectedly face a public health crisis. In the literature, the pandemic has resulted in a large increased number of depressed patients (Zhou et al., 2020). In order to alleviate this negative emotion, a self-healed yoga room was designed and added to the community library. The style of the yoga room was Chinoiserie, and stillness and Zen were used to decorate the interior space. The community library, including the yoga room, used light and warm colors. Using the Buddha statues and plants in a Chinese style to decorate this yoga room, providing a pure land to our spirit, and the atmosphere allowed people to escape anxiety for a short time. People practiced yoga and meditation as another way of relieving stress (Figure 10).



Figure 10 The yoga room in community library.

Source: Researchers, 2023

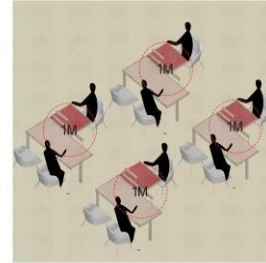
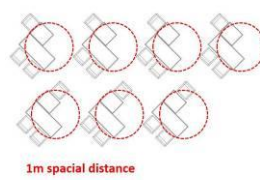
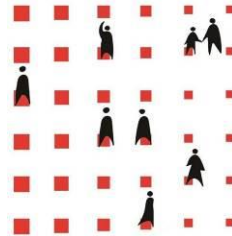
4.2.2 Two-dimensional construction drawing

Adobe AutoCAD can be used for interior design (You, Liu, & Liu, 2022), and is capable of producing accurate two-dimensional drawings, especially for construction. Therefore, Adobe AutoCAD version 2023 software was used for the design of the community library. To achieve a better visual perception, a two-dimensional drawing drawn with the CAD software was imported into Adobe Photoshop version 2011 to design a colorful floor plan with additional materials, colors, plants, furniture, and accessories.

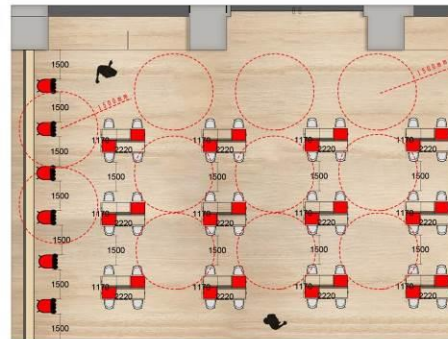
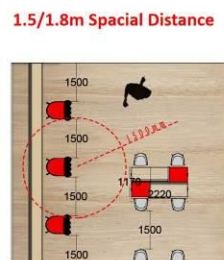
In this paper, part of the original commercial space was transformed into a community library. The interior space of the community library is located on the first floor, and the height is 4920mm. The floor plan dimensions are 38622mm (length)*29940mm (width). The space layout is divided into several areas, including a public reading area, single study rooms, a yoga room, a small academic conference room, and lounges, see Figure 12(b). The principle of the layout of floor plan combined with epidemiology is that the display of furniture in the community library, including the public reading area, should be ordered strictly by keeping a distance from 1m to 2m, at least one meter (Figure 11) so that the layout of space has prolonged prevention avoiding virus transmission.



(11A) 1.5/1.8m Spatial distance

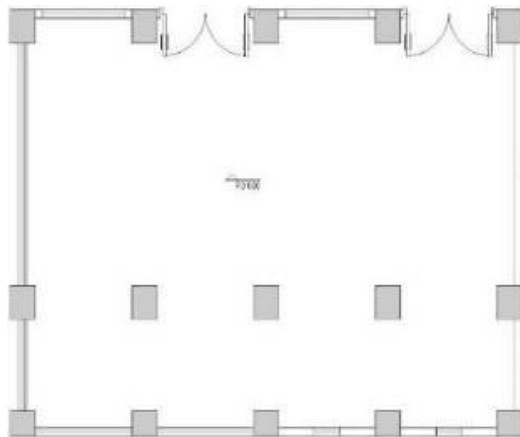


(11B) 1m Spatial distance

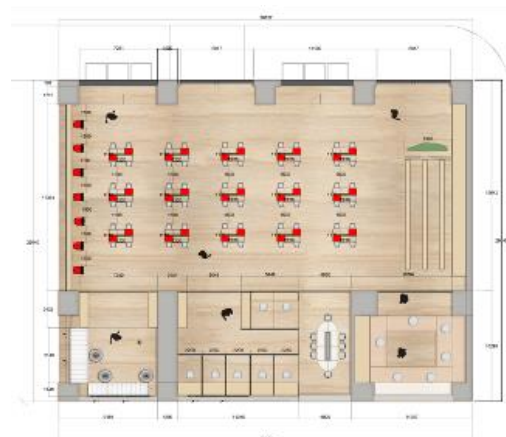


(11C) 1.5/1.8m Spatial distance

Figure 11 Safety spatial distance.
Source: Researchers, 2023



(12a) Original floor plan



(12b) Redesigned floor plan

Figure 12 Floor plan of community library.
Source: Researchers, 2023

There are two ways of presenting elevation drawings. One is CAD-drawn, uncolored construction paper, as is common in interior design, however, the drawback is poor esthetics. Another way is to use SketchUp or other 3D software tools to cut the surface and create the elevation drawing. This visual esthetic of the elevation is faster and more beautiful, as shown in Figure 13.

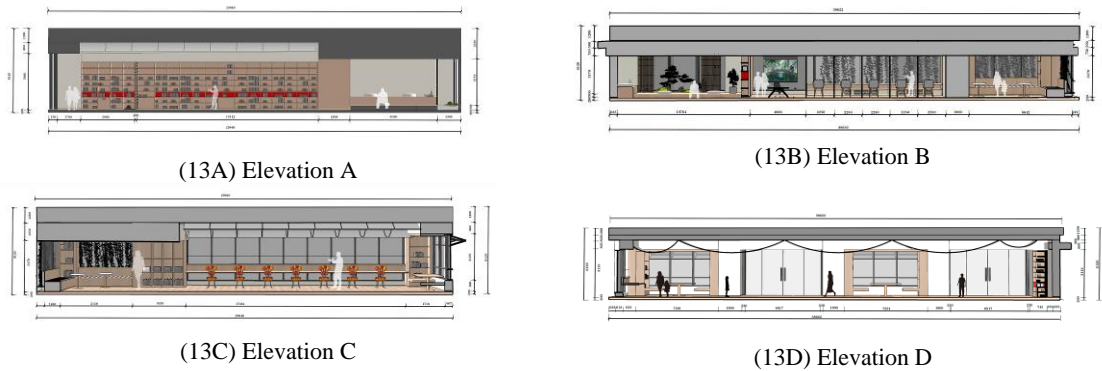


Figure 13 Community library elevation
Source: Researchers, 2023

4.2.3 Three-dimensional design sketch

This article utilized the standard software, SketchUp Pro (version 2021), along with the Enscape plug-in (version 3.1), to generate three-dimensional images of a community library (Figure 14). The key advantage of SketchUp lies in its user-friendly interface and extensive range of plug-ins, enabling faster and superior image production. The floor plan was imported into SketchUp to create walls, floors, ceilings, columns, and other architectural structures. Additionally, furniture pieces, decorative plants, and various ornaments were incorporated into the design using SketchUp. By carefully selecting camera angles, optimal shooting images were obtained. Subsequently, the Enscape plug-in (version 3.1) was employed to introduce relevant materials such as wooden flooring, gauze curtains, transparent glass panels etc., while also setting up essential lighting elements including spotlights and simulated daylight, or indoor incandescent lamps as required by the community library's ambiance. Finally, the rendering process involved testing low-pixel images to evaluate overall design effects; continuous adjustments were made to lighting parameters until achieving desired final results.

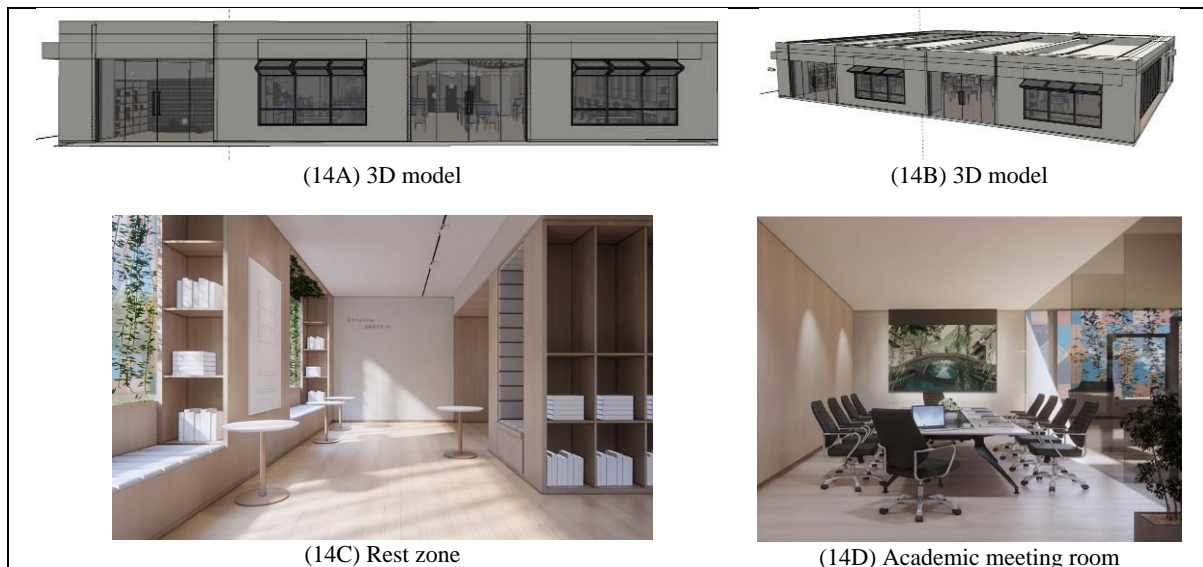


Figure 14 3D model in SketchUp (2021) software.
Source: Researchers, 2023

5. Conclusion

Community libraries play an essential role in the daily life of many residents. Many old communities were remodeled to meet the development of modern society with improved functions.

When we look at the history of the public health crisis, we realize that the danger of virus transmission is hidden in public spaces. In order to avoid large-scale virus transmission, the design of public spaces, including

community libraries, should be based on long-term prevention. In this paper, firstly, a large amount of data about the community environment was first collected through observation, photography, and satellite maps. The online questionnaire was randomly distributed to the residents in Guangdong province, and the data (n=260) were investigated. Analysis of the data showed that 67.31% of respondents wanted a library in their community, and only 22.69% of the respondents related their community satisfaction as high, indicating that there is still much room for improvement in the community. The satellite map explained that the neighborhood was surrounded by commercial space, and the nearest library was far away. Therefore, in this paper, part of the commercial space in the Lu-yang Ju community was transformed into a community library and related to the principles of epidemiology. Secondly, a new spatial layout was designed, including a public reading area, a single study room, a yoga room for self-healing, a small academic conference room, and lounges. The overall layout of the floor plan provided for limited social distancing of 1 m to 2 m, but at least one meter, to prevent virus transmission. The Chinese element and Zen culture were considered in the design of the community library, especially in the yoga room. People can find solace in the community library. The ceilings in the public reading area were decorated with scroll elements, and the space was filled with a lively cultural atmosphere. The spatial layout combines with different human behaviors, the public reading area set up different types of tables and chairs and has a variable combination and kept at a certain distance, such as single high seat, single room seat, two opposite seats, three or four people in a group. The independent reading room can maintain privacy and play the role of virus isolation. To better understand the transformative effect of the community library, 2D and 3D software such as CAD, Photoshop, and Sketchup were used to draw floor plans, elevations, and 3D renderings.

Moreover, the literature review of the community library revealed that certain articles addressed the constructional strategies and significance of community libraries, which are limited in ensuring that they effectively meet the growing and diverse cultural needs of residents. For instance, GELLERUP community library (Ning, 2017) was mentioned. Some scholars have incorporated relevant theories on emotional design into the internal environment of community libraries to analyze and summarize its expanded application scope. In countries like the United States, Denmark, and Japan, various community libraries have successfully engaged surrounding residents in their design process through innovative spatial models, new technologies, activities, and well-developed facilities (Ning, 2017). Many domestic community libraries face similar challenges. However, this paper presents a distinct perspective. Specifically focusing on epidemiological principles for spatial layouts can contribute to enhancing safety measures within these libraries by reducing individual virus transmission rates while also addressing residents' emotional needs.

Ultimately, transformative designs play a crucial role in ensuring safety within community libraries by minimizing specific virus spread rates and fulfilling residents' emotional requirements.

6. References

- Aabø, S., & Audunson, R. (2012). Use of library space and the library as place. *Library & Information Science Research*, 34(2), 138-149. <https://doi.org/10.1016/j.lisr.2011.06.002>
- Alnazly, E., Khraisat, O. M., Al-Bashaireh, A. M., & Bryant, C. L. (2021). Anxiety, depression, stress, fear and social support during COVID-19 pandemic among Jordanian healthcare workers. *PloS One*, 16(3), Article e0247679. <https://doi.org/10.1371/journal.pone.0247679>
- American designer. (2020). Retrieved from https://www.sohu.com/a/405961101_509371
- Bar-On, Y. M., Flamholz, A., Phillips, R., & Milo, R. (2020). SARS-CoV-2 (COVID-19) by the numbers. *eLife*, 9, Article e57309. <https://doi.org/10.7554/eLife.57309>
- Begum, D., Roknuzzaman, M., & Shobhanee, M. E. (2022). Public libraries' responses to a global pandemic: Bangladesh perspectives. *IFLA Journal*, 48(1), 174-188. <https://doi.org/10.1177/03400352211041138>
- Berche, P. (2022). Life and death of smallpox. *La Presse Médicale*, 51(3), 104117. <https://doi.org/10.1016/j.lpm.2022.104117>
- Britain studio named Curl la Tourelle Head (2022). Retrieved from https://www.sohu.com/a/620598242_99983225
- Campioli, S., & Peraboni, C. (2022). Diversity, community and participation: how Covid-19 has boosted the main issues of public space design. *Proceedings of the International Conference on Changing Cities V: Spatial, Design, Landscape, Heritage & Socio-Economic dimensions*, Corfu Island, Greece.
- Chen, C. s. (2009). The transformation and influence of reading space. *Friends of the Editor*, 11, 61-63.
- Clement, J., Maes, P., Ducoffre, G., Van Loock, F., & Van Ranst, M. (2008). Hantaviruses: underestimated respiratory viruses?. *Clinical Infectious Diseases*, 46(3), 477-479. <https://doi.org/10.1086/524896>

- Data, J. H. U. C. C.-. (2022). *Daily new confirmed COVID-19 deaths per million people*. Retrieved from <https://ourworldindata.org/explorers/coronavirus-data-explorer>
- Department of Public Services, M. o. C. a. T. (2011). *Guidelines on Epidemic Prevention and Control Measures for Public Libraries and Cultural Centers (Stations)*. Retrieved from https://www.fjlib.net/zx/yqfk/202203/t20220314_469368.htm
- Fattorini, L., Piccaro, G., Mustazzolu, A., & Giannoni, F. (2013). Targeting dormant bacilli to fight tuberculosis. *Mediterranean Journal of Hematology and Infectious Diseases*, 5(1). Article e2013072. <https://doi.org/10.4084/MJHID.2013.072>
- Fears, J. R. (2004). The plague under Marcus Aurelius and the decline and fall of the Roman Empire. *Infectious Disease Clinics*, 18(1), 65-77. [https://doi.org/10.1016/S0891-5520\(03\)00089-8](https://doi.org/10.1016/S0891-5520(03)00089-8)
- Fitzpatrick, K. M., Harris, C., & Drawve, G. (2020). Living in the midst of fear: Depressive symptomatology among US adults during the COVID-19 pandemic. *Depression and Anxiety*, 37(10), 957-964. [https://doi.org/10.1016/S0891-5520\(03\)00089-8](https://doi.org/10.1016/S0891-5520(03)00089-8)
- Gray, L., Rose, S. B., Stanley, J., Zhang, J., Tassell-Matamua, N., Puloka, V., ... & Baker, M. G. (2021). Factors influencing individual ability to follow physical distancing recommendations in Aotearoa New Zealand during the COVID-19 pandemic: a population survey. *Journal of the Royal Society of New Zealand*, 51(sup1), S107-S126. <https://doi.org/10.1080/03036758.2021.1879179>
- Han, E., Tan, M. M. J., Turk, E., Sridhar, D., Leung, G. M., Shibuya, K., ... & Legido-Quigley, H. (2020). Lessons learnt from easing COVID-19 restrictions: an analysis of countries and regions in Asia Pacific and Europe. *The Lancet*, 396(10261), 1525-1534. <https://doi.org/10.1080/03036758.2021.1879179>
- Harrouk, C. (2020). *CLTH designs' New tent classroom 'for campus life after the pandemic*. Retrieved from <https://www.archdaily.cn/cn/940166/clth-gong-kai-yi-qing-hou-xue-xiao-she-ji-zhang-peng-shi-ban-kai-fang-xue-xi-kong-jian>
- Hobday, R., & Dancer, S. (2013). Roles of sunlight and natural ventilation for controlling infection: historical and current perspectives. *Journal of Hospital Infection*, 84(4), 271-282. <https://doi.org/10.1016/j.jhin.2013.04.011>
- Huo, G., & Guo, Q. (1995). Community Library. *Library Journal of China*, 21(4), 54-59.
- Jan, S. U. (2020). COVID-19 and preventive measures for libraries in Pakistan: A commentary. *Journal of Medical Sciences*, 28(3), 201-204. Retrieved from <https://jmedsci.com/index.php/Jmedsci/article/view/942>
- Jiang, L., Cheung, V., Westland, S., Rhodes, P. A., Shen, L., & Xu, L. (2020). The impact of color preference on adolescent children's choice of furniture. *Color Research & Application*, 45(4), 754-767. <https://doi.org/10.1002/col.22507>
- Kelly, J. (2006). *The Great Mortality: an intimate history of the Black Death*. Retrieved from <http://hdl.handle.net/10822/976017>
- Kretzman, J., & Rans, S. (2005). *The engaged library: Chicago stories of community building*. Evanston: Northwestern University. Retrieved from <https://www.ala.org/tools/librariestransform/engaged-library-chicago-stories-community-building>
- Li, G. (2016). Research on innovational development mode of community Library. *Library Theory and Practice*, 1, 82-84.
- Li, Y.-p. (2021). Research on emotional design of inner environment of community library. *JU SE*, 89-90. Retrieved from <https://kns.cnki.net/kcms2/article/abstract?v=0rU-DchPtstk7RcE4GH-yio6jZNLdZ1v4vz9MfFzcAVvqbFWuqYy9IGDW7sagw5QnnXim1yEzzBhzjGN6BjbVfrQ61YmckH8S8mnLvLpAC9NYcHNEv8BPLGb87ta7Hc1b-raE-cQmw=&uniplatform=NZKPT&language=CHS>
- Li, Z., Zheng, J., & Zhang, Y. (2019). Study on the layout of 15-minute community-life circle in third-tier cities based on POI: Baoding City of Hebei Province. *Engineering*, 11(9), 592-603. <https://doi.org/10.4236/eng.2019.119041>
- Liao, Z. (1992). On the establishment of community library. *Library World*, 4, 4-8.
- Liu, D.-B. (2020). Repetition and transcendence : Experience and lessons of epidemic prevention and control in world history. *Studies of International Politics*, 3, 26-32.
- Lu Zhou, F. Z. (2023). Research on the practical micro-transformation of Old Communities in the post-epidemic era -- A case study of Nanguan Community. *Planners*, 488-496. <https://doi.org/10.26914/c.cnkihy.2023.040995>

- Mendell, M. J., Fisk, W. J., Kreiss, K., Levin, H., Alexander, D., Cain, W. S., ... & Wallingford, K. M. (2002). Improving the health of workers in indoor environments: priority research needs for a national occupational research agenda. *American Journal of Public Health*, 92(9), 1430-1440. <https://doi.org/10.2105/AJPH.92.9.1430>
- Ning, T. (2017). *Research of design method and system about miniature community library*. (Master's Thesis). CAFA(Central Academy of Fine Arts), Chaoyang, Beijing, China.
- Oldenburg, R. (1989). *The great good place: Cafés, coffee shops, community centers, beauty parlors, general stores, bars, hangouts, and how they get you through the day*. Saint Paul, turkey: Paragon House.
- Peng, D. D. (2023). *Landscape renovation design of old community based on the perspective of infectious disease prevention and control -- A case study of Nanyuan Garden in Nanchang City* (Master's Thesis). Agricultural university of jiangxi, Nanchang, Jiangxi, China.
- Peterson, P. K. (2020). *Microbes: The Life-changing Story of Germs*: Maryland, US: Rowman & Littlefield.
- Petsko, G. A. (2005). H5N1. *Genome Biology*, 6(11), 1-4. <https://doi.org/10.1186/gb-2005-6-11-121>
- Schneider, I. E., Wynveen, C. J., Wolfson, J., Shinew, K., Stein, T., Hendricks, W. W., ... & Budruk, M. (2023). Cases and context: Mask-related behaviors among US trail visitors during the COVID-19 pandemic. *Journal of Outdoor Recreation and Tourism*, 41, 100494. <https://doi.org/10.1016/j.jort.2022.100494>
- Song, Y. Y., Xiong, Y., & Liu, X. M. (2023). Research on community spatial response strategy based on sudden respiratory infectious diseases. *Urban Safety and Disaster Prevention Planning*, 402-417. <https://doi.org/10.26914/c.cnkihy.2023.042801>
- Tao, M.-Q. (2023). *A study on the vitality remodeling of public space in old communities under the background of normal epidemic situation: A case study of Cuiyuan District in Hangzhou* (Master's Thesis). East China Normal University, Shanghai, China.
- Tiao, X. (2019). Research Status and Path Analysis of the Academic Libraries Participating in Public Cultural Service in Recent Ten Years. *Library and Information Service*, 63(9), Article 5.
- Usherwood, B. (2002). Accounting for outcomes: demonstrating the impact of public libraries. *Australasian Public Libraries and Information Services*, 15(1), 5-13.
- Wagner, A., & Reifegerste, D. (2022). From Black Death to COVID-19: The mediated dissemination of fear in pandemic times. *Media and the Dissemination of Fear: Pandemics, Wars and Political Intimidation*, 19-41. https://doi.org/10.1007/978-3-030-84989-4_2
- World Health Organization (WHO). (2020). *Modes of transmission of virus causing COVID-19: Implications for IPC precaution recommendations*. Retrieved from <https://www.who.int/news-room/commentaries/detail/modes-of-transmission-of-virus-causing-covid-19-implications-for-ipc-precaution-recommendations>
- Wu, Y., Chen, Z., & Chen, J. (2021). Historical Memory and Resident's Suffering Consciousnes: The LongTerm Impact of SARS on Preventing COVID-19. *Industrial Economic Review*, 3, 19-33.
- You, Y., Liu, G., & Liu, L. (2022). Art Design Method of Interior Space Layout Based on CAD Drawing. *Computer-Aided Design & Applications*, 19(S8), 44-54. <https://doi.org/10.14733/cadaps.2022.S8.44-54>
- Zhou, S. J., Zhang, L. G., Wang, L. L., Guo, Z. C., Wang, J. Q., Chen, J. C., ... & Chen, J. X. (2020). Prevalence and socio-demographic correlates of psychological health problems in Chinese adolescents during the outbreak of COVID-19. *European Child & Adolescent Psychiatry*, 29, 749-758. <https://doi.org/10.1007/s00787-020-01541-4>



APPENDIX A

JOURNAL OF CONTEMPORARY SOCIAL SCIENCES AND HUMANITIES

(Formerly RANGSIT JOURNAL OF SOCIAL SCIENCES AND HUMANITIES)

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Supawadee Sukeechep Moss, *Rajamangala University of Technology, Suvarnabhumi, Thailand*
Suphat Sukamolson, *Maejo University, Thailand*
Suppakorn Poonyarith, *Mahidol University, Thailand*
Surachai Sirikrai, *Thammasat University, Thailand*
Surachart Bumrungsuk, *Chulalongkorn University, Thailand*
Suraphol Srivithaya, *Rangsit University, Thailand*
Surapong Jayanama, *Former Ambassador of Thailand to Vietnam*
Surasit Thanadtang, *National Research Council of Thailand, Thailand*
Sureeshine Phollawan, *Sripatum University, Thailand*
Surichai Wankaew, *Chulalongkorn University, Thailand*
Susumu Ueno, *Asia-Pacific Management Accounting Association, Japan*
Sutham Cheurprakobkit, *Kennesaw State University, USA*
Suthipad Chirathaivat, *International Institute for Trade and Development, Thailand*
Suwicha Benjaporn, *Naresuan University, Thailand*
Tanpat Kraiwanit, *Rangsit University, Thailand*
Teerana Bhongmakapat, *Chulalongkorn University, Thailand*
Teerawat Wongkaew, *Ministry of Foreign Affairs, Thailand*
Thanit Chindavanig, *Chulalongkorn University, Thailand*
Thawatchai Suvanpanich, *Sukhothai Thammathirat, Thailand*
Theera Nuchpam, *Chulalongkorn University, Thailand*
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Wanpadej Hongthong, *Mahidol University, Thailand*
Wararak Chalermpuntusak, *Sukhothai Thammathirat, Thailand*
Wasan Luangprapat, *Thammasat University, Thailand*
Wichit Srisa-An, *Suranaree University of Technology, Thailand*
Witchayanee Ocha, *United Nations, Thailand*
Witsanuphong Suksakhon, *Rangsit University, Thailand*
Worachat Churdchomjan, *Rangsit University, Thailand*
Yunlin Yang, *Rangsit University, Thailand*



APPENDIX B

JOURNAL OF CONTEMPORARY SOCIAL SCIENCES AND HUMANITIES

(Formerly RANGSIT JOURNAL OF SOCIAL SCIENCES AND HUMANITIES)

NOTE FOR AUTHORS

1. Aims and Scope

Journal of Contemporary Social Sciences and Humanities (JCSH) aims to provide a high profile vehicle for publication of various new issues in different academic areas in Humanities and Social Sciences. *JCSH* invites scholars, researchers, professionals and academicians to publish their manuscripts in the journal. The scope of the Journal encompasses, the author(s) can submit their manuscript covering, but not limited to Interdisciplinary Studies in Humanities and Social Sciences, any of the following areas:

Social Science

Anthropology
Criminology & Criminal Justice
Economics
Political Science
Sociology

Humanity

History
Linguistics
Philosophy (inc. Arts & Design)

2. Submission Deadline

Submissions are to be permanently open. A manuscript submitted between July 1st and December 31st will be considered for publication in the January-June Issue of the subsequent year whereas a manuscript submitted between January 1st and June 30th will be considered for publication in the July-December Issue.

3. Categories of Articles

The *Journal* accepts the following types of articles:

1. **Research Articles:** A research article is a regular quantitative or qualitative article which aims to present new findings or interpretations.
2. **Review Articles:** A review article or survey articles, also called a literature review, is an article that survey of previously published research on a topic and summarizes the current state of understanding on a topic. It should give an overview of current thinking on the theme and, unlike an original research article, won't present new experimental results. By analyzing a large body of data from existing studies, some systematic reviews can come to new conclusions. Review articles can also provide recommendations for potential research areas to explore next. Moreover, a review article surveys and summarizes previously published studies, rather than reporting new facts or analysis.
3. **Innovations:** An innovation is an article that aims to present creative arts and designs, procedures or devices.

Research articles, review articles, and innovations should not exceed 15 pages of standard A4 paper using *JCSH* format. The manuscript template is available at <https://JCSH.rsu.ac.th>. All categories of articles must coincide with manuscript preparation instruction (see Manuscript Preparation Section).

4. Editorial Policies

JCSH accepts only the original work that has not been previously published, nor is it a dual submission. The submission also implies that the authors have already obtained all necessary permissions for the inclusion of copyrighted materials, such as figures and tables from other publications. Submitting a copied piece of writing as one's own original work is considered plagiarism. The *Journal* is published by Rangsit University Press, Thailand. Contributions are in English. Copyright is by the publisher and the authors.

Authorship: *JCSH* expects that all of the authors listed on a manuscript have contributed substantially to the submitted paper. By submission of the manuscript, cover letter, and Copyright Transfer Agreement (CTA), the corresponding author affirms that all named authors have agreed to be listed as authors of the paper. Furthermore, by their signatures on the CTA, all authors affirm that they have both read and approved the manuscript, and that they take full responsibility for the content of the article.

Review Process: *JCSH* assumes responsibility for insuring that submitted manuscripts receive expert and unbiased reviews. *JCSH* strives to complete a peer review of all submitted papers and the publication of accepted manuscripts in a timely manner and to keep the authors informed of any problems with their manuscript. All submitted manuscripts are initially evaluated by the Editor-in-Chief in consultation with members of the Editorial Board before being sent for double-blind review. *JCSH* is under no obligation to submit every manuscript to formal peer review. Manuscripts that are judged by the editors to be inferior or inappropriate for publication in the *Journal* may, at the discretion of the Editor-in-Chief, be rejected without formal written reviews by referees. *JCSH* attempts to obtain at least two written reviews for each manuscript that is entered into the peer review process, although the Editor-in-Chief has the discretion to make final decisions about the disposition of a manuscript with fewer than two reviews. The reviewers' evaluations will be used by the editors to decide whether the paper should be accepted, revised or rejected. A copy of the referees' comments will be sent to the corresponding authors whose paper needs revision. All reviewers serve anonymously and their identities are protected by the confidentiality policy of *JCSH*.

Confidentiality: As is customary for the peer review process, *JCSH* holds the identity of authors and the contents of all submitted manuscripts in confidence until such time as the papers are published. This confidentiality extends to the comments of editors and reviewers that have evaluated the paper; these comments and reviews are released only to the corresponding author. Co-authors may have access to these documents either by obtaining them directly from the corresponding author or by submitting to *JCSH* a letter of request that has been signed by the corresponding author. Similarly, *JCSH* expects that editors and reviewers will maintain strict confidentiality of the authors' identities and the contents of manuscripts that they examine during the review process, and furthermore, will never disclose the contents (either orally or in writing) of documents related to the peer review of a manuscript. A violation of this policy is considered a serious breach of trust.

Research Involving Animals or Humans: Authors must state in the manuscript that the work was approved by, at least, their institutional ethical review board for any research involving human and animal subjects. These approvals are required for publication in *JCSH*.

5. Manuscript Preparation

General Instruction: Submit your manuscript in both PDF and MS word formats. Manuscripts are acceptable in both US and UK English, but the use of either must be consistent throughout the manuscript. Please note that the editors reserve the right to adjust style to certain standards of uniformity.

Format: Unless specified, type text with 10-point Times New Roman font on 12-point line spacing, with a 1.25 inch left margin, 1 inch bottom and right margin, 2 inch top margin, 1.2 inch header, and 0.6 inch footer. Main text is set in single column. First lines of paragraphs are indented 0.5 inch. For hard copy, use standard A4 paper, one side only. Use ordinary upper- and lower-case letters throughout, except where italics are required. For titles, section headings and subheadings, tables, figure captions, and authors' names in the text and reference list: use ordinary upper- and lower-case letters throughout. Start headings at the left margin. If you wish, you may indicate ranking of complicated section headings and subheadings with numerals (1, 1.1, 1.1.1). Try not to exceed three ranks. All pages must be numbered in the top right-hand corner.

Title: Use 11-point bold font on 12-point line spacing. The length of the title of the article must not exceed 2 lines. A title should be concise and informative. The alignment of the title is centered.

Author Names: Use 10-point font on 11-point line spacing. Centered alignment and leave one line space below the title of the article. Begin with the first name of the author followed by the last name. For more than one author, separate each name by a comma (,), and identify each author's affiliation by superscript numbers at the end of the author's last name.

Author Affiliations: Use 9-point font on 10-point line spacing. Centered alignment and leave one line space below the author names. Include institutional and e-mail addresses for all authors. Place superscript numbers at the beginning of each affiliation accordingly.

Abstract: Use 10-point font on 11-point line spacing for heading and 9-point font on 11-point line spacing for abstract content. An abstract of up to 250 words must be included as and when appropriate. For research papers; the purpose and setting of the research, the principal findings and major conclusions, and the paper's contribution to knowledge should be briefly stated. For empirical papers the locations of the study should be clearly stated, as should the methods and nature of the sample, and a summary of the findings and conclusion. Please note that excessive statistical details should be avoided, abbreviations/acronyms used only if essential or firmly established.

Keywords: List up to 6 keywords and separate each keyword by a comma (,). The keywords should accurately reflect the content of the article. The keywords will be used for indexing purposes.

Main Text: Use 10-point font on 12-point line spacing. In the main body of the submitted manuscript the following order should be adhered to: introduction, methodology, results (if any), discussion (if any), conclusion, acknowledgements, and references. Please note that some article categories may not contain all components above. Tables or figures must be included in the text for the reviewing process. In addition, tables and figures must also be submitted individually in separate files. Refer in the text to each table or illustration included, and cite them in numerical order, checking before submission that all are cited and in correct sequence.

References in the Text: To insert a citation in the text use the author-year system, i.e., the author's last name and year of publication. Examples are as follows: "Since Johnson (2008) has shown that..." or "This is in agreement with results obtained later (Benjamin, 2010)". For 2-3 authors; all authors are to be listed, with "and" separating the last two authors, for more than three authors, list the first author followed by et al. The list of references should be arranged alphabetically by authors' names. All in-text citation must be appeared in the reference list. The manuscript should be carefully checked to ensure that the spelling of authors' names and dates are exactly the same in the text as in the reference list. Responsibility for the accuracy of bibliographic citations lies entirely with the author(s). Citation of a reference as "in press" implies that the item has been accepted for publication. Authors are responsible for the accuracy of the content of the references.

List of References: JCSH uses the American Psychological Association (APA) referencing style, details of which can be found at <http://www.apastyle.org/>. References should be listed at the end of article, arranged alphabetically according to the last names of the authors and then chronologically. The following are examples of the APA referencing style. All in-text citation must be appeared in the reference list and all publications in the reference list must correspond to the in-text citation. Please delete the listed publications which are not appeared in the context.

Abstracts

Author./ (Year of publication)./Title of Abstract (abstract)./Journal Title,/Volume(Issue),/Page number.

Example:

Clark, D. V., Hausen, P. H., & Mammen, M. P. (2002). Impact of dengue in Thailand at the family and population levels (abstract). *Am J Trop Med Hyg*, 67(2 Suppl), 239.

Books

Author./ (Year of publication)./ *Book Title*:/ *Capital letter also for subtitle*./ Edition (if any)./ Location./ Country :/ Publisher.

Example:

Cochrane, A. (2007). *Understanding urban policy: A critical approach*. Malden, MA: Blackwell Publishing.

Palmer, G. R., & Short, S. D. (2010). *Health care and public policy: An Australian analysis* (4th ed.). South Yarra, VIC: Palgrave Macmillan.

Bulliet, R. W., Crossley, P. K., Headrick, D. R., Hirsch, S. W., Johnson, L. L., & Northrup, D. (2011). *The earth and its peoples: A global history* (5th ed.). Boston, MA: Wadsworth.

Chapter in edited book

Richards, K. C. (1997). Views on globalization. In H. L. Vivaldi (Ed.), *Australia in a global world* (pp. 29-43). North Ryde, Australia: Century.

Article or Chapter in an Edited Book

Author./ (Year of publication)./ Title of chapter./ In/ Editor/ (Ed.),/ *Book Title*/(pages of chapter)./ Location:/ Publisher.

Example:

O'Neil, J. M., & Egan, J. (1992). Men's and women's gender role journeys: A metaphor for healing, transition, and transformation. In B. R. Wainrib (Ed.), *Gender issues across the life cycle* (pp. 107-123). New York, NY: Springer.

Conference and Seminar Proceedings

To cite proceedings that are published regularly, use the same format as for a journal article. To cite proceedings that are published in book form, use the same format as for an article in a book.

Example:

Tester, J. W. (2008). The future of geothermal energy as a major global energy supplier. *Proceedings of the Sir Mark Oliphant International Frontiers of Science and Technology Australian Geothermal Energy Conference*, Canberra, Australia: Geoscience Australia. Retrieved from http://www.ga.gov.au/image_cache/GA11825.pdf

Dissertation or Thesis

Author./ (Year of publication)./ *Title of dissertation or thesis* /(Doctoral dissertation or Master's thesis)./ Awarding Institution.

Example:

Norasingha, A. (2009). *Expression and distribution of mucorinic receptors in hepatic composite of the cirrhotic rat* (Master's thesis). Rangsit University, Pathum Thani.

Editorials

Author./ (Year of publication)./ Title of Editorial (editorial)./ *Journal Title*,/ Volume(Issue),/ Page numbers.

Example:

Fisher, R. I. (2003). Immunotherapy in Non-Hodgkin's lymphoma: Treatment advances (editorial). *Semin Oncol*, 30(2Suppl 4), 1-2.

Journal Articles

Author./ (Year of publication)./ Article Title./ *Journal Title*,/ Volume(Issue),/ Page numbers.

Example:

Leelawat, S., Leelawat, K., Narong, S., & Matangkasombut, O. (2010). The dual effects of delta 9-tetrahydrocannabinol on cholangiocarcinoma cells: Anti-invasion activity at low concentration and apoptosis induction at high concentration. *Cancer Investigation*, 28(4), 357-363.

- Polk, A., Amsden, B., Scarrrt, D., Gonzal, A., Oknamefe, O., & Goosen, M. (1994). Oral delivery in aquaculture. *Aquacult. Eng*, 13, 311-323.
- Seals, D. R., & Tanaka, H. (2000). Manuscript peer review: A helpful checklist for students and novice referees. *Advances in Physiology Education*, 23(1), 52-58.
- Srichandum, S. & Rujiranyong, T. (2010). Production scheduling for dispatching ready mixed concrete trucks using bee colony optimization. *American J. of Engineering and Applied Sciences*, 3(1), 823-830.

Letters

Author./ (Year of publication)/ Title of Letter./ *Journal Title*./ Volume(Issue)/ Page number.

Example:

Enzensberger, W., & Fisher, P. A. (1996). Metronome in Parkinson's disease (letter). *Lancet*, 347, 1337.

Notes

Author./ (Year of publication)/ Title of Note./ *Journal Title*./ Volume(Issue)/ Page number.

Example:

Haier, R. J., Schroeder, D. H., Tang, C., Head, K., & Colom, R. (2010). Gray matter correlates of cognitive ability tests used for vocational guidance. *Biomed Central*, 3, 206.

Unpublished/In Press Articles

Author./ (In press Year)/ Article Title./ *Journal Title*./ (in press).

Example:

Veena, B. (2004). Economic pursuits and strategies of survival among Damor of Rajasthan. *J Hum Ecol*. (in press).

Internet periodicals

Author./ (Year of publication)/ Article Title./ *Journal Title*./ Volume(issue)/ page numbers./ Retrieved mm dd, year, from the full URL of the web page

Example:

Adams, P. J. (2000). Australian economic history. *Journal of Australian Economics*, 5(2), 117-132.
Retrieved June 12, 2001, from <http://jae.org/articles.html>

Internet non-periodicals

Author./ (Year of publication)/ Article Title./ Retrieved mm dd, year, from the full URL of the web page

Example:

Lemire, D. (n.d.). *Write good papers*. Retrieved July 1, 2010, from <http://www.daniel-lemire.com/blog/rules-to-write-a-good-research-paper>

Newspaper retrieved from a database

Article – with an author

Author./ (mm dd, Year)/ Article Title./ *News agency*./ Retrieved from the full URL of the web page

Example:

Darby, A. (August 20, 2002). Rarest tiger skin a rugged survivor. *Sydney Morning Herald*. Retrieved from <http://www.smh.com.au>

Article – without an author

Article Title./ (mm dd, Year)/ *News agency*./ Retrieved from the full URL of the web page

Example:

Rarest tiger skin a rugged survivor. (August 20, 2002). *Sydney Morning Herald*. Retrieved from <http://www.smh.com.au>

Illustrations and Figures: All illustrations should be provided in a file format and resolution suitable for reproduction, e.g., EPS, JPEG or TIFF formats, without retouching. Photographs, charts and diagrams should be referred to as "Figure(s)" and should be numbered consecutively in the order to which they are referred. In addition to placing figures with figure captions into the main text, **submit each figure individually as a separate file.**

Line Drawings: All lettering, graph lines and points on graphs should be sufficiently large and bold to permit reproduction when the diagram has been reduced to a size suitable for inclusion in the journal. Do not use any type of shading on computer-generated illustrations.

Figure Captions: Type figure captions using 9-point font on 10-point line spacing. Insert figures with figure captions into the main text (see *Illustrations and figures* Section). Type as follows: Figure 1 Caption

Color: Where printed color figures are required, the author will be charged at the current color printing costs. All color illustrations will appear in color online, at no cost. Please note that because of technical complications which can arise when converting color figures to grayscale, for the printed version should authors not opt for color in print, please submit in addition usable black and white versions of all the color illustrations.

Tables: Tables must be cell-based without vertical lines. They should be produced in a spreadsheet program such as Microsoft Excel or in Microsoft Word. Type all text in tables using 9-point font or less. Type the caption above the table to the same width as the table. Insert tables and table captions into the main text. Tables should be numbered consecutively. Footnotes to tables should be typed below the table and should be referred to by superscript numbers. Submit separate files of tables in their original file format and not as graphic files in addition to incorporating in the main text. Tables should not duplicate results presented elsewhere in the manuscript (e.g., in graphs).

Proofs: Proofs will be sent to the corresponding author by PDF wherever possible and should be returned within 1 week of receipt, preferably by e-mail. Corrections must be restricted to typesetting errors. It is important to ensure that all of your corrections are returned to us in one all-inclusive e-mail or fax. Proofreading is solely the responsibility of the author(s). Note that *JCSH* may proceed with the publication of your article if no response is received in time.

Reprints: Authors will receive free copy of the journal in which their work appears.

English Language Editing before Submission: Authors for whom English is a second language may choose to have their manuscript professionally edited before submission.

6. Manuscript Submission

Manuscripts should be submitted electronically to the Editor-in-Chief as an attachment via the *JCSH* submission system, in word processing format. The *JCSH* submission form must be completed. Included in the submission form are (a) the title and authors, (b) complete contact information for the corresponding author (mailing address, e-mail address, and telephone and fax numbers), (c) confirmation of the originality of the reported work, (d) approval of the submitted version of the manuscript by all authors, and (e) the authors' consent for publication in *JCSH*, if accepted. The submission form is available at <https://JCSH.rsu.ac.th>.

7. Manuscript Revision and Re-submission

There are four editorial decisions: Accept, Accept with Minor Revision, Resubmit with Major Revision, and Reject. A Reject decision is definitive and authors may not submit a new version of the manuscript to the *JCSH*. A Resubmit with Major Revision requires a major re-write of the manuscript and/or inclusion of significant new data, and thus the creation of a new manuscript, which will thus be assigned a new submission date. An Accept with Minor Revision decision implies that the paper can, in principle, attain the required

standard of the *Journal* without major change. Editors may or may not have a revised manuscript reviewed (generally, by the original reviewers), in order to ascertain whether changes to the original manuscript adequately responded to the criticisms. If changes made do not result in a paper of the required standard, the revised manuscript will be definitively rejected. If a revised manuscript of "Accept with Minor Revision" is accepted, the original submission date will be retained.

8. Copyright Agreement

Once a manuscript is accepted for publication, authors will be required to sign a Copyright Transfer Agreement form (CTA). CTA is available at <https://JCSH.rsu.ac.th>. Signature of the CTA is a condition of publication and papers will not be passed for production unless a signed form has been received. Please note that signature of the Copyright Transfer Agreement does not affect ownership of copyright in the material. Please submit the completed form with the final version of the manuscript back to the *JCSH* submission system.

9. Further Reading

The following resources will provide valuable guidelines for the preparation of manuscripts.

Anonymous. (n.d.). How to write abstract. Retrieved January 17, 2011, from

http://www.journal.au.edu/au techno/2006/jan06/vol9num3_howto.pdf

Anonymous. (n.d.). How to write an abstract: Links and tips. Retrieved January 17, 2011, from

<http://research.berkeley.edu/ucday/abstract.html>

Koopman, P. (n.d.). How to write an abstract. Retrieved January 17, 2011, from

<http://www.ece.cmu.edu/~koopman/essays/abstract.html>

Lemire, D. (n.d.). Write good papers. Retrieved January 17, 2011, from <http://lemire.me/blog/rules-to-write-a-good-research-paper/>

Plonsky, M. (n.d.). Psychology with style: A hypertext writing guide. Retrieved January 17, 2011, from <http://www.uwsp.edu/psych/apa4b.htm>

Seals, D. R., & Tanaka, H. (2000). Manuscript peer review: A helpful checklist for students and novice referees. *Advances in Physiology Education*, 23(1), 52-58.

Jones, A., & Pham, H. (n.d.). Basic Referencing using the APA System, Teaching and learning unit, Faculty of Economics and Commerce, The University of Melbourne. Retrieved February 15, 2011, from <http://www.scribd.com/doc/57603066/A-Pa-Style>



APPENDIX C

JOURNAL OF CONTEMPORARY SOCIAL SCIENCES AND HUMANITIES

Research Article Single-Column Template

Please note that the paper size is standard A4 size (approx 8.27 x 11.69 in)

**Type your title here using 11-point Times New Roman bold font on 12-point line spacing.
The length of the title of the article must not exceed 2 lines.**

Author Names (Use 10-point Times New Roman font on 11-point line spacing.

Begin with the first name of the author followed by the last name. For more than one author, type 'and' before the last author's name. For more than two authors, also separate each name by a comma (,).

Identify each author's affiliation by superscript numbers at the end of the author's last name.)

Author Affiliations (Use 9-point Times New Roman font on 10-point line spacing.

Include institutional and e-mail addresses for all authors. Place superscript number in front of author's affiliation corresponding to author's name.)

Received date month year / Revised date month year / Accepted date month year / Publish Online date month year

Abstract (10-point bold font on 11-point line spacing)

For abstract content, use 9-point Times New Roman font on 11-point line spacing. First line is indented 0.5 inch. An abstract of up to 250 words must be included. Include your major findings in a useful and concise manner. Include a problem statement, objectives, brief methods, results, and the significance of your findings.

Keywords: List up to 6 keywords and separate each keyword by a comma (,). The keywords should accurately reflect the content of the article. The keywords will be used for indexing purposes.

1. Introduction

The actual manuscript will be published in a single-column style in the JCSH journal. This single column template is adopted as a user friendly format. Thus, with this template, the main text is set in a single column. Type text with 10 point Times New Roman font on 12 point line spacing, with a 1.25 inch left margin, 1 inch bottom and right margin, 2 inch top margin, 1.2 inch header, and 0.6 inch footer. First lines of paragraphs are indented 0.5 inch. Please note that the paper size is standard A4 size (approx 8.27 x 11.69 in). In MS Word, select "Page Layout" from the menu bar, and under Paper Size select A4 Size.

The introduction should put the focus of the manuscript into a broader context. As you compose the introduction, think of readers who are not experts in this field. Include a brief review of the key literature. If there are relevant controversies or disagreements in the field, they should be mentioned so that a non-expert reader can find out about these issues further. The introduction should conclude with a brief statement of the overall aim of the experiments.

To insert a citation in the text use the author-year system, i.e., the author's last name and year of publication. Examples are as follows: "Since Johnson (2008) has shown that..." or "This is in agreement with results obtained later (Benjamin, 2010)". For 2-3 authors; all authors are to be listed, with "and" separating the last two authors, for more than three authors, list the first author followed by et al. The list of references should be arranged alphabetically by authors' names. All publications cited in the text should be presented in a list of references following the text of the manuscript. The manuscript should be carefully checked to ensure that the spelling of authors' names and dates are exactly the same in the text as in the reference list. Responsibility for the accuracy of bibliographic citations lies entirely with the author(s). Citation of a reference as "in press" implies that the item has been accepted for publication. Authors are responsible for the accuracy of the content of the references.

2. Objectives

The objectives of the study should be specified explicitly.

3. Materials and Methods

This section should provide enough detail to allow full replication of the study by suitably skilled investigators. Protocols for new methods should be included, but well-established protocols may simply be referenced.

4. Results

The results section should provide details of all of the experiments that are required to support the conclusions of the paper. There is no specific word limit for this section. The section may be divided into subsections, each with a concise subheading. The results section should be written in past tense.

Tables must be cell-based without vertical lines. They should be produced in a spreadsheet program such as Microsoft Excel or in Microsoft Word. Type all text in tables using 9-point font on 10-points line spacing. Type the caption above the table to the same width as the table.

Tables should be numbered consecutively. Footnotes to tables should be typed below the table and should be referred to by superscript numbers. Submit separate files of tables in their original file format and not as graphic files in addition to incorporating in the main text. Tables should not duplicate results presented elsewhere in the manuscript (e.g., in graphs).

Table 1 Table caption

C1	C2	C3	C4
R1			
R2			
R3			
R4			
R5			
R6			

If figures are inserted into the main text, type figure captions below the figure. In addition, submit each figure individually as a separate file. Figures should be provided in a file format and resolution suitable for reproduction, e.g., EPS, JPEG or TIFF formats, without retouching. Photographs, charts and diagrams should be referred to as "Figure(s)" and should be numbered consecutively in the order to which they are referred

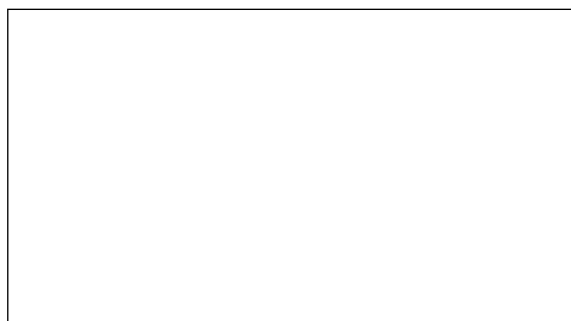


Figure 1 Figure caption

Table 2 Table caption

C1	C2	C3	C4	C5	C6	C7
R1						
R2						
R3						
R4						
R5						
R6						
R7						
R8						
R9						
R10						

**Figure 2** Figure caption

5. Discussion

The discussion should spell out the major conclusions of the work along with some explanation or speculation on the significance of these conclusions. How do the conclusions affect the existing assumptions and models in the field? How can future research build on these observations? What are the key experiments that must be done? The discussion should be concise and tightly argued. Conclusions firmly established by the presented data, hypotheses supported by the presented data, and speculations suggested by the presented data should be clearly identified as such. The results and discussion may be combined into one section, if desired.

6. Conclusion

The Conclusion section restates the major findings and suggests further research.

7. Acknowledgements

People who contributed to the work but do not fit criteria for authorship should be listed in the Acknowledgments, along with their contributions. It is the authors' responsibility to ensure that anyone named in the acknowledgments agrees to being so named. The funding sources that have supported the work should be included in the acknowledgments.

8. References

JCSH uses the American Psychological Association (APA) referencing style, details of which can be found at <http://www.apastyle.org/>. References are arranged alphabetically according to the last names of the authors and then chronologically. The first line of each reference is aligned left. Use hanging style of 0.5 inch after the first line of each reference. Example of APA references format exists at appendix B.

Abstracts

Author./ (Year of publication)./ Title of Abstract (abstract)./ *Journal Title*,/ Volume(Issue),/ Page number.

Example:

Clark, D. V., Hausen, P. H., & Mammen, M. P. (2002). Impact of dengue in Thailand at the family and population levels (abstract). *Am J Trop Med Hyg*, 67(2 Suppl), 239.

Books

Author./ (Year of publication)./ *Book Title*:/ *Capital letter also for subtitle*./ Edition (if any)./ Location,/ Country :/ Publisher.

Example:

Cochrane, A. (2007). *Understanding urban policy: A critical approach*. Malden, MA: Blackwell Publishing.

Palmer, G. R., & Short, S. D. (2010). *Health care and public policy: An Australian analysis* (4th ed.). South Yarra, VIC: Palgrave Macmillan.

Bulliet, R. W., Crossley, P. K., Headrick, D. R., Hirsch, S. W., Johnson, L. L., & Northrup, D. (2011). *The earth and its peoples: A global history* (5th ed.). Boston, MA: Wadsworth.

Chapter in edited book

Richards, K. C. (1997). Views on globalization. In H. L. Vivaldi (Ed.), *Australia in a global world* (pp. 29-43). North Ryde, Australia: Century.

Article or Chapter in an Edited Book

Author./ (Year of publication)./ Title of chapter./ In/ Editor/(Ed.),/ *Book Title*/(pages of chapter)./ Location:/ Publisher.

Example:

O'Neil, J. M., & Egan, J. (1992). Men's and women's gender role journeys: A metaphor for healing, transition, and transformation. In B. R. Wainrib (Ed.), *Gender issues across the life cycle* (pp. 107-123). New York, NY: Springer.

Conference and Seminar Proceedings

To cite proceedings that are published regularly, use the same format as for a journal article. To cite proceedings that are published in book form, use the same format as for an article in a book.

Example:

Tester, J. W. (2008). The future of geothermal energy as a major global energy supplier. *Proceedings of the Sir Mark Oliphant International Frontiers of Science and Technology Australian Geothermal Energy Conference*, Canberra, Australia: Geoscience Australia. Retrieved from http://www.ga.gov.au/image_cache/GA11825.pdf

Dissertation or Thesis

Author./ (Year of publication)./ *Title of dissertation or thesis* /(Doctoral dissertation or Master's thesis)./ Awarding Institution.

Example:

Norasingha, A. (2009). *Expression and distribution of mucorinic receptors in hepatic composite of the cirrhotic rat* (Master's thesis). Rangsit University, Pathum Thani.

Editorials

Author./ (Year of publication)./ Title of Editorial (editorial)./ *Journal Title*./ Volume(Issue)./ Page numbers.

Example:

Fisher, R. I. (2003). Immunotherapy in Non-Hodgkin's lymphoma: Treatment advances (editorial). *Semin Oncol*, 30(2Suppl 4), 1-2.

Journal Articles

Author./ (Year of publication)./ Article Title./ *Journal Title*./ Volume(Issue)./ Page numbers.

Example:

- Leelawat, S., Leelawat, K., Narong, S., & Matangkasombut, O. (2010). The dual effects of delta 9-tetrahydrocannabinol on cholangiocarcinoma cells: Anti-invasion activity at low concentration and apoptosis induction at high concentration. *Cancer Investigation*, 28(4), 357-363.
- Polk, A., Amsden, B., Scarrrt, D., Gonzal, A., Oknamefe, O., & Goosen, M. (1994). Oral delivery in aquaculture. *Aquacult. Eng*, 13, 311-323.
- Seals, D. R., & Tanaka, H. (2000). Manuscript peer review: A helpful checklist for students and novice referees. *Advances in Physiology Education*, 23(1), 52-58.
- Srichandum, S. & Rujiranyong, T. (2010). Production scheduling for dispatching ready mixed concrete trucks using bee colony optimization. *American J. of Engineering and Applied Sciences*, 3(1), 823-830.

Letters

Author./ (Year of publication)./ Title of Letter./ *Journal Title*./ Volume(Issue)./ Page number.

Example:

Enzensberger, W., & Fisher, P. A. (1996). Metronome in Parkinson's disease (letter). *Lancet*, 347, 1337.

Notes

Author./ (Year of publication)./ Title of Note./ *Journal Title*./ Volume(Issue)./ Page number.

Example:

Haier, R. J., Schroeder, D. H., Tang, C., Head, K., & Colom, R. (2010). Gray matter correlates of cognitive ability tests used for vocational guidance. *Biomed Central*, 3, 206.

Unpublished/In Press Articles

Author./ (In press Year)./ Article Title./ *Journal Title*./ (in press).

Example:

Veena, B. (2004). Economic pursuits and strategies of survival among Damor of Rajasthan. *J Hum Ecol*. (in press).

Internet periodicals

Author./ (Year of publication)./ Article Title./ *Journal Title*./ Volume(issue)./ page numbers./ Retrieved mm dd, year, from the full URL of the web page

Example:

Adams, P. J. (2000). Australian economic history. *Journal of Australian Economics*, 5(2), 117-132.
Retrieved June 12, 2001, from <http://jae.org/articles.html>

Internet non-periodicals

Author./ (Year of publication)./ Article Title./ Retrieved mm dd, year, from the full URL of the web page

Example:

Lemire, D. (n.d.). *Write good papers*. Retrieved July 1, 2010, from <http://www.daniel-lemire.com/blog/rules-to-write-a-good-research-paper>

Newspaper retrieved from a database

Article – with an author

Author./ (mm dd, Year) ./Article Title./*News agency*./Retrieved from the full URL of the web page

Example:

Darby, A. (August 20, 2002). Rarest tiger skin a rugged survivor. *Sydney Morning Herald*. Retrieved from <http://www.smh.com.au>

Article – without an author

Article Title./ (mm dd, Year) ./ *News agency*./Retrieved from the full URL of the web page

Example:

Rarest tiger skin a rugged survivor. (August 20, 2002). *Sydney Morning Herald*. Retrieved from <http://www.smh.com.au>



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