Factors Impacting Workers' Housing Decisions in Ho Chi Minh City

Phuong-Thao Hoang-Thi [1, 2], Shiann-Far Kung [2], Hsueh-Sheng Chang [2]

[1] Planning Department, Civil Engineering Faculty, Ton Duc Thang University, Vietnam. [2] Urban Planning Department, Planning and Design College, National Cheng kung University, Taiwan

hoangthiphuongthao@tdtu.edu.vn, P28077016@gs.ncku.edu.tw; sfkung@mail.ncku.edu.tw, changhs@mail.ncku.edu.tw
Tel:+886-908-099-514

Abstract

Housing for workers in industrial zones is always the top concern of planning in Vietnam. However, the provision of housing types has not met the practical needs of workers. It leads to unplanned or high density in existing industrial neighborhoods. The research will determine factors impacting workers' housing decisions in the Ho Chi Minh City industrial zone through in-depth interviews, exploratory factor analysis, and multiple regression methods. The research results will significantly reduce the current weaknesses in industrial neighborhoods and support the planning or adjusting of residential planning in Vietnam's industrial zones.

Keywords: Workers' housing decision; Ho Chi Minh city; Exploratory factor analysis (EFA); Multiple regression analysis.

1.0 Introduction

Industrial park planning plays a significant role in the country's socio-economic development (Stimson, Stough, & Roberts, 2013). Housing for workers is often planned on the industrial park premises or organized into an industrial neighborhood area. (Noltze, 2008). In Vietnam, planners often plan to build dormitories or apartments for workers in the industrial park to meet workers' housing needs. The surrounding residential areas are usually existing or spontaneous residential areas according to practical needs, not planned. It has many implications for socio-economic development and security in this area (Peiser, 2016). By 2020, Ho Chi Minh City will have three export processing zones (EPZs) and sixteen industrial zones (IZs); The total area is 4,532 hectares, with around 400,000 workers and 280,000 housing needs (HEPZA, 2020). Types of housing planned by the government are worker's dormitories, social housing, and cheap-price apartment (Minister, 2017). These housing building aims to meet workers' settlement needs. The state prioritized ownership of these houses for the low and middle-income class (Ahmed & Sager, 2010; Minister, 2017). In fact, in the process of realizing worker housing development, these types of housing have not met the needs of workers; instead, they often choose to rent a low-quality outside the home for a variety of reasons (Kien, 2021; L. M. Ngo, Le, Hoang Thi, Nguyen, & Lam, 2017; Seo & Kwon, 2017). According to the Vietnamese news agency, Ho Chi Minh City (HCMC) currently has many projects to build affordable housing or dormitory for workers but only meet about 15% of housing demand (Agency, 2018).

Workers' housing is currently facing some of the following problems: workers' dormitories usually have low rental prices with good living quality, but it limits the workers' social activities and entertainment, which are not linked to the workers' actual needs (Agency, 2018). This type is usually only for rent and does not give workers the feeling of permanent and stable settlement; Although being encouraged for development, affordable housing lacks supply due to investment, price, and construction locations. Supply does not meet demand, leading to unplanned residential areas, spontaneous Housing types, or increased population density in existing residential areas. These issues are also the cause of the inadequacies that directly affect citizens' quality of life (L. M. Ngo et al., 2017). Therefore, it is necessary to examine the relationships to find the factors that influence choosing the form of workers' Housing in Ho Chi Minh City.

2.0 Literature Review

The structural shift from industry to services & tourism in developed countries (Europe, America, Singapore, Japan, so on) has become a springboard for developing Asian countries (China, India, Vietnam, Malaysia, so on) have become the world's big factory with abundant human resources and cheap labor (CNUCED, 2018).

Research on suitable housing forms for workers is conducted and implemented in practices such as public rental housing (PRH), Minimum living standard assistance (MLSA), and cheap rental housing (CRH) (Morrison, 2014). Some factors affecting workers' decisions in choosing a house have been identified, such as household characteristics,

income, mobility characteristics, commerce, and education (Tao, Hui, Wong, & Chen, 2015); Employment relationships - housing, access to housing, and job opportunities (Acolin & Wachter, 2017; Li & Liu, 2016).

In Vietnam, studies on housing development policies and affordable housing models for workers are carried out to meet workers' needs in the industrialization phase. (L. Ngo, 2018; Nguyễn & Vinh, 2012; Rockwood & Tran, 2016; Thi, 2010). Research on housing patterns and policies appears insufficient to encourage worker housing development (Noltze, 2008; Thi, 2009, 2010). Therefore, in 2016, the factors impacting workers' housing models were sought by Dao Nhat Tan learned about the determinants of decision-making on social housing for workers and low-income people by using the EFA. His article identified the factors that affected social housing as location, financial, subjective norm, environment, and living space. He found that the elements of 'location'; 'subjective norm', and 'living space' influence the decision-making on social housing (Tan, 2016).

In 2018, under the rapid development of industrial zones leading to a severe housing shortage for workers, the HCMC government tried to build affordable housing for Ho Chi Minh City workers (Agency, 2018; La, Tran, & Nguyen, 2019). The houses/ rooms for rent, worker dormitories, and social housing are the popular housing type of worker housing there. However, most workers have to rent a poor living conditions room or house to live in until now. The social housing and worker dormitories are not suitable for workers' living habits in parallel with the quantity problem. It shows that the worker housing issues still have many problems that cannot adequately meet their needs (L. M. Ngo et al., 2017).

Previous studies have not shown all the factors that influence people's decisions or are outdated. Some studies have suggested suitable models of houses (L. M. Ngo et al., 2017; Seo & Kwon, 2017; Thi, 2010). Understanding the factors influencing workers' decisions is essential in choosing suitable housing to develop. The migrant workers tend to carry and permanently settle in HCMC (Siu & Unger, 2020). Therefore, the research on housing demand and the factors which affect workers' decisions is essential to orient future residential planning development. It may become a foundation for reasonable project development or residential planning adjustment in industrial zones.

3.0 Methodology

The factors affecting the workers' decisions were identified by aggregating the influent factors via previous literature review and depth-interview the local workers in HCMC. This step aimed to comprehensively identify all the factors affecting the workers' decisions through the succession of previous research and discovering new local specific factors.

The reliability assessment, Exploratory Factors Analysis (EFA), and Multiple linear regression are the primary methods used in this paper (Aiken, West, Pitts, Baraldi, & Wurpts, 2012; Fabrigar & Wegener, 2011). The reliability of a data set was determined by the reliability assessment method. The EFA is to clarify the relationships of the variables. This method aimed to visualize the influence of the factors on the workers' decisions. Finally, multiple linear regression examines linear relationships between explanatory

(independent) and response (dependent) variables. Thus, the results show the degree of influence of the identified factors.

By closely coordinating the above methods, the study articulated the objectives of the research.

3.1 Study area

Ho Chi Minh City has been the economic center in Vietnam with the rapid development of export processing zones and industrial parks. Industrial parks are usually located in Ho Chi Minh City's suburbs, as shown in figure 1 (HEPZA, 2020). This study collected data from employees who work in industrial zones in Ho Chi Minh City.

Figure 1. Industrial Park location in Ho Chi Minh city by the year 2020.
(Source: HEPZA, 2020)

3.2 Data collection

To collect the factors impacting workers' Housing decisions, the research team initially used an in-depth interview method for the workers in industrial zones in Ho Chi Minh City. The process occurs in three major industrial zones in Ho Chi Minh City, including the Linh Trung Export Processing Zone, Tan Thuan Export Processing Zone, and Hiep Phuc Industrial Park. The above industrial parks are multi-industry industrial zones; workers come from various places. This group of workers has a diverse psychological, social, cultural, and lifestyle—very representative of the working class of Ho Chi Minh City, suitable for finding new factors.

After synthesizing the factors affecting the decisions to choose workers' housing, an integrated questionnaire was developed and sent to the workers. There are about 400,000 workers in HCMC. A minimum of 202 respondents is required. The sample collected was 216 (Comrey & Lee, 2013; Slovin, 1960; Tabachnick, Fidell, & Ullman, 2007). The number

18

of testing samples is 25. The random method was applied to collect the samples. The research team conducted data collection from workers in HCMC in September 2020.

3.3 Measurement of variables

In this study, there are both dependent and independent variables. The dependent variable is housing types, including worker dormitories, social housing, and apartment (according to the needs and development orientation of housing for workers of the Vietnamese government at present). The dependent variables are measured by the 5-point Likert scale (1- "completely not suitable"; 2- "less suitable"; 3- "normal"; 4- "quite suitable"; and 5- "completely suitable").

All the factors influencing workers' choice decisions were collected and divided into three main groups for the observational variables. They are family characteristics, ambient characteristics, and neighborhood facilities. The questionnaire provided the question related to all factors and be measured on a 5-point Likert scale as well (1- "unnecessary"; 2- "less necessary"; 3- "normal"; 4- "quite necessary"; and 5- "absolutely necessary").

4.0 Findings and discussions

4.1 Personal information of respondents

The respondents' personal information is collected gender, age, education level, marital status, working position, average income, and the number of family members (Table 1). This personal information is intended to provide an overview of workers' ratios, composition, characteristics, and financial status in Ho Chi Minh City's industrial zones. It will become the foundation for better developing or adapting future housing development policies to suit workers' needs.

Collected data is shown there is a relatively balanced gender ratio between males and females. The working-age is 25-50, accounting for 75.92% of respondents.

Most workers have graduated college or got bachelor's degrees (67.59%). Only 9.26% of responders is highly trained experts (Master's degree or higher). Their income is oscillatory from 5-20 million VND/month. Because they usually live with their families and need to pay for dependents' expenses (children, other members-only do housework), higher-quality housing savings will not be much. Workers usually stay with their families. In this study, 55.56% of workers' families have from 2-4 people and accounted for 27.31% of more than four members in their family. As the research by Kaxton Siu and Jonathan Unger in 2019, compared to workers in China and Vietnam, Vietnamese workers in Ho Chi Minh City are primarily intact and tend to settle there permanently (Siu & Unger, 2020). Therefore, workers' housing planning and authorities' policies are essential to building a better living environment. They should consider multi-perspective aspects such as urban life, their wages, living standards, and most importantly, the education of their children and so on.

Table 1: Personal information of responders

Characteristics	Number of responders	Percentage (%)	Characteristics	Number of responders	Percentage (%)
Gender			Working position		
Male	101	46.76	*Factory workers*	112	51.85
Female	115	53.24	*Staffs*	68	31.48
Age			*Managers*	26	12.04
18-24	36	16.67	*Senior specialist*	10	4.63
25-34	106	49.07	The average income per month		
35-50	58	26.85	*<5 million VND*	19	8.80
upper 51	16	7.41	*5-10 million VND*	100	46.30
Education level			*10-20 million VND*	73	33.80
Junior high school	11	5.09	*>20 million VND*	24	11.11
Senior high school	39	18.06	Number of family members		
College	42	19.44	*1 person*	37	17.13
Bachelor's degree	104	48.15	*2-4 person*	120	55.56
Master's degree or higher	20	9.26	*>4 person*	59	27.31
Marital status			Total	216	100
Single	94	43.52			
Married	113	52.31			
Others	9	4.17			

This data shows that housing projects should pay attention to working-age groups, single and married, with different needs. Besides, income difference also affects the decisions of workers to choose Housing types. Ho Chi Minh City workers settle permanently and organize their families with 2-4 people. It directly affects living patterns, the surrounding environment, and the daily needs of workers and their family members.

4.2 Reliability assessment

The synthesis of impact factors from previous research and discovery of new local factors via in-depth interviews with workers in HCMC were conducted. Factors are divided into two groups: independent and dependent variables (figure 2)
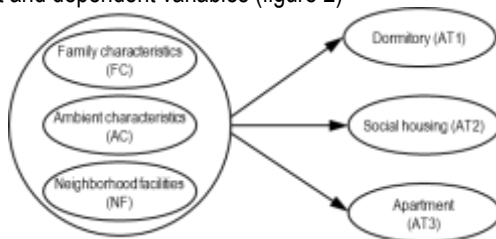

Figure 2. The proposed hypothesis of the research

The Reliability assessment results are listed in Table 2.

Table 2: Reliability assessments of the factors

Type of variable	Variables	Items	Cronbach's alpha
Dependent variable	Housing types (AT)	Worker dormitory (AT1) Social housing (AT2) Apartment (AT3)	0.656
Independent variables	Family characteristics (FC)	Income (FC1) Number of members living with (FC2) Job opportunities (FC3)	0.606
	Ambient characteristics (AC)	Near parks and public exercise facilities (AC1) Near kindergarten and schools (AC2) Near hospitals/clinics (AC3) Near market/convenient store (AC4) Near entertainment center (AC5) Near public transportation (AC6) Distance from house to work (AC7)	0.796
	Neighborhood facilities (NF)	Near local police/security stations (NF1) The house has a safety fence (NF2) Street light (NF3) CCTV (NF4) Residential Discipline (NF5) Sanitation service (NF6)	0.780

The collected data after cleaning (Sehgal & Bhargava, 2018), the research group evaluated the reliability assessments by SPSS through the index of Cronbach's Alpha (Hair, Anderson, Babin, & Black, 2010). Table 2 shows the detail of the reliability assessment value. All of the variables have values between 0.606 and 0.796. The environment variable has the highest score of Cronbach's alpha (0.796), followed by the neighborhood facility (0.780) and housing types (0.656). Though the family characteristics obtained the lowest Cronbach's alpha value (0.606), this variable still meets the acceptable score of reliability analysis assessment (upper than 0.60 is considered to be achieved reliability) (DeVellis, 2016; Hair et al., 2010). The above Cronbach's Alpha indicators make it possible to conclude the data set with sufficient reliability.

4.3 Factors analysis

The independent variable was physically divided into three main groups included: Family characteristics (FC), Ambient characteristics (AC), and Neighbourhood facilities (NF). Based on the characteristics of each variable, the initial groups of independent variables are grouped. Evaluating these groups' exploratory factor analysis (EFA) shows a systematic inter-dependence and finds the latent commonality factors.

After running the EFA, there is no new factor separation with FC and NF's variable group. However, the AC group (with seven variables) was divided into two new groups of factors. (See table 3). Factor 1 was named "distance elements (DE), which included AC5,

AC6, and AC1; Factor 2 was named "Service elements" (SE), which included AC2, AC3, and AC4.

Most of the variables are grouped appropriately and have a certain degree of influence on workers' decisions. Remarkably, the group' Ambient characteristics - AC' was extracted into two groups of factors. The variable AC7 - 'distance from work to home' did not influence workers' decisions in this survey.

Table 3: Exploratory factor analysis of elements' impact on workers' decisions

Code	Items	Factor 1 Distance elements(DE)	Factor 2 Service elements (SE)
AC5	Near entertainment center	0.850	
AC6	Near public transportation	0.831	
AC1	Near parks and public exercise facilities	0.606	
AC7	Distance from work to home	0.500	
AC2	Near kindergarten and schools		0.842
AC3	Near hospitals/clinics		0.750
AC4	Near market/convenient store		0.631
Number of items		4	3
Cronbach's Alpha		0.802	0.597
Extraction, Rotation		Principal Components	Varimax
KMO and Barlett's Test, Sig.		0.816	0
Eigenvalue		3.190	1.000
Explained Variation (%)		30.973	28.876
Total Explained Variation (%)		30.973	59.850

Instead, the relative location of the entertainment center (AC5) and public transportation (AC6) plays a significant role. The AC7 has unpredictable results. This element strengthens the changing trend of choosing a living place. Therein, distance is not a crucial element anymore. Why is 'distance' no longer an important factor in choosing a suitable place to live? This result is fundamental for a further study about the role of 'distance from work to home'.

4.4 Multiple linear regression
In this step, the relationship of each independent variable (AT1, AT2, AT3) with newly defined dependent factors (FC, DE, SE, NF) was evaluated by the multilinear regression method.

4.4.1 The impact of the dependent factors on workers' decision in choosing "Dormitory" (AT1)
The evaluation of the relationship between selecting the dormitory of workers (AT1) and all dependent factors is shown in Table 4.

The regression analysis result showed that there is a relationship between workers' decisions on dormitory selection (AT1) with family characteristics (FC) and neighborhood facilities (NF). The FC had Standardized coefficients Beta = 0.234, the most significant

impact with AT1, followed by NF (Standardized coefficients Beta = 0.169). Both elements reach medium effect sizes.

Employees who choose to live in a worker's dormitory are strongly influenced by family characteristics (FC) such as Income (FC1), the number of members living with (FC2), and Job opportunities for family members (FC3). These factors directly affect the limit of daily living expenses, quality of life, and family responsibilities, affecting workers' decisions to choose better housing.

Table 4: The impact of the factors on workers' decision in choosing the type of "Dormitory "
(AT1)

Independent variable	Standardized coefficients Beta	t-Value	Sig.
Family characteristics (FC)	0.234	3.357	0.001
Neighborhood facilities (NF)	0.169	2.419	0.016
Adjusted R square= 0.105		p-value=0.016	

Note: Dependent variable: Worker dormitory (AT1)

For the option of "Dormitory," workers often ignore health and education elements. They spend most of their time working (no-cook, less entertainment, so on). Meanwhile, the conditions of necessary equipment for daily life, safety, and living environment sanitation still meet the needs. They need to save money to pay for personal needs, seek better opportunities, and care for other economic dependencies family members (such as grandparents, parents, younger brothers, or sisters). This housing type can be suitable for single workers and young workers of current income (see table 1).

4.4.2 The impact of the dependent factors on workers' decision in choosing "Social housing" (AT2)

Similarly, the implementation of the determinants of social housing (AT2) is shown in table 5. Currently, SE is the only group with a moderately high correlation (Standardized coefficients Beta = 0.362).

Table 5: The impact of the factors on workers' decision in choosing the type of "Social housing" (AT2)

Independent variable	Standardized coefficients Beta	t-Value	Sig.
Service elements (SE)	0.362	5.970	0
Adjusted R square= 0.127		p-value=0.000	

Note: Dependent variable: Social housing (AT2)

Social housing usually has a low price in a small areas. Workers who choose this type are often impacted by the factors related to children's issues and daily living activities (education, health care, and serving meals every day). Due to the limited income, workers who choose this type of housing often transcend family characteristics to meet children's basic needs. However, because of the income limitation, the impact of entertainment, services and facilities, and environmental security are also reduced. A group of married usually chooses this type of housing, plans to have children or have children.

4.4.3 The impact of the dependent factors on workers' decision in choosing "Apartment" (AT3)

The NF and SE are two factors that impact choosing an 'Apartment' (AT3) (NF had the most substantial impact with standardized coefficients Beta = 0.255, and SE has Standardized coefficients Beta = 0.225). The data showed that choosing an "Apartment" is most concerned with the quality of service, safety, and sanitary conditions of the surrounding environment.

Those workers may belong to the middle-income class. The income source can come from many family members, requiring higher living space and quality of life in the residential area. They are also a group of married workers with children.

Table 6: The impact of the factors on workers' decision in choosing the type of "Apartment" (AT3)

Independent variable	Standardized coefficients Beta	t-Value	Sig.
Neighborhood facilities (NF)	0.255	3.446	0.001
Service elements (SE)	0.225	3.034	0.003
Adjusted R square= 0.170		p-value=0.003	

Note: Dependent variable: Apartment (AT3)

4.4.4 Integrated assessment of the effects of dependent factors on workers' decisions

The DE has not shown any impact on four groups of factors influencing workers' decisions to choose housing (see table 7).

Table 7: The summary of the impact factors on accommodation types Independent variable

Independent variable	Dormitory (AT1)	Social housing (AT2)	Apartment (AT3)
Family characteristics (FC)	0.234***	-	-
Distance elements (DE)	-	-	-
Service elements (SE)	-	0.362***	0.225**
Neighborhood facilities (NF)	0.169*	-	0.255***
Adjusted R square	0.105	0.127	0.170
Significant	0.016	0.000	0.003

Note: *: $p \leq 0.05$; **: $p \leq 0.01$; ***: $p \leq 0.001$.

The research results show that the service elements play the most crucial indicator in nominating social housing and apartments (0.362 and 0.225). Thus, the service element should be focused on during the planning process. Some of the primary services considered are schools/kindergartens, markets/ convenience stores, and hospitals/clinics.

In the case of apartment designation, neighborhood facilities are the most critical issue in making the decision (0.255). Users expected to have a safer living space. The desire demonstrates the existence of police/security stations, street lights, CCTV, and housing fences. Besides, a good sanitation service is taken into consideration element.

The dormitory is influenced by the elements of family characteristics and neighborhood

facilities. Family characteristics have a higher impact than neighborhood facilities (0.234 versus 0.169).

Distance to work, public transport stations, and entertainment services nonsignificant influence workers' decisions. Again, the data confirm the impact of widespread use of workers' vehicles (scooters) (Gillen, 2016). In recent years, the development of public transport systems and transportation infrastructure in HCMC may play a significant role in this issue (Le & Trinh, 2016).

5.0 Conclusion & Recommendations
Via this research, each type of housing is suitable for diverse groups of workers. The worker's dormitory is suitable for single workers. They often choose the dorm for savings and money reasons affected by income factors and family responsibilities.

Social housing and apartments are suitable for groups of workers who have their own families (married status) with limited disposable income. They have higher requirements for the surrounding environment, health care, and shopping need, especially education to serve daily life.

As married workers who have a better income (middle-class), they may choose an apartment for a higher quality of life. The additional requirements for the neighborhood facilities and security of the area are necessary.

Thereby, various recommendations were proposed. Firstly, it is necessary to determine local workers' characteristics to adjust and rationally allocate suitable housing for each group.

Secondly, it is necessary to adjust the number of housing types to meet workers' demand and have a reasonable phasing plan to address the current severe shortage. Provide all three types of housing simultaneously to meet the needs of all objects. From there, workers have a choice that suits their conditions. Supply should be proportional to workers' real needs by category instead of all workers' needs.

Thirdly, there should be reasonable policies to develop affordable housing for workers in compliance with their requirements and conditions. Strict supervision and management, ensuring workers have a chance to buy the right house.

Finally, it is necessary to consider social environment factors instead of indoor structure design. However, these factors can also change over time (economic development status, culture, information technology, society). As an example, in this case, distance from home to work is not a significant factor that directly influences workers' decisions. Instead, the surrounding daily life service and entertainment become more and more decisive. Therefore, the new factors should be examined and assessed to have the proper housing development orientations.

6.0 Limitation of the study

The questionnaire was sent to workers via social network sharing during Vietnam's Covid-19 social distance. Therefore, the control of accessibility and allocation of respondents faces many obstacles. It leads to an incomplete data set that does not reflect all the realities of workers' preferences. Besides, the respondents are workers in industrial zones. Therefore, the research results are related to industrial zone worker housing development. It is necessary to consider a broader application to a more diverse target group.

7.0 Paper contribution to the related field of study

Research shows each type of housing's characteristics more clearly relative to the diverse groups of workers. As a result, the authorities may consider developing housing appropriately according to each locality's characteristics in the future.

Besides, worker housing that has been overlooked or delayed is also emphasized in this study. Thence, the study pointed out the urgent need for this type of housing. It also affects the real estate market in Ho Chi Minh City shortly.

Also, consideration of human social needs is essential. Therefore, it is necessary to clarify that improving the residential planning process with in-depth evaluations and improving the planning process is necessary. It will limit unwanted shortcomings in the implementation of future projects.

Acknowledgment

References

Acolin, A., & Wachter, S. (2017). Opportunity and housing access. *Cityscape, 19*(1), 135-150.

Agency, V. N. (2018). TPHCM xây 50.000 nhà ở xã hội, chỗ lưu trú cho công nhân. Retrieved from http://tphcm.chinhphu.vn/tphcm-xay-50-000-nha-o-xa-hoi-cho-luu-tru-cho-cong-nhan

Ahmed, I., & Sager, J. (2010). Sustainable low-income urban housing in Vietnam: Context and Strategies. *open house international*.

Aiken, L. S., West, S. G., Pitts, S. C., Baraldi, A. N., & Wurpts, I. C. (2012). Multiple linear regression. *Handbook of Psychology, Second Edition, 2*.

CNUCED. (2018). *World investment report 2018: Investment and new industrial policies*: UN.

Comrey, A. L., & Lee, H. B. (2013). *A first course in factor analysis*: Psychology press.

DeVellis, R. F. (2016). *Scale development: Theory and applications* (Vol. 26): Sage publications.

Fabrigar, L. R., & Wegener, D. T. (2011). *Exploratory factor analysis*: Oxford University Press.

Gillen, J. (2016). Streets of fire: motorbike mobilities in V ietnam. *Area, 48*(1), 64-69.

Hair, J. F., Anderson, R. E., Babin, B. J., & Black, W. C. (2010). Multivariate data analysis: A global perspective (Vol. 7). In: Upper Saddle River, NJ: Pearson.

HEPZA, H. C. M. C. E. P. Z. A. (2020). Table of land lease price for reference in HCMC's export processing & industrial zones. Retrieved from http://www.hepza.hochiminhcity.gov.vn/web/hepza-eng/kcn_kcx-tphcm/bang-gia-dat

Kien, P. T. (2021). LIFE OF WORKERS AT INDUSTRIAL PARKS AND EXPORT PROCESSING ZONES IN VIETNAM–CURRENT SITUATION AND SOLUTIONS. *European Journal of Social Sciences Studies, 6*(1).

La, H. A., Tran, T. B., & Nguyen, U. (2019). Housing Gaps Between Rural–Urban Migrants and Local Urban Residents: The Case of Vietnam. In *Rural-Urban Migration in Vietnam* (pp. 211-243): Springer.

Le, T. P. L., & Trinh, T. A. (2016). Encouraging public transport use to reduce traffic congestion and air pollutant: a case study of Ho Chi Minh City, Vietnam. *Procedia engineering, 142*, 236-243.

Li, S.-m., & Liu, Y. (2016). The jobs-housing relationship and commuting in Guangzhou, China: Hukou and dual structure. *Journal of Transport Geography, 54*, 286-294.

Minister, T. P. (2017). *Directive No. 03 / CT - TTg dated January 25, 2017*. Vietnam Government Portal: Vietnam Government Office

Morrison, N. (2014). Building talented worker housing in Shenzhen, China, to sustain place competitiveness. *Urban Studies, 51*(8), 1539-1558.

Ngo, L. (2018). Social housing for workers–A new housing model for Ho Chi Minh City, Vietnam. *E&ES, 143*(1), 012060.

Ngo, L. M., Le, T. H., Hoang Thi, P. T., Nguyen, D. N., & Lam, Q. T. (2017). *Spatial Organization of Social Housing in Ho Chi Minh City: Building a model in view of the users*. Ho Chi Minh City: Ho Chi Minh City Department of Science and Technology

Nguyễn, T., & Vinh, N. (2012). Gợi ý chính sách cho việc phát triển nhà ở công nhân.

Noltze, M. (2008). Backyard Living-Intergrative Policies Towards Migrant Workers: Housing Microfinance in Greater Ho Chi Minh City, Vietnam. *Austrian Journal of South-East Asian Studies, 1*(2), 19-33.

Peiser, R. B. (2016). From spontaneous to planned urban development and quality of life: the case of Ho chi minh city. *Applied Research in Quality of Life, 11*(4), 1357-1377.

Rockwood, D., & Tran, D. Q. (2016). Urban immigrant worker housing research and design for Da Nang, Viet Nam. *Sustainable Cities and Society, 26*, 108-118.

Sehgal, M., & Bhargava, D. (2018). Knowledge mining: An approach using comparison of data cleansing tools. *Journal of Information and Optimization Sciences, 39*(1), 337-343.

Seo, D., & Kwon, Y. (2017). In-migration and housing choice in Ho Chi Minh City: Toward sustainable housing development in Vietnam. *Sustainability, 9*(10), 1738.

Siu, K., & Unger, J. (2020). Work and Family Life among Migrant Factory Workers in China and Vietnam. *Journal of Contemporary Asia, 50*(3), 341-360.

Slovin, E. (1960). Slovin's formula for sampling technique. *Retrieved on February, 13*, 2013.

Stimson, R. J., Stough, R. R., & Roberts, B. H. (2013). *Regional Economic Development: Analysis and Planning Strategy*: Springer Science & Business Media.

Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2007). *Using multivariate statistics* (Vol. 5): Pearson Boston, MA.

Tan, D. N. (2016). *Factors affecting the preferences of social housing: Evidence from Ho Chi Minh city.*

Tao, L., Hui, E. C., Wong, F. K., & Chen, T. (2015). Housing choices of migrant workers in China: Beyond the Hukou perspective. *Habitat International, 49*, 474-483.

Thi, N. Đ. (2009). Một số cơ sở khoa học của việc thiết kế nhà ở cho công nhân có thu nhập thấp tại các khu công nghiệp. *Tạp chí Khoa học Công nghệ Xây dựng (KHCNXD)-ĐHXDHN, 3*(1).

Thi, N. Đ. (2010). Giải pháp thiết kế nhà ở công nhân các khu công nghiệp tập trung. *Tạp chí Khoa học Công nghệ Xây dựng (KHCNXD)-ĐHXDHN, 4*(2).