

**ACCESSIBILITY FOR WORKING WOMEN
IN AN URBAN ENVIRONMENT:
CASE STUDY OF
THE KOMTAR MIXED-USE DEVELOPMENT AREA
IN PENANG**

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2006

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by

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Thesis submitted in fulfillment of the requirements for the degree of

Master of Science

April 2006

ACKNOWLEDGEMENTS

I could not have completed this dissertation without excellent suggestions and help. I would like to convey million thankful to all the people who had contributed their help and support in this dissertation.

Firstly, I would like to thank my parents for giving me life in the first place, for educating me, for unconditional support and encouragement to pursue my dreams. Besides, I would like to thank my grandparents, sisters and brother, for willing to listen to my complaints and frustration.

I would like to thank my supervisor, Assoc. Prof. Dr. Mohamed Amiruddin Fawzi Bahaudin for a large number of excellent suggestions during a meticulous and tireless shepherding process. At the first stage of research, I encountered a lot of difficulties in doing this topic as it is a new approach in the planning context. However, thanks to Dr. Amir for reminding me that my research should always be useful, serve good purposes and open a brand new approach in town planning field. He taught me how to ask questions and express my ideas. He showed me different ways to approach a research problem and the need to be persistent to accomplish any goal. On top of that, he taught me how to have confidence in myself when I doubted myself, and brought out the good ideas in me. Thanks, Dr. Amir!

Besides, I feel very grateful to my second reader, Dr. Nurwati Badarulzaman who was always there to listen and to give advice. She taught me how to make the research

findings more reliable by reducing the bias when I confronted uncertainties in the early stage of choosing sampling method. Thanks, Dr. Nurwati!

Besides my supervisor (Assoc. Prof. Dr. Mohamed Amiruddin Fawzi Bahaudin) and my second reader (Dr. Nurwati Badarulzaman), I feel very grateful to all my friends including my coursemates who were willing to share their experience of the dissertation writing endeavor with me. They gave me their useful advice, guidance and encouragements when I was facing problems during the process of doing the dissertation.

Last but not least, I would like to express my sincerest gratitude to all my lecturers who have always guided me until the completion of the dissertation.

ABSTRACT

This dissertation is a study in exploring accessibility for working women in an urban environment by way at a case study of the Komtar Mixed-use Development Area in Penang. The research aims are to highlight the access problems of working women in a town environment and to justify how mixed-use development can help in increasing their accessibility. In order to achieve these aims, objectives are formulated. The objectives are to explore the access problems of working women in urban environment and to justify the relationship between mixed-use development and accessibility. This will continue with the discussions of integrating women-friendly perspectives in the mixed-use development through recommendations. Besides, this research would like to examine the validity of the hypothesis (mixed-use development helps to increase working women's accessibility to services) in the final part.

In order to achieve the aims and objectives, a combination of observation method, interview method, and questionnaire was used in collecting the primary data, while the secondary data was collected through published books, articles from magazine and electronic journal. In a nutshell, the barriers that they confront are mainly due to their accessibility patterns which differ substantially from those of men. In the last part of the findings, the results show that the mixed-use development in the study area is able to help in increasing their accessibility to services by providing a mix of uses. However, the condition of mixed-used development in the study area can be improved with a well-planned and better organised planning. A good pedestrian orientation and connectivity would be one of the aspects that is in line with the definitions and concepts of mixed-use development. A well-planned mixed-use development is friendly to working women and this will help to increase their accessibility to activities in an urban environment.

ABSTRAK

Disertasi ini merupakan satu kajian tinjauan ke atas aksesibiliti wanita bekerja dalam bandar di Pulau Pinang dengan menggunakan kawasan pembangunan bercampur sekitar Komtar. Tujuan disertasi ini adalah untuk membangkitkan masalah kesulitan aksesibiliti wanita bekerja dalam pergerakan bandar dan untuk menerangkan peranan pembangunan bercampur dalam membantu meningkatkan aksesibiliti mereka dalam bandar. Untuk mencapai tujuan ini, beberapa objektif telah dibentuk. Objektif kajian ini adalah untuk meninjau kesulitan aksesibiliti wanita bekerja dalam bandar dan menerangkan perhubungan antara pembangunan bercampur dengan peningkatan aksesibiliti wanita bekerja. Selepas itu, cadangan telah dibentuk berhubung dengan pembangunan bercampur. Selain itu, hipotesis kajian menekankan bahawa pembangunan bercampur membantu meningkatkan aksesibiliti wanita dalam bandar telah diuji dalam bahagian yang terakhir.

Untuk mencapai objektif ini, data primer telah dikumpulkan melalui kaedah pemerhatian, temubual dan soal-selidik. Manakala data sekunder telah dikumpulkan melalui bahan-bahan bercetak seperti buku, artikel majalah dan jurnal elektronik. Secara kesimpulannya, masalah atau kesulitan aksesibiliti wanita bekerja adalah berpunca daripada corak perjalanan dan aksesibiliti yang berbeza daripada lelaki memandangkan peranan yang dimainkan dalam kehidupan seharian yang berbeza. Keputusan kajian telah menunjukkan bahawa pembangunan bercampur yang sedia ada di kawasan kajian dapat membantu dalam meningkatkan aksesibiliti wanita bekerja dengan menyediakan pelbagai corak penggunaan tanah. Akan tetapi, pembangunan bercampur di kawasan kajian ini didapati dapat diperkembangkan dengan lebih tersusun lagi dengan penerapan kewujudan rangkaian pejalan kaki yang

berkesinambungan. Cadangan ini dapat membantu meningkatkan lagi aksesibiliti wanita bekerja dalam persekitaran bandar.

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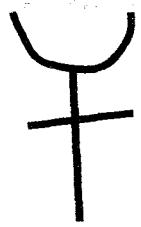
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INTRODUCTION

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Urban areas are primarily environments for living and belong to the women and men who live in them. The design of urban infrastructure and activities must permit both women and men. Long confined to domestic activities, women have gradually moved into the public arena. The urban setting must adapt to this cultural and social change, and cities must now deal with the realities of women. However, women are often discussed as a minority. It is not because of their numbers (women live longer and outnumber men), but because of their historically been gendered space whereby men tend to spend considerable time in our urban space. On top of that, women have utilized and conceptualized urban space differently than men (Kristine B. Miranne and Alma H. Young, 2000). A spate of studies showed that one of the ailing urban spaces is town.

Nowadays, the pattern of women's daily lives is changing towards a combination of paid employment with caring and domestic responsibilities. They need to access to workplaces, to go to and from school or day care, to go for grocery shopping, to go to the bank, to take clothes to the dry cleaner, and to do many other errands. In bigger households, the constraints are even more complex. However, planners' lack of awareness of women's needs is one of the main reasons of insensitive design that women had to encounter everyday particular in terms of the ease of reaching many other activities or destinations (Clara H. Greed, 1994). On top of that, Bowlby (1989) also found that our urban design often fails to accommodate their complex lifestyles. According to Bowlby, women are facing inconveniences in urban areas because they

travel to town more frequently than men since they are mainly responsible for household tasks, such as food and clothes shopping (Bowlby, 1989). To solve these constraints, policy makers suggest that land use planning can be one of the solutions.

Many women lead busy lives, especially working women, juggling a number of different roles in a tight timetable, and it is therefore important that planning should promote a range of everyday uses at their surroundings areas, especially in a town. This will help ease working women who are with small children or carrying shopping as they can reach these destinations quickly and easily by walking, or perhaps cycling and using public transport. By encouraging mixed-use development through the planning system, it can enable people to cover several tasks in one trip. This helps working women to manage their time effectively. Besides, mixed-use development can help to promote a safe and attractive environment which reduces women's fear of crime by ensuring activity with the greater presence of people throughout the day and evening.

Thus, this research will use the Komtar mixed-use development area as the case study area. The research will first review the access problems and inconveniences of working women to town services, followed by exploring the mixed-use development in planning system. This research will then explore the relationship between mixed-use development and accessibility, followed by recommendations in running a town as if women mattered in terms of a well-planned mixed-use. Shaping urban environment that serves women better can help create an environment that works better for everyone in society.

1.2 PROBLEM STATEMENT

One of the biggest problems is that working women are more likely to be the ones responsible for childcare, shopping, and a range of other caring roles, all of which generate different usage of urban space. They are facing inconveniences in town because of their different roles and responsibilities from men in our daily lives. Today, in many households, women are not only responsible in formal employment. Moreover, women still bear the homemaking and caring duties. Thus, this indicates that many working women lead hectic lives, as they need to run different roles in a tight timetable, and it is therefore planning should promote a mix of everyday uses at their surroundings areas, especially in a town, where they tend to spend considerable time in and around nowadays. This can help to achieve high accessibility of many other activities or destinations. However, people especially planners do not understand 'the problem', are not familiar with what it is all about and the planners are unclear about 'what difference it would make'.

Therefore this research comprise of reference resource addressing this issue. In this research, a case study has been carried out in the Komtar mixed-use development area in Penang where working women are predominantly found.

1.3 RESEARCH AIMS

The research aims are:-

- To highlight the access problems of working women in a town environment
- To justify the relationship between mixed-use development and accessibility

1.4 RESEARCH OBJECTIVES

The research objectives are:-

- To explore the access problems of working women in urban environment
- To explore the mixed-use development in planning system
- To justify how mixed-use development accommodates working women needs in access to town services
- Integrating women-friendly perspectives in the mixed-use development through recommendations

1.5 RESEARCH QUESTION

The research question is: - How mixed-use development can help increase working women's accessibility to town services? And the hypothesis of this research is 'mixed-use development helps to increase working women's accessibility to services'.

1.6 SCOPE OF RESEARCH

This research concentrates on three aspects. The first aspect is to understand the access problems and inconveniences of working women in town. This can be done through literature review, observation, and preliminary interview and exploratory. The second aspect is to understand the definition and scenario of mixed-use development in planning system. This will be done through secondary data and a structural interview with planners from Jabatan Perancang Bandar dan Desa Pulau Pinang. The third aspect is to explore the research question on how mixed-used development can help increase working women's accessibility to services. And this will be done through the

questionnaire method towards a small population of working women in the case study area¹.

1.7 RESEARCH SIGNIFICANCE

It is often wondered why it is considered so important to focus on the gender issue especially on working women. It is because not only of their population is increasing but also their changing of status and roles. Besides, they are the people who utilize town more often than men because of their responsibility for household tasks. And yet, the urban design and planning often fails either to accommodate their needs, or to support this more complex life-style. Apart from that, new radical democratic critiques of planning have emerged from feminist commentators. As the result, women who are entering a male world play an important role in shaping future urban environment.

Thus, this research is significant in contributing to our understanding of the barriers against women's accessibility to town services and how to overcome these barriers in terms of mixed-use development. Integrating gender awareness into the planning process is a sign of innovation and modern approach to planning. Taking gender into account results in better plans, and thus better planning for everyone, men and importantly women, who comprise the majority of the 'planned'.

1.8 LIMITATION OF RESEARCH

The population is limited to the selected samples (working women aged 15-64 years old) in a selected study area and not covered the entire towns in Penang Island. The perspectives of other working women who are not using services in the selected area are not taken into account in this research. However, the approach to overcome the

¹ The Komtar mixed-use development area in Penang Island.

limitation for this research is to select different places for doing the field work in order to capture a widespread view from different status of working women and reducing the bias that may occur in this research.



RESEARCH
METHODOLOGY

CHAPTER 2

RESEARCH METHODOLOGY

2.1 INTRODUCTION

Research in common sense of the term refers to a search for knowledge (C.M. Chaudhary, 1991). Research is a part and parcel of human knowledge. It is a matter of raising a question or problem and then trying to find its solution or answer. Research is a careful and systematic process in generating information to seek for the answers or recommendations of probable solution for the problems of interest. A systematically and thoroughly research needs a comprehensive research process which involves a sequence of steps, starting from the selection of a suitable topic until the publication of the results. In this research, the research process is shown as below:

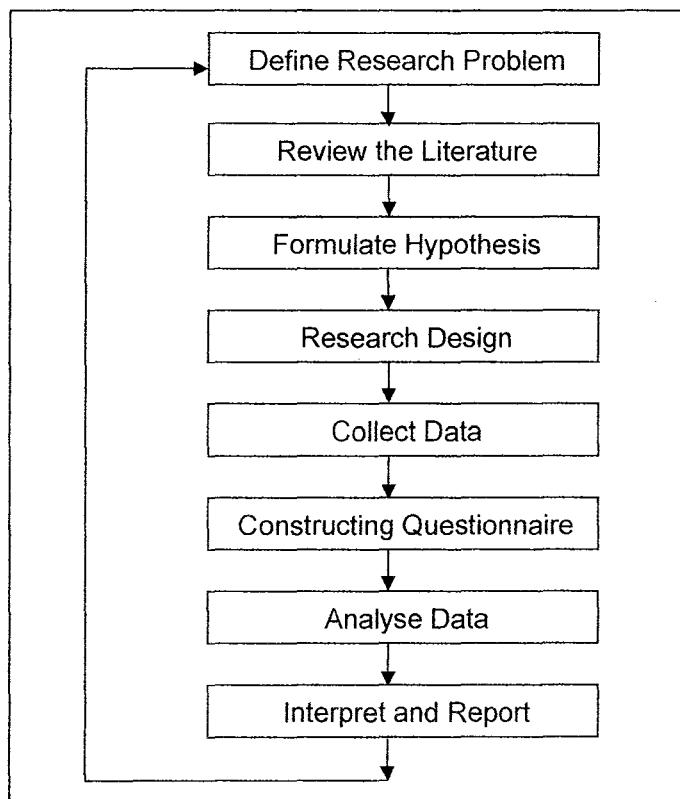


Figure 2.1 The research process

2.2 DEFINE RESEARCH PROBLEM

Identification of a research problem opens up new questions and possibilities. It is an opportunity to test new ideas or interpret old problems from a fresh perspective. According to Popper 1975, directing attention to problems forces the research to formulate it carefully long before tentative solution appears. Therefore, it is important to choose a topic which the researcher is really interested.

The researcher's personal interest in woman and urban environment provides a starting point in identification of the research topic. Besides considering personal interest, the research topic should also be of interest to the academic value in terms of its theoretical or practical significance. In the beginning of the dissertation, the idea of this research was generated by an article and was supported by an experienced lecturer in the school. An exploratory review has been done in order to narrow down a broad research topic into a manageable context. The researcher has done references by browsing the relevant website via internet and printed sources such as published magazines, journals and books which are related to the topic.

In the early stage of this research, the researcher tried to figure out the differences between men and women in experiencing the urban environment. For this purpose, a preliminary exploratory interview and observation has been done among women and men in a town. As a result, this research found that women 'experience' the built environment differently from men, especially in their accessibility to town services. The reason includes the fact that women's workforce participation has risen to an all-time high nowadays, and most of them still continue to maintain primary responsibility for childcare, the household and other unpaid work. Women's lives have become more complicated compared to men—in part due to economic pressures and land use

patterns such as urban sprawl which has moved homes, schools and jobs further and further away from each other.

Before fixing the research topic and focus, the researcher was undecided as to how to approach this research due to the lack of confidence and experience. The school's supervisor guided the researcher by giving his opinion about the topic. The idea had attracted the researcher's attention to continue to find the relevant information on the topic since it is a new issue in town planning. The idea of interest was to find out what the access barriers of women are and how mixed-use development helps to ease the problems. This research will first explore the definitions, concepts, components and indicators of mixed-use development in planning system. This research will then explore the barriers and difficulties of working women while accessing to town services. Lastly, this research will examine the hypothesis of 'mixed-use development helps to increase working women's accessibility to services.'

The collection of information during the early stage was used to form the objectives and scopes of the research. After confirming the research direction, the dissertation proposal was prepared in order to gain approval from school lecturer. The background, aims, objectives, and methodology of the research were clearly stated in the proposal.

2.3 RESEARCH DESIGN

Once the research problem has been formulated in clear cut terms, the researcher has to prepare a research design. Willie Tan (2001) says that research design may be defined as the plan for getting from the research question to the conclusion. Campbell, John P., Richard I. Daft, and Charles L. Hulin. (1982) have pointed out that "a research design is not highly specific plan to be followed without deviation, but rather a series of guide posts to keep one headed in the right direction". It is a blueprint for the collection,

measurement and analysis of data. In fact, there are two key questions in research design. Firstly, precisely define the research purpose. The second key is the logical strategy to achieve the research purpose and ensure the results obtained are as error free as possible.

There are 4 types of research designs: case studies, correlational research, experiments, and surveys. This research is based on survey method because it is suitable for descriptive or correlational studies. Tan (2001) says that a survey is a systematic method of collecting primary data from a large number of respondents based on a sample and then making inferences about the population. While Gardner, G. J. (1978) stresses that survey is the method of collecting information by asking a set of preformulated question in a predetermined sequence in a structured questionnaire to a sample of individuals drawn so as to be representative of a defined population. Surveys provide a relatively quick and efficient method of assessing quantitative or qualitative information regarding the main characteristics of the population.

There are four types of surveys available. They are ad hoc survey, sample survey, census and longitudinal studies. In this research, sample approach is used as it uses sample of the population. As the total number of the population is large, which including all working women who access to town services, and it is difficult to carry out the research based on the limited time and budget given. This approach can only provide a general snapshot of the population and not as comprehensive as census approach.

This research uses a combination of quantitative and qualitative surveys. Quantitative method is about the collection and analysis of data in numeric form and tends to emphasize large scale of data and presented as being about the gathering of facts. While qualitative method is harder, more stressful and tends to focus on exploring in

details as possible and deeper research than quantitative method. Most of the information from the survey relies on the quantitative method where the data can be analysed in term of numbers and it is based more directly on its topics and results are more readily analysed and interpreted (Best and Kahn, 1989).

In this research, the survey was carried out in the Komtar mixed-use development area in Penang Island¹ as the selected case study area covers a mix of everyday uses² and there is a high³ presence of working women. As the research uses sample survey, thus sample is needed as sample need to represent the population in the research. The population for the research is the working women who access to the selected town. The working women are defined as those who are in the labour force. In Peninsular Malaysia, labour force refers to those who are in the age group of 15-64 years old (Penang Development Corporation, 1995).

2.3.1 Determination Of Sample Size

The larger the sample size, the more accurate will be the estimates produced by the survey and the larger the cost of carrying it out (Saw, 1953). A balance has to be struck between these two. Thus, after considering the time and cost given, the 90% level of confidence is used, with the sampling error of 10%. By using the formula for calculating the sample size from Krueckberg & Silvers (1974), the required sample size is 100.

¹ The case study area will be discussed in detail in Chapter 5

² including the services such as employment, health care, education, shopping, transportation and residential

³ The assumption of high presence of working women was made by observation since the case study area is known as Central business District in Penang Island

$$\begin{aligned}
 \text{Required sample size} &= \frac{N}{1+N(p-p^*)^2} \\
 &= \frac{208,705}{1+208,705(1-0.90)^2} \\
 &= 99.95 \\
 &\approx 100
 \end{aligned}$$

N = the total of population size, N = 208,705⁴

n = sample size

p-p* = confidence interval, by using the confidence level of 90%

2.3.2 Sampling Procedures

After the determination of sample size, the sampling procedures were done. According to Saw (1953), sampling has become an integral part of survey technique. There are six types of sampling procedures: simple random sampling, stratified sampling, cluster sampling, systematic sampling, quota sampling and multi-stage sampling. In this research, the method of simple random sampling is used. In simple random sampling, a researcher develops an accurate sampling frame, selects elements from the sampling frame according to a mathematically random procedure, then locates the exact element that was selected for inclusion in the sample (W. Lawrence Neuman, 1997). Probability sampling (Simple random sampling) is used so that each element has an equal chance of selection that is independent of any other events in the selection process. This method was once used by Maisarah binti Samuri, 2005 in conducting a research with the topic of 'Women's Perception of the Safety in Community Spaces'. For the purposes of capturing a widespread view from different status of working women and reducing the bias that may occur in this research, the

⁴ the obtained population number is from Penang Development Corporation (PDC) Penang. Please refer Appendix 3

researcher has selected 3 different places for doing the field work. The three places (Figure 2.2) were chosen based on the different characteristics of working women in terms of age group, ethic and income. The three places are as below:-

- Penang Road
- Kimberley Street
- Teik Soon Street

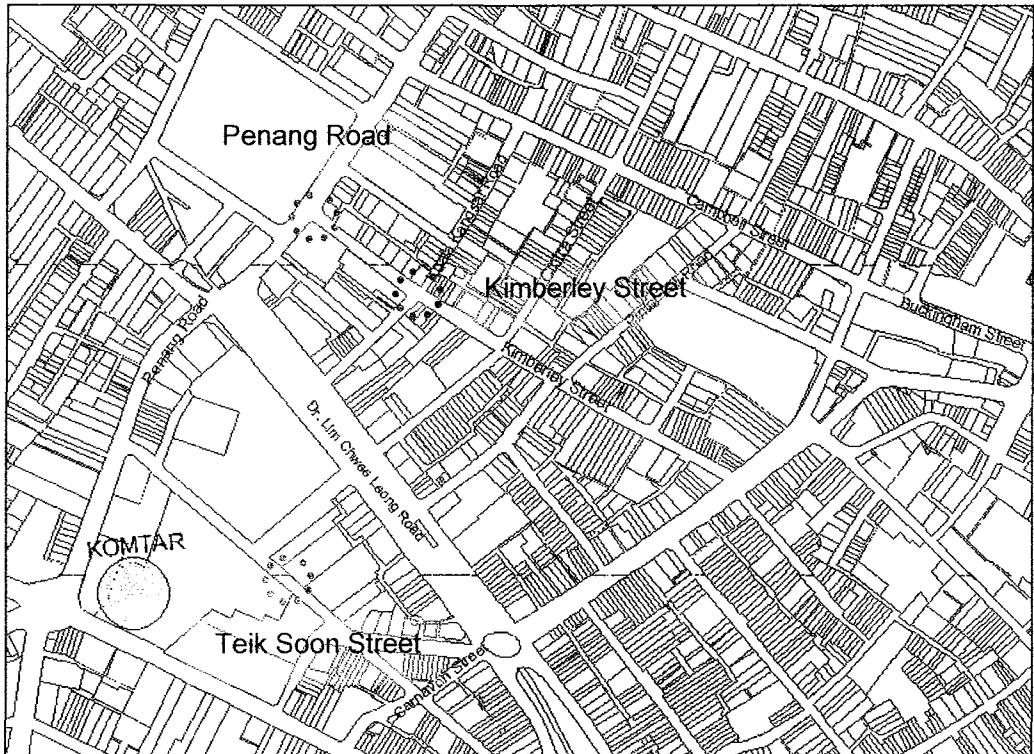


Figure 2.2 The case study area

2.4 DATA COLLECTION

Method of data collection is an important area to look during the planning stage of a survey (Saw, 1953). In this research, all the data and information are collected from two sources. The first one is the primary data and second one is the secondary data. The primary data is collected through questionnaire and structural interview whereas the secondary data is collected through published books, articles from magazine and electronic journal. Generally, there are generally 5 methods of data collection, consisting of observation method, interview method, through questionnaire, through schedule, other methods (warranty cards, distributor and pantry audits, and consumer panels, using mechanical devices, through projective techniques, depth interviews, content analysis and local reports) (C.M. Chaudhary, 1991).

For this research, some evidence on mixed-use development and women's issues can be obtained from a review of current literature. Besides, a combination of observation method, interview method, and through questionnaire is used. Interview method was carried out on planners from local authorities (Jabatan Perancang dan Desa Pulau Pinang) in conjunction to explore the mixed-use development in planning system and to identify aspects of good practice or initiatives which had been taken, as well as to provide a snapshot of the views of providers. Whereas the tool of questionnaire which covered a detailed set of issues derived from the literature review is used on the sample of this research.

From all of these sources, the issue can be identified, followed by examining the hypothesis of this research. These allowed the development of recommendations to assist in addressing working women's needs in relation to mixed use.

2.5 CONSTRUCTING THE QUESTIONNAIRE

This method of collecting data is quite popular and is very important because it is where the primary data for the research is collected. The questions are as important as the answers. Every question must be relevant to the literature review. Thus, before the preparation of questionnaire, literature reviews of relevant topic were viewed to get the idea on how to start preparing questions. The questions may also generate from the aims and objectives of the research. The survey carried out by the Lau and Pang (1995,2000) regarding the Undergraduates Career Perceptions And First Job Needs In Hong Kong and Career Strategies To Strengthen Graduate Employees' Position In The Hong Kong Labour Market were used as major reference or basis in developing the questionnaire.

To ensure a good respond rate to the survey, consideration was given to encourage the respondents by attempting to capture their interest in the research and reducing the time and effort needed to supply the required information. For this purpose, a pilot test has been carried out towards 10 working women in the study area. After a feedback and some amendments on the questionnaire, the final version of the questionnaire is 2 pages long and consisting of 10 questions. There are 4 sections in the questionnaire:-

Section A Respondents' particulars

Section B Accessibility to services

Section C Existing condition

Section D Measures for improvement in terms of mixed-use

Section A requests respondents to choose the most suitable answer by ticking the relevant box given. Section B requires respondents to answer the questions about their frequency to town, modes choice, purpose of making trips and the complexity of their

daily activities. This section is needed to provide a snapshot of working women which is in accordance to the literature review. Section C provides the opinion of respondents about the access problems and inconveniences in the built-environment. Lastly, section D consists of Likert style⁵ and optional style. This section intends to determine the measures for improvement.

2.6 DATA ANALYSIS

After the data are collected, the researcher pays attention to the data analysis. Processing of data implies editing, coding, classification and tabulation of collected data so that they are amenable to analysis. In this research, the method used for analysis of the data from the questionnaire is a mixture of the qualitative and quantitative method. This is because that not all the data collected have numeric value. Basically, the analysis method in this research including:-

- Descriptive statistics
 - univariate (frequency distribution)
 - bivariate (cross-tabulation)

2.7 CONCLUSION AND RECOMMENDATIONS

After finishing the data analysis, it is followed by writing conclusion and recommendations. The overview conclusion must be able to answer the research aims and objectives.

⁵ the importance level of factors and variables is divided into ordered classes where respondents response to one of the following classes:-

- 1 strongly disagree
- 2 disagree
- 3 neutral
- 4 agree
- 5 strongly agree

Tan (2001) says the intention of this part is not to recapitulate the results but to discuss it, especially to comment on the significance of the research findings, in terms of its contribution to academic knowledge as well as its relation to the problem in hand in the industry. Thus, all the significances in the analysis shall be highlighted followed by a summary of the outcome.

To end up this part, the researcher will include recommendations for further studies and recommendations for the solution of problem. The researcher hopes that the findings in this research will offer useful information to those people who have personal interest in this topic.

2.8 INTERPRET AND REPORT

According to Tan (2001), the intention of this stage is not to recapitulate the results but to discuss it, especially to comment on the significance of the research findings, in terms of its contribution to academic knowledge as well as its relation to the problem at hand in the industry. Thus, all the significances in the analysis shall be highlighted followed by a summary of the outcome.

To end up this part, the researcher will include recommendations for further studies and recommendations for the solution of problem. The researcher hopes that the findings in this research will provide useful information to those people who have personal interest in this topic.

In the part of compiling the report, everything is almost complete, including the writing up of the content of the research report. Before submission, there are several criteria that must be followed in the report: -

- All the information is included to ensure completeness of report
- Make sure all the basic inputs are accurate
- No careless mistake especially in handling data, illogical reasoning or phrasing
- Produce clear and logical thinking as well as precision of expression
- The researcher must be selective in the contents to be included in the research



WOMEN & ACCESSIBILITY: A LITERATURE REVIEW

CHAPTER 3

WOMEN AND ACCESSIBILITY: A LITERATURE REVIEW

3.1 INTRODUCTION

This part is mainly presented in four parts. The demographic profiles and the changing roles of women in urban life introduce this chapter. The second section provides an exploration on accessibility definitions. The third provides an account of knowledge of women's accessibility patterns and the gender differences in these, followed by exploration a range of issues which have been found to affect these patterns and some of the barriers and difficulties which women face in accessibility. The final section then highlights the relationship between women, accessibility and mixed-use development.

3.2 DEMOGRAPHIC PROFILES OF URBAN WOMEN

3.2.1 Women

Women are the plural of woman. A woman means an adult female human being; a grown-up female person, as distinguished from a man or a child (Sandercock, Leonie. & Forsyth, Ann., 1992). The term 'woman' means a female human being who is capable of becoming pregnant, whether or not she has reached the age of majority. This definition implies that a woman is not, as any dictionary will tell us, an 'adult female human.' A thirteen-year-old female child is a woman if she has reached puberty. Fertility is the sole measure of womanhood, not maturity and the capacity to make one's own decisions (Adrienne, 2000).

According to the Department of Statistics in Malaysia, most of the women are living in urban areas (63.1%) out of the whole population of women (see Appendix 1: Chart 1). In Penang, the population of female is increasing from year to year (see Appendix 1: Table 1). It shows that the contemporary residents in urban areas are mostly women. On top of that, women make up about half of the population of Malaysia (about 10 million women, 7th Malaysia plan, 1996-2000) and will be increasing to 16.8 million in the year of 2020. The population of female have been increased from 484,700 (1980) to 727,600 (2004). The population of female in the year of 2004 covered about 50.43% of the total population in Penang. The population with the age bracket (15-44 years) showed 47.69% from the total population of female (see Appendix 1: Chart 2).

3.2.2 Women And Men

Men and women are equal but different. Equal means that men and women have a right to equal opportunity and protection under the law. And yet, there are biological and physical ability differences between the sexes. On average, men are 10 percent taller, 20 percent heavier and 30 percent stronger, especially in their upper bodies (Ehrenreich, 1999). The physical differences are rather obvious and most of these can be seen and easily measured. Weight, shape, size and anatomy are not political opinions but rather tangible and easily measured.

On the other hand, women outperform men in the ultimate game of life itself: Whereas life expectancy for men is 74.4 years, women can expect to live 79.8 years (U.S. National Center for Health Statistics, 2003). In teenage years, males show greater mathematical ability, whereas adolescent females excel in verbal skills, a difference that reflects both biology and socialization (Maccoby & Jacklin, 1974; Baker et al., 1980; Lengermann & Wallace, 1985; Tavris & Wade, 2001). In the aspect of sensitivity, women have an enhanced physical alarm response to danger or threat than men. Their

autonomic and sympathetic systems have a lower threshold of arousal and greater reactivity than men (Massey, 1994). Besides, men feel closer and validated through shared activities. Such activities include sports, competition and outdoor activities. Women, on the other hand, feel closer and validated through communication, dialogue and intimate sharing of experience, emotional content and personal perspectives. These illustrate that women have different preferences and needs from men.

These theories indicate that there are significant differences between women and men in the contexts of physical, social and biological as well. In short, these differences make a reason as to why women experience the urban areas differently from men in terms of different travel pattern, needs and preferences.

3.2.3 Women And Employment

The dramatic increase in women in paid employment, especially working mother, has been one of the most important changes in the labour market. In Malaysia, women form a third of the total labour force, but have shown an increase from 37.2% in 1970 to 46.7% in 1990 (Malaysia, 1991). In national economic development, the contribution of women can be seen directly and indirectly, because many among them are unpaid family workers. The concept of labour force which is presented by the Department of Statistics is limited and influenced by the neo-classical economic theory. Labour force is defined as those who are in the working age or presently are looking for jobs. In Peninsular Malaysia, labour force refers to those who are in the age group of 15-64 years old, whether they are presently working or unemployed (Penang Development Corporation, 1995). It means that those who work but do not receive remuneration are not considered as part of the labour force. This group includes those who take care of children and who do housework. The economic contribution of housewives towards

meeting the needs of the family and those who work seasonally are not considered in the gross national product.

However, the participation of women in the paid sector has increased from years to years. The efforts of feminist groups to fight for the position of women has certainly alerted society that women form an important asset in the shaping of future generations to come, in the direction of social progress and economic prosperity. The rising costs of living necessitate women to contribute towards family income. Research on factory workers in Melbourne reveals that 82.6% of women worked because of economic necessity (Oakley, 1984). From the research on Demography and the Development of Penang Island that carried out in Penang Island in 1993, about 51.3% of women who marry have their own income which helps to lighten the burden of the husbands to support the family.

In summary, the involvement of women in the paid employment sector has become increasingly obvious. They play an important role in national development. Outside the household they are an important economic asset. The government has long recognised the contribution made by women towards national development. Even though their participation in the social, economic, political sectors is still small compared to that of the men however, the increase in the number of women in the sectors is increasingly evident from year to year.

3.2.4 The Roles Of Working Women

In traditional Malaysian society, the home environment was the realm of women. However, the twentieth century saw the advent of women into the paid labour force. They entered the labour force in response to economic pressures, better opportunities in education, decline in fertility, increase in life expectancy, and a growing social

acceptance of the dual-earner families. Since then, the increase of women walking out from home and into the field of labour force has been dramatic. In Malaysia, the number of married women going out to work since its independence in 1957 has increased from 30.8% to 47.1% in 1995 (7th Malaysia Plan, 1996-2000). This increase is even more rapid in the younger age bracket (16-25 years). However, women are still primarily responsible for the home and the children. Thus, women now have to balance the demands arising not only from within their family roles but also from those associated with the work role (Susser, I., 1990).

Working women are more likely to be the ones responsible for childcare, shopping, and a range of other caring roles, all of which generate different usage of urban space. They are facing inconveniences in town because they travel to town more frequently than men since they are mainly responsible for household tasks, such as food and clothes shopping (Bowlby, 1989). Fewer women than men have access to the use of a car, and they constitute the majority of public transport users in many areas (Clara, 1994). Women's daily activities and travel patterns are likely to be different and more complex than men's, as many will be combining work with childcare and other commitments.

In conclusion, women's roles changed rapidly due to industrialization. The pattern of their daily lives is changing towards a combination of paid employment with caring and domestic responsibilities.

3.3 ACCESSIBILITY

Accessibility refers to the ease of reaching destinations. People who are in places that are highly accessible can reach many other activities or destinations quickly; people in inaccessible places can reach many fewer places in the same amount of time (Wikipedia, 2006). Accessibility can be defined as 'the quality of being at hand when needed, the attribute of being easy to meet or deal with' (e.Look.org. 2006). Accessibility determines the question of can people get to key services at reasonable cost, in reasonable time and with reasonable ease? Besides, accessibility depends on several things: the physically and financially able to access to activities or destinations; a reasonable distance within the services and activities. Solving accessibility problems may be about transport but also about locating and delivering key activities in ways that help people reach them. (Making The Connections: Final report on Transport and Social Exclusion. Social Exclusion Unit. February 2003). There are five common barriers to accessing services in urban:-

- Services and activities located in inaccessible places: Urban sprawl developments including housing, hospitals, business and retail are often located in areas not easily accessible to people without a car
- Safety and security: Some people are unwilling to use public transport or walk to key services because of fear of crime or antisocial behaviour, or fear of road accidents.
- Travel horizons: Some people are unwilling to travel long journey times or distances, or may not know about or trust transport services

Historically, nobody has been responsible for ensuring that people can get to key services and employment sites. As a result, services have been developed with insufficient attention to accessibility. And too often accessibility has been seen as a