

# **A Case Study On The Low – Cost Housing With Special Emphasis On The Low – Cost Flats**

**By**

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**A Research Paper Submitted in Partial Fulfilment of the Requirement  
For the Degree of Corporate Master in Business Administration  
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## APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion it conforms to acceptable standard of scholarly presentation and is fully adequate. In scope and quality, as a research paper for the degree of Corporate Master in Business Administration.


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I hereby declare that this research is the result of my own investigations, except where otherwise stated. Other sources are acknowledged by giving explicit references and a bibliography.

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Date : 12<sup>th</sup> May, 2003

Dedicated to my wife, Sharifah Jamilah and our lovely girls Intan, Effy, E-er and Zaza for their prayers, patience and love.

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# CHAPTER 1

## INTRODUCTION

### 1.1 Background

Proper and adequate shelter is one of the essential necessities of human life. This applies to all human beings whether they are poor or rich. As a developing state, Sarawak is limited in resources and technology in facing the colossal challenge of providing housing to thousand of her people in particular those from the lower income group.

Urban growth in the state is viewed as a series of unmitigated problems. Some institutions and some sector can adjust to change and respond positively to the stimulus of rapid growth, but others are simply paralyzed by it. Reasons for being paralyzed or simply unable to reach the opportunities varies by contexts, time and situation. Context relate to place, which include the people, culture and shelter. Time and situation relate to the period of development, now and then. While situation relates to the issues and request in question. Therefore, to make and deliver changes can be difficult at wrong time, place and situation. As the Sarawak's Chief Minister stated:

*"Development is supposed to change people and elevate them from lower level of income to higher level.....(but) people have to change their way of life- with them playing a part in the process of change"* ( Taib Mahmud, 18 April 2000).

In the eighties, the market for houses was buoyant and the demand far exceeded supply. This caused house prices to increase by leaps bounds. The situation was aggravated by rampant speculations and quick profits-taking by means of overbooking. Speculations and quick profit-taking had ceased when the government introduced the Housing Developers ( Control Licensing ) Regulations 1982, which include the 10% payment of the house price on signing the Sales and Purchased Agreement.

Previously, purchasers need only to a minimum of RM1,000 registration or booking fee and a house may change hand four or five times in a space of few months with the price increasing at every step including in the nineties. Today, it can be said that house prices have stabilized.

However, while house prices have stabilized, there is still a shortage of affordable houses. 'Affordable houses' means affordable by the **lower-income** groups. The problem of lack of affordable houses can be viewed from two aspects : the high cost of houses and the type of houses available in property markets.

In the 70s, the price of low-cost houses in the state was below RM17,000 per unit and that of a double terrace house was about RM65,000 while the price of single storey house was somewhere in between. Prices started going up in the 80s and 90s respectively due to the increasing demand and inflation. Today, a low cost house costs RM32,000 - RM33,500 ( SHDC Annual Report, 1999 ) in Sarawak and a fixed rate of RM25,000 in West Malaysia while a double storey terrace house costs on the average of RM150,000 to RM180,000 per unit depending on its location. At its peak in the early 80s a double storey terrace house was going for as high as RM180,000. At a current rate of RM150,000, a buyer would have to be earning about RM4,000 a month before he or she can afford to buy a double storey terrace house. Even for a low-cost house, the monthly repayment from financial institution is around RM250.00. This rules out of large proportions of households earning less than RM1,000 per month. Therefore the escalation of house prices in the last two decades has put house ownership beyond the reach of most people in the country. These **have vast** social implications. Potential buyers of medium and high-cost houses are forced to **buy** houses that are meant for other lower income groups. For example, the middle income groups are forced to buy and complete for the compact low-cost houses while the lower income groups are forced to resort to illegal squatting on government land or **privately-owned** land.

## 1.2 Problem Statements

There is therefore a need to build more-low cost and medium cost houses in particulars the low-cost houses. Private developers need to reorient their strategies towards building low-cost houses that are affordable to buyers. The government would like to see private developers to be aware of their social obligation and responsibility towards society, and developers have been asked to build more low-cost houses and to participate in the Special Low-Cost Housing scheme of 80,000 units per year since the Fifth Malaysia Plan.

The Government, on its part has been encouraging the constructions of low-cost houses since the Sixth and Seventh Malaysia Plan Period. During the Seventh Malaysia Plan the performance of both and public sectors was encouraging in which a total of 45,583 low-cost units were able to completed as compared to its target of 29,000 units, an increased of 157.2%. The target was achieved as the government special emphasis on constructing more low-cost flats rather than the traditional low-cost terrace houses were the low-cost flats would give greater density as an added advantage to cater lower income group to own a decent shelter for their family. In addition, the growing scarcity and cost of urban building land in the state has led to the Sarawak state government through its agency, The Housing and Development Commission (SHDC) seriously follow the steps taken by the federal government looking into building more low-cost flats. Since the Seventh Malaysia Plan, SHDC has completed about 8,196 units of flats in order to match the demand of about 18,000 applications of low-cost housing.

Housing is accepted as one of the basic necessities of life, for the lower-income earners. Their main problem is their inability to buy a unit because of the shortage of low-cost housing. However, SHDC special emphasis on constructing more low-cost flats in the state in order to overcome the shortage was given a lukewarm attitude by the people especially the lower income earners. The low-cost flats introduced by SHDC can be considered 'half failed' as it did not achieve its target of selling all the units available to the targeted group. A total of 3,703 units or about 45% of the total 8,196 units offered to the successful applicants were sold through SHDC has reduced the

deposits from a normal rate of RM1000.00 to only RM500.00 in order to encourage more buyers. Thus this study will focus on why a low-cost flat is not acceptable as a decent housing especially for the lower income group in the sociological perspective which include the impact, perception and changes in their way of life living in a low-cost flats.

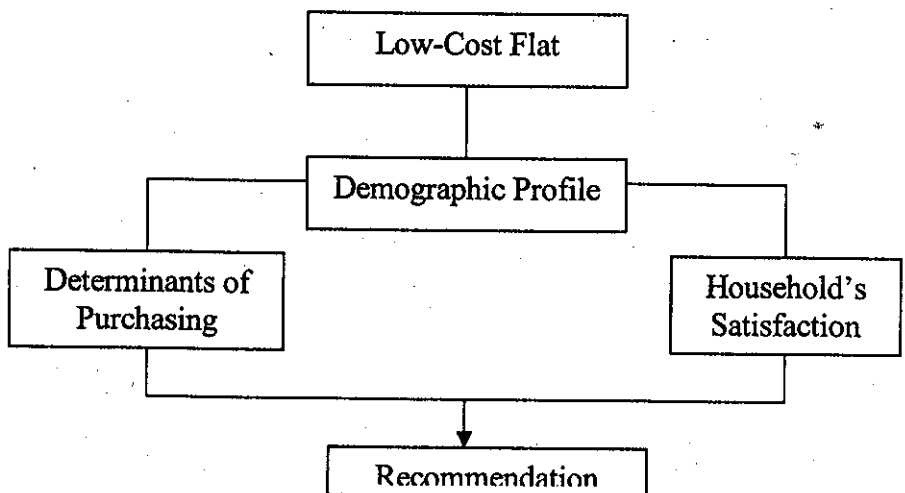
### 1.3 STUDY OBJECTIVES

1. To identify the profile of buyers;
2. To determine the factors affecting the buyers to buy low-cost house;
3. To identify the satisfactions/ needs of the low-cost flats owners;
4. To make necessary recommendations to solve the problems in SHDC future undertakings.

### 1.4 SIGNIFICANT OF STUDY

This study will benefit the Government agencies in general and the SHDC in particular, as it would provide a guideline for implementing future Low-Cost Flats projects. In addition, the public, especially the low-income groups, will benefits as their plight for more low-cost housing will be given serious consideration by the agencies concerned.

### 1.5 FRAMEWORKS



The flow chart above depicts the research frameworks of low-cost flats which include the study of Demographic Profile and divided into the Determinants of Purchasing and Household's Satisfaction. A recommendation is then established for future undertaking by the relevant authority.

## **1.6 LIMITATION OF RESEARCH**

It can be anticipated that several difficulties will be faced by the researcher during the information and data gathering phase and document collection as the authorities will be subject to the Official Secret Act (OSA). Another problem could be the degree of cooperation from the related agencies, authorities and the flats' owner. Last but not least, pressure of time can be major constraint in conducting this study more necessary. The private component of the housing sector that is, the business activities with housing is heavily dependent for efficient operation upon the existence of a set of laws, constitutions, and public agencies.

## **1.7 DEFINITION OF TERMS**

### **1.7.1 Low-Cost Housing Scheme**

In Malaysia, conventional low-cost housing is provided by the public and private sectors. Low-cost housing is generally defined as the appropriate housing units of which the construction is in accordance with identified minimum standards complying to a code of practice specifically created for low-cost houses (Wang, 1980).

### **1.7.2 SHDC**

SHDC or known as the Sarawak Housing and Development Corporation is a state government agency established in 1971 (SHDC's Annual Report, 1999). SHDC's duties include to implement the development of the low-cost housing scheme for the low-income group.

### **1.7.3 Housing**

Housing is a real. Physical artifact. It is easily visible, a central component in our daily lives, and virtually

important to us all as shelter. In its broader social context, however, housing is immensely diverse and complex, and intimately interrelated with its socio-economic, political, and neighbourhood environment (Bourne, 1081:1).

#### **1.7.4 Poverty Income Line (PLI)**

The Poverty Income Line (PLI) is a standard measurement for identifying poverty rate in the country (Year Book of Statistic, 2000). For Sarawak, the Poverty Line for a household head is RM450.00. thus, those earnings below the poverty line is considered as the low-income group.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 HOUSING : The Social and Economic Elements

##### What is housing?

Housing is often called "Shelter" in economics and in some societies this is literally all that housing provides ( Lund, 1996 ). Shelter itself is certainly a part of what is meant by "housing". In the past, shelter is provided by some primitive societies in the form of a large roof under which all the members of the community may gather. Shelter for soldiers is provided in the form of large barracks/ building and during the World War II, subway stations played an unexpected role as shelter from bombs ( Wilcox, 1988 ). Privacy is also bound up with the concept of housing. People desire separate shelter, and the separation from the elements. Privacy is rather difficult concept to define and it is clearly a social; rather than a physical concept. This primitive community with one big roof might conceivably saw roof into separate pieces and the housing issue would be one of deciding how many pieces to make out of the one large roof. Thus social customs come into the society which vary in cultures. As societies advance economically, recreation outside the homes seems to become customary and has become one of the principal hallmarks of urban civilization. As the societies economics standard rises, private sanitary facilities such as toilets, wash basins, laundry equipment migrates very quickly into individual dwelling units. Location is another major attribute to housing (Leather and Morrison, 1997 ). The location of dwelling unit relative to the place of employment and to everything else' is thus one of its most significant features. A household not only requires housing which is private, but which is also reasonably close to places of employment and other urban activities. The quality of locations depends very much upon the availability and cost of transportation to other locations. Housing does not mean much to urban family unless it knows where that housing is located and what transportation systems are available. For some people, housing is some investment as well as a place to live. A

family owning its home gives that family a degree of security in a psychological and financial sense. Psychological, ownership is an extension of the attribute of privacy.

Financially, ownership is not only a symbol of wealth which most families ever manage to accumulate. The value of investment in a house may increase due to a sudden rise in demand for property or it may fall as the people become less desirable or there is an economic decline. Sheer physical shelter—a roof over one's head is certainly an element of housing and it may require no more in terms of economic resources to build an attractive, secure, private dwelling than it costs to provide an exposed, insecure, uncomfortable eyesore. It cannot function effectively unless the community has recognized and clarified the concept of real-property ownership. The first necessity for the operation of a housing market is a system which defines rights pertaining to property and establishes a set of financial institutions because the product involved is so durable and heterogeneous.

Housing finance involves very long-term investment in the form of wealth which is not very liquid. There are many technical aspects of housing and the housing market which suggests that a certain degree of specialization in housing by some financial institutions will improve the efficiency of the sector. The private component of the housing sector does not serve all the housing needs which the public, as a community, may feel should be served. Low-income families are an obvious case. The most effective and efficient private housing industry will not meet a housing need which is not backed up with purchasing power. The public sectors acquire an additional function. It must change the nature of demand by means of public investment so that these non-market needs are satisfied. The housing sectors will not behave efficiently or satisfactorily without a variety of vital and substantial public activities. Housing-market economic analysis requires an understanding of the interaction between private activities and public purpose. The purpose in connection with housing is to secure for that sector as much of the nation's economic resources as the well being of the whole community requires and to encourage the efficient use and appropriate distribution of these resources.



## **2.2 The Dual Nature of The Housing Sector**

In most nations the housing sector is a blend of private enterprise and government activity. The role of government is substantial which generally allows the market place the freedom in making economic decisions. The dual nature of the housing sector makes economic analysis of housing more necessary ( Achtenburg and Marcus, 1986 ) The private component of the housing sector that is, the business activities with housing is heavily dependent for efficient operation upon the existence of a set of laws, constitutions, and public agencies.

## **2.3 Affordable Housing and The Homeless**

Affordable housing and homeless are related. Is a society cannot provide affordable housing, for instance by subsidizing rents, the number of homeless will increase. It is the market segment of lower income households which has posed the problem of adequate provision in all capitalist societies. The exact number of homeless in a country is difficult to estimate. In West Germany, in the early 1960s there was a large number of homeless as a result of the post-war housing shortage (Jurgen Fredrich). The figure dropped considerably in the following decades, and rose again in the mid- 1980s as a result of economic problems. The United States experience shows that hotels often used to house homeless are transformed into apartments (Schmidt 1989). There is little doubt that the problems of affordability and homelessness will continue to accompany the structural economic changes. As further consequence, "affordable housing", supplied to a large extent in new housing estates is no longer affordable for many households for living there. Affordable housing is like poverty, a relative term, depending upon the level and quality of provision a country wants to supply and can supply. The crisis of affordable housing and shelter for homeless is a result of economic changes, therefore, it is impossible to solve these problems by urban planning by just providing homes or by transfer payments.

Thus this bring us to the question of policies to ameliorate these social disparities. In countries such as Britain, Australia, New Zealand and the United States it seems to have some elements in common that is the governments rely upon home-ownership to a growing extent and seems to have little propensity to subsidize

social housing on large scale (Oxley 1993). With respect to policy, it has mixed suggestions. Most authors agree that it is the responsibility of the government or the society at large to help the lower income groups. Many European countries had the tradition of governmental subsidies for rental dwellings, which were then managed or owned by the local government (Comparative Housing Policy). The final conclusion to be drawn from these trends is pessimistic. Housing departments or private investors cannot solve national economic problems. They can at best alleviate them. The problem of affordable housing thus remains a problem of economic growth of a society.

## 2.4 Meeting Housing Needs : Issues and Policy Directions

Malaysia has come a long way in its endeavor to attain economic prosperity as it today. Malaysia's success can be attributed to political stability, efficient government administrative machinery and the practice of free market economy. In relation to this, the housing industry has flourished under favorable conditions. In addition, the availability of financial facilities for housing industry where Bank Negara plays a crucial role in this respect has also been a factor (BNM Annual Report, 1999). Loans, both for bridging and end-financing, are readily available and this is one of the driving forces behind the success of housing industry. In a free market economy, production of goods depends on the interplay of market forces that is demand and supply. The housing industry is no exception. Housing developers tend to concentrates in areas where the potential of profit maximization is high such as building medium and high cost houses. Under these circumstances, if the provision of shelter is left entirely to the private sector, the low income group will be deprived of the opportunity of house owner&p. Realizing these phenomena, the government has placed greater emphasis on the provision of low-cost houses since the beginning of the Fourth Malaysia Plan (Malaysia, 1996). The government has adopted two-prolonged strategy, firstly direct intervention in the form of public low cost housing programmers implemented by the State Governments and secondly, indirect measures in the form of condition stipulated in the approval of private housing projects. Each housing project approved should consist of at least 30% low-cost house and the selling price shall not exceed RM25,000 per unit in West Malaysia (Malaysia, 1996). This approach is to ensure

Multi-approach data collection technique therefore must be used to ensure that both subjective and quantitative information are captured. Campbell (1953, 1956), a prominent advocates of the use of multiple methods in the measurement of social variables, argued that more than one method should be used in a validation process. If different methods produce similar findings, then our confidence in the results increases. This is called convergent validity (Campbell, 1954) because the results from using different methodological approaches converge on the same meanings. Further relevant theories will be synthesized into a framework for guiding both the empirical and analytical aspects of the study. By bringing all these essentials into the research, useful explanation of the case could be obtained. Perhaps prescriptions that could have impact on decision and policy-makers could be obtained.

### **3.3 Identification of Population and Sample**

A survey research is probably the best method available for this study in collecting original data for describing a population too large to observe directly. Careful probability sampling provides a group of respondents whose characteristic may be taken to reflect those of the larger population (Babbie, 1995).

The study area is populated by about 1,500 multi-racial population while the average household member is 4 persons per house and this directly translates that there are about 380 households in the area.

A simple random sampling was then used to pick the house to be interviewed. Simple random sampling is used because:

"It reduces the possibility that a biased or unrepresentative group will be selected. More confidence may be placed in the representatives of the sample when the population is homogenous with regard to its characteristics". (Drew, 1976:126)

The sample here is the list of the houses of the area. On ensuring that every household has a chance of being chosen, the address of each house was written on a small slip of paper and all of these slips were deposited in a box. After they had been

thoroughly mixed, the first selection was made by drawing a slip out of the box without looking at it. This process was repeated until sample of 200 was chosen. The method would avoid personal bias in choosing household and as such the data will be more reliable because it should represent all types of household in the group being studied. Data on the list of houses and their locations was obtained from SHDC.

### **3.4 Information Collection Techniques**

Two main methods of information collection were used in this study questionnaire and interview, while direct observation was used to obtain information on subjective views and on the area physical layout. Secondary data/ information was also collected to verify and substantiate the empirical information.

#### **3.4.1 Interviews**

Appointments were arranged for interviews with relevant government officials from SHDC, State Planning Authority, and Land & Survey Department. Access to the agencies was made through existing personal networks. The purpose of the interview was to explore views on various issues pertaining to development and planning. The interviews were guided by set of pre-established questions. Each interview was recorded with permission from the officers concerned and at the same time written notes was taken. The duration of each interview lasted between one to one and a half hours.

#### **3.4.2 Questionnaire**

The questionnaire was designed to collect information on socio-economic background of respondents and their perceptions. The questions were prepared in Bahasa Malaysia. The survey was conducted through face-to-face approach. The researcher asked questions and filled-in the questionnaire. According to Weinberg (1983), the face-to-face interview has traditionally been considered the most reliable method for collecting attitudinal, opinion and some special population groups (Rossi et al., 1983). In the case of the study area, the approach was

## CHAPTER 3

### RESEARCH FOCUS AND METHODOLOGY

#### 3.1 Study Area Profile

The study covers the low-cost housing projects undertaken by SHDC. However special attention was given to the Low-Cost Flats and specific attention has been given to SHDC Low-Cost Housing Scheme in Demak Laut, Kuching, Sarawak known as *Rancangan Perumahan Rakyat (RPR) Sepakat Jaya, Demak Laut*. The study area is situated in Kuching North, specifically on the northern bank of Sarawak River with a total area of about 100 acres and just around the area is located the State Industrial Zone called The Demak Jaya Industrial Estate and is about 20 Km from the city center and the trip to the city center is also shorten through the new link road located at the Sarawak Barrage entry point. The location of the study area is shown in Map 1 and Map 2 (refer to Appendix 1).

The study area consists of twelve blocks of low-cost flats and comprises 384 units with a total area of about 30 sq. meters per unit. Each unit has two bedrooms, one living room and a kitchen. The Floor Layout Plan is shown in Map 3 (refer to Appendix 2). The area is occupied by about 700 families with the overall population of 1, 500 and is a mixture of Malay, Iban, Bidayuh, Chinese and other races of Sarawak.

#### 3.2 Fieldwork Planning and Development

The primary aim of this research is to explore the rationale and perception people living in the new environment such as flat. Many of the issues the study seeks to understand are vague; its interpretations vary with individual belief, position in office and approach to life. Thus researcher believes it is necessary to capture all these differences in order to produce a comprehensive view within the context of the study.

that the private sector plays its role in the provision of affordable houses for the low income households and at the same time supplement the efforts of ~~the~~ government. However, the private sector can no longer keep up with the conditions stipulated by the ~~government~~ due to the rising cost of other factors such as ~~labour~~, material and land. Even the practice of cross-subsidy in a mixed housing projects can no longer be carried out commercially with the selling price fixed at RM25, 000 per unit, the private sector should look upon the provision of low cost housing as a social obligation. Presently, the government is actively considering various measures to coordinate efforts to increase the supply of affordable housing by looking into areas such as the supply and price of building materials, financing; planning housing ~~research~~ and housing information system.

found useful because most respondents preferred to be interviewed in their local dialect.

### **3.4.3 Observation**

Field observation was one of the methods used in gathering information for the study. It was useful in identifying and recognizing the respondents' attitude and sentiment, the conditions of the public amenities available in the neighbourhood and other development programs in the area. The following conditions were observed:

- Housing conditions and density of the area
- Drainage system
- Garbage disposal
- Water and electricity supply
- . Main road and accessibility link to the houses (e.g. footpath and wooden plank-walk)
- . Other public facilities

### **3.4.4 Secondary Sources**

Secondary information such as academic texts, journals, government, publications, newspaper, magazines and internet, have helped researcher to develop and understanding on history, issues and problems that have been directed to the study area. The knowledge has directly helped in question formulation for questionnaire and interviews.

## **3.5 Analysis of Data**

### **3.5.1 Reliability Test**

Reliability test was used to **determine** whether the data collected for sampling were reliable. This test is important to the researcher as it reported evidence of its reliability and validity of the data in order to achieve a positive results.

### 3.5.2 Descriptive Statistics

Descriptive statistics such as frequency, percentage and mean were used to describe the demographic characteristics of the respondents and their other socio-economics background. The descriptive statistics were used to measure the level of respondents' perception and satisfaction towards the flats and public amenities available in their area.

### 3.5.3 Non-Parametric Test : Chi-Square

Non-parametric test is a Chi-Square test for the frequency distributors of cases across a range of values for a single variables. The test is called "Chi-Square" test because the sampling distribution we use to assess the probability of the null being true is a Chi-Square distribution where the research question we are addressing does not direct us to collapse the data k down into two categories, but rather directs our attention to the frequency distribution of cases across a wide range of categories or values of a variable.

### 3.5.4 Factor Analysis

Factor analysis is used to find latent variables or factors among observed Variables. In other words, if the data contains many variables, we can use factor analysis to reduce the number of variables. Factor analysis groups variable with similar characteristics together. With factor analysis we can produce a small number of factors from a large number of variables which is capable of explaining the observed variance in the large number of variables. The reduced factors can be used for further analysis.

These are three stages in factor analysis:

1. A correlation matrix is generated for all variables. A correlation matrix is a rectangular array of the correlation coefficients of the variables with each other.
2. Factors are extended from the correlation matrix based another correlation coefficients of the variables.



3. The factors are rotated in order to maximize the relationship between the variables and some of the factors.

## CHAPTER 4

### RESULTS AND DISCUSSIONS

#### 4.1 Reliability Test

Reliability test is used to determine whether the data collected were reliable for the research. The results of the said test are as follows:

Alpha is equal to 0.8722, thus it can be seen that the data collected was a good sampling and it is about 87% reliable based on the questionnaires returned by the respondents below.

**Table 4.1 : Reliability Test**

No. of Qs distributed	200
No. of Qs returned	163
%	81.5

*Qs – Questionnaire*

Table 4.1 above shows that about 81.5% questionnaire were returned. This is consistent with the above reliability test. Those who did not returned the questionnaires are those who are not at home or reluctant to be interviewed.

#### 4.2 Descriptive Analysis

##### 4.2.1 Socio-Demographic

This analysis explore variables such age, gender, age, race, and place of origin of the households.

Table 4.2 below the presents the overall distribution of gender, age, race and income of the respondents.

**Table 4.2: Case Area Socio-Demographic Profile**

<b>Gender</b>	<b>Frequencies</b>	<b>%</b>
Female	47	28.8
Male	116	71.2
Total	163	100
<b>Age Household Head</b>	<b>Frequencies</b>	<b>%</b>
< 20 years	3	1.8
20-29 years	46	28.2
30-39 years	78	47.9
40-49 years	35	21.5
>50	1	6
Total	163	
<b>Race</b>	<b>Frequencies</b>	<b>%</b>
Bumiputra	146	89.6
Non-Bumiputra	17	10.4
Total	163	100
<b>Place of Origin</b>	<b>Frequencies</b>	<b>%</b>
Kuching	112	68.7
Outside of Kuching	45	27.6
Not available	6	3.7
Total	163	100

From the above demographic profile, the majority of household heads interviewed were male constituted about 71.2% and about 28.8% were female respondents. These indicates that the female respondents were interviewed as the heads of household in the absent of their household heads probably due to other outside commitment during the process of interviewing.

The surveyed also showed the majority age of the household heads were from 30-39 years old (47.9%) and 20-29 years old (28.2%) respectively. These indicates that the awareness of these young household head in providing a decent shelter for their family were very encouraging.

As for the race and place of origin of the respondents, majority of the respondents were Bumiputra that is about 89.6% while the Non – Bumiputra constituted only about 10.4%. The small percentage of Non - Bumiputra were mainly due to the quota system of selecting purchaser and some may be due to their unwillingness to be interviewed. For the place of origin, it shows that most of the respondents were from Kuching which is about 68.7% while those from outside Kuching were 27.6%. It was believed that the respondents from outside Kuching was the effect of the rural – urban migration process.

#### **4.2.2 Characteristics of Households**

Household size is an important factor of demographic variables. given the household size, an increase in family members will give the negative impact in the standard of living in the flats. in the study area the average of the households size of 3.98 persons, which is lower than the state's average household size of 4.8 persons (Malaysia, 2000). Maximum number of household size in the study area is 9 persons. further details on household size is shown in Table 4.3.

**Table 4.3 : Case Area Breakdown of Household Size**

No. of Members	Frequency	%
0	6	3.7
1	1	6
2	16	9.8
3	33	20.2
4	57	35.0
5	26	16.0
6	15	9.2
7	6	3.7
8	1	6
9	2	1.2
Total	163	100

**Table 4.4 : Case Area Breakdown of Households Income**

Income	Frequency	%
<RM500	18	11
RM500-RM1000	125	76.7
>RM1000	20	12.3
Total	163	100

Table 4.4 above shows that a more focus understanding of case area income status had been obtained by categorizing income frequency. The study finds that a total of 18 (11%) households heads earned less than RM500 and majority earned more than RM500. These indicates that about 89% of the households heads earned more than the State's Poverty Income Line (PLI) RM450.

#### **4.3 Non – Parametric Test : Chi- Square**

Non – Parametric Test : Chi- Square is used to test the normality of variables.

Table 4.5 below shows the Non – Parametric Test : Chi- Square which had been conducted for all the 26 variables.

From the test all variables are statistically significant at 95% level of confidence. Therefore all variables are normally distributed and testable.

**Table 4.5 : Non – Parametric Test : Chi – Square**

Variable	Chi-sq.test	P - value
Locality	246.730	0.000
Design	122.607	0.000
Price	112.448	0.000
Size	109.135	0.000
Quality	79.423	0.000
Toilet	71.387	0.000
Bedroom	111.325	0.000
Seating Hall	103.043	0.000
Kitchen	76.356	0.000
Wiring System	188.810	0.000
Piping System	143.718	0.000
Place of Worship	136.301	0.000
Public Telephone	331.650	0.000
Rubbish Collector	115.252	0.000
Recreation	40.607	0.000
Drainage	46.202	0.000
Schools	121.798	0.000
Community Hall	318.012	0.000
Police Station	338.933	0.000
Postal Service	230.313	0.000
Street Lighting	259.098	0.000
Electricity Supply	241.264	0.000
Water Supply	241.64	0.000
Public Transport	112.362	0.000
Fire Hydrant	83.840	0.000
Shophouse	140.571	0.000

4.4 Factor Analysis

4.4.1 Determinants of Purchasing the Low-Cost Flats

Kaiser-Mayer-Olkin and Bartlett's Test

Kaiser-Mayer-Olkin and Bartlett's test were used respectively in order to measure the sampling adequacy which should be greater than 0.5 for a satisfactory factor analysis to proceed. Table 4.5 below, the KMO measure 0.906, thus, it is adequate to proceed. From the same table, we can see that the Bartlett's test of sphericity is significant.

Table 4.6: The KMO and Bartlett's Test

Kaiser-Mayer-Olkin Measure of Sampling Adequacy		.906
Bartlett's test of Sphericity	Approx. Chi-Square	1636.227
	df	55
	Sig.	.000

Table 4.7: Total Variance Explained

Component	Extraction Sums of Squared loadings		
	Total	% of Variance	Cumulative %
1.	6.931	63.011	63.011
2.	1.334	12.123	75.134

Table 4.7 above shows all the factors extractable from the analysis along with their eigenvalues, the percent of variance attributable to each factor, and the cumulative variance of the factor and the previous factors. Notice that the first factor accounts for 63.011% of the variance, the second 12.123%. All the remaining factors are not significant.

### Rotated Component (Factor) Matrix

The idea of rotation is to reduce the number factors on which the variables under investigation have high loadings. Rotation does not actually change anything but makes the interpretation of the analysis easier. Looking at the table 4.7 below, we can see that the house floor area is the most satisfying in Factor 1 and followed by the house design respectively. In Factor 2 the most satisfying element in the in-house electrical wiring and followed by the water piping system. All the remaining variables are substantially loaded on Factor 1.

**Table 4.8 : Rotated Component Matrix**

Variable	Factor 1	Factor 2
Size	0.932	
Design	0.926	
Price	0.837	
Locality	0.808	
Toilet	0.778	
Bedroom	0.755	
Seating area	0.750	
Kitchen	0.679	
Quality	0.661	
Wiring system		0.843
Piping system		0.838

From the table 4.8 above, it shows that the size, design and price are the most important determinants for the respondents to make a decision to purchase.

#### 4.4.2 Satisfaction of Respondents

Undoubtedly, the KMO and Bartlett's Test was still relevant in order to measure the adequacy of the sampling in the study area. The table 4.8 below, shows that the KMO measure 0.625, thus it is adequate to proceed. From the same table, we can see that the Bartlett's test of sphericity of significant.



**Table 4.9 : The KMO and Bartlett's Test**

Kaiser-Mayer Olkin of Sampling Adequacy			0.625
Bartlett's	Test	of	779.265
Approx. Chi-Square			36
Sphericity	df		0.000
	Sig		

**4.4.3 Total Variance Explained**

Table 4.10 below shows all factors extractable from the analysis along with the eigenvalues, the percent of variance to each factor, and the cumulative variance of factor and the previous factors. It is noted that the third factor accounts for 63.640% of the variance. The first factor is 31.051% and the second factor is 19.106% all the remaining factors are not significant.

**Table 4.10 : Total Variance Explained**

Component	Extractions Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	2.795	31.051	31.051
2	1.720	19.106	50.157
3	1.213	13.483	63.640

## Rotated Component Matrix

**Table 4.11 : Rotated Component Matrix**

	Component		
	1	2	3
Electricity supply	<b>0.963</b>		
Water supply			
Street lighting	<b>0.960</b>		
Place of Worship	0.532	0.773	
Fire hydrant		0.612	
Recreational		0.591	
Public transport		0.573	
Rubbish collector			0.723
D r a i n a g e			0.683

From the above Table 4.11, it shows that Electricity and Water Supply together with Street Lighting are the three most satisfying facilities provided in the study area.

## 4.5 Discussion On Determinants of Purchasing

From the research we will discuss on the six main determinants of purchasing which is regarded as highly and moderately important based on Component 1 and 2. They are;

### 4.5.1 Size

As can be seen in the above table, the size of the flat area is the most important element in order to consider for purchasing a unit. In so far as low – cost housing units are concerned, **commencing** June 1998 the government has specified that each unit, must have a minimum build-up area of 550 sq. ft comprising two bedrooms, a living room, a kitchen and a bathroom (**Ghani and Chong, 1997**). Most respondents agreed that the size area would be the most important factor as this will affect their decision making whether the area could accommodate their family.

#### **4.5.2 Design**

The Design of the building played an important role in considering for purchasing (Quality and Total Cost in Building and Services Design). Thus, this is the second most important element to be considered. Simple design of the building whether internal or external structure will give a more pleasant outlook for the purchaser. There must be flexibility in designing the rooms, seating area and bathroom for future expansion.

#### **4.5.3 Price**

Pricing should be commensurate with the build- up area, design and the quality finishes of a house. Thus, a reasonable price of low- cost flats could attract the consumer to purchase a unit. A ceiling price imposed by the Government of Sarawak for a low- cost house to be in a range of RM32,000- RM35,000 per unit based on the locality of the project (SHDC, 1999 ) is an acceptable figure for the purchaser.

#### **4.5.4 Locality**

Location of the project also can determinant the decision to purchase. The locality provided with easy accessibility of road systems and public transport nearer to the town will receive good respond from the purchaser (SHDC report, 2000).

#### **4.5.5 Wiring System**

The wiring system, especially the internal wiring of a house is one of the important factors for consideration to purchase. This shows that the purchaser is concerned on the standard of wiring of the house, obviously for safety reason in avoiding any untoward accidents such as electrical faulty which can cause fire to the building (Malaysia, 1961).

#### **4.5.6 Piping System**

Living in flats or high rise building will also affect the flow of water from the main pipe line into the house. Sometime due to the structure of the building, problem of low water pressure easily occur and this will led to the water problem (Tan and Hamzah, 1983).

### **4.6 Discussion On Satisfaction**

To satisfy ones want, the end product of the goods must be in a perfect condition which is able to meet the requirement of the human being that is 'satisfaction'. Thus, we will concentrate on the three most important elements that give satisfaction to the purchaser in the study area. The highly important determinants are as follows:

#### **4.6.1 Electricity Supply**

It was found from the research, that electricity supply in the area was very satisfying and the respondents claimed that the electricity break- down in the area was almost zero. The sufficient electricity supply in the study area had satisfy their needs where every corner of the area were lighted at night and all houses in the area were supply with the electricity (SHDC newsletter, 1999).

#### **4.6.2 Water Supply**

This factor is important to human lives, without it, we may leave in a miserable way and thus became a social and health problems respectively. As can be seen in Table 11, water supply is the second most satisfying factor in the area. It is observed that the pipeline which systematically arrange and connected to individual houses had hindered from the problem of low – water pressure. The respondents revealed that there was no problem of water source in the area (Chaplin, 1979).

#### **4.6.3 Street Lighting**

The street lighting came third most important factor of satisfaction as far as the study area is concerned. As there is electricity supply, thus, street lighting is provided in every part of the designated roads and link – road of the area (Lawrence Chan, 1977).

## CHAPTER 5

### CONCLUSION AND RECOMMENDATION

#### 5.1 Conclusion

Having considered and discussed generally the views of the respondents in relation to the study area, it is felt that the authority concerned such as the SHDC who is entrusted by the government to provide low-cost housing for the state should implement the project efficiently with quality houses. The objectives of SHDC should not only be building more flats but also seriously looking further apart in terms of the finish product for a decent shelter for the people.

The SHDC and other related government agencies and to some extent, the contractors to work closely with each other and supplement and complement the efforts, capabilities and the technical know-how in order to satisfy the purchaser by providing quality works.

Evidently, the joint efforts of both sectors are the solution to the provision of more low cost houses. During the implementation of housing projects more problems and difficulties may be identified and discovered for which solutions will have to be found so that the obstacles can be minimized and eliminated from time-to-time by way of dialogue, communication and feedback from each other.

From the study findings, it can be concluded that:

##### 5.1.1 Quality Housing

The study finds that most respondents indicate their dissatisfactions with regard to the quality materials used and finishing of the flats such as the poor cement plastering, doors and windows panels. The study finds out that most households desire to own the standard market housing, however, the inability to provide quality houses hindered their objective. As such the study shows that about 43% respondents chose to rent while eyeing for

other project. In short, they used these flats as a 'transit' only while awaiting new places for a better shelter.

### **5.1.2 Public Amenities**

In the context of the study area, it is disappointed to see that after more than a year living in the area, during the field work were done, it was observed that there were still lack of the basic amenities such as telephone lines to the house, public telephone, school, shop houses, clinic and postal office.

### **5.1.3 Housing Concept**

Generally, the purchasing power of the people who demand houses determines the type of houses they can get. Those with low purchasing power generally could not afford to buy the open market houses. The preferred housing concept is the terrace houses rather than flats.

It is hope that improvement will be made by all parties in formulating their policies towards the provision o flow-cost housing for the present and future.

## **5.2 Suggestions**

### **5.2.1 Monitoring**

It is felt that SHDC should monitor closely the contractor who developed the area so that proper quality assurance can be adhered. The systematic monitoring of contractor should be established so that proper inspection of materials used is done in accordance with the specifications given in the plan. Inspection should also be carried out by the local authorities before any issuing of the Certificate of Fitness.

### **5.2.2 Co-ordination**

As the concept of Esprit de Corps in SHDC when implementing the low-cost housing is very much adhere to, which helps delivering of the project within the

stipulated time. Unfortunately their positive to speed up low-cost housing has hampered by the problem of co-ordination among other government agencies, in particular. As such SHDC should give more effort to try to get closer to other agencies such as by way of open discussion and meeting.

### **5.2.3 Public Amenities**

It is suggested that prior to the development of the project, efforts should be taken by SHDC to discussed and get the approval to the authorities concerned to build and provide more recreational activity for children, telephone lines and other basic amenities.

## **5.3 Recommendation for further Research**

The findings of the study highlights points that have provoke further exploration on certain crucial development issues. Because of the time limit afforded to this study. These issues could not be fully explored in details:

### **5.3.1 Building By-Law**

Changes in the building by-law and its policies are one of the problem concern of the delays of the project. These drastically have effected the speedy construction of low-cost housing for the low income Further study is needed to explore on how the developer's perceive the law and potential impacts of these policies on them.

### **5.3.2 Building Materials**

The cost of building material has increased drastically during the past in maximizing their returns from building the low-cost house. Further study directed towards identifying the new approach in building materials example cost-effective roofing material is needed to minimize developer losses.



### **5.3.3 Low-Cost Houses**

Generally, the purchasing power of the people who demand house determines the type of house they can get. Those with low purchasing power generally could not afford to buy the open market house. Further study directed towards identifying the provision of low cost housing to the people is needed.

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RPR SEPAKAT JAYA (RPR DEMAK LAUT)

APPENDIX 1



THE SITE

JALAN BAKO

NORTH  
JUNCTION  
POINT

TO KUCHING  
BARRAGE/PENDING

LOCALITY PLAN

Scale 1 : 15 000

# APPENDIX 2

RPR SEPAKAT JAYA (RPR DEMAK LAUT)

