

CHAPTER 1

INTRODUCTION

1.1 Background Of The Study

Low-cost housing represents a serious national problem in both developed and developing countries. The acuteness and magnitude of the problem are obviously more pronounced in developing countries, but increasingly the issue of low-cost housing cuts across economic, social, technological and political aspects. The Malaysian government realised this fact and has created ambitious public housing programs (Agus, 2001, Tan, 2008) in order to meet this demand. Regardless of all these efforts, Malaysia's implementation is far from acceptable, particularly the supply and delivery of affordable housing for low-income families. It is dreadful to see that the 10th Malaysia Plan is only targeting 78,000 affordable units when Malaysia is facing more than 1.3 million people under the poverty line (Bakhtyar, 2013; Tan, 2011).

It is the opposite for supply and delivery of houses for middle- and high-income groups, which at times has a surplus in the production of high-cost housing (9th Malaysia Plan review report, Abdul Rashid, 2000). This is mainly due to the fact that there are high number of speculative demand and supply without taking consideration the real demands of the public (speech by Deputy Minister, 2003¹). This has led to too many unsold properties especially high cost condominiums and houses in unfavourable areas.

¹ Deputy Minister in Prime Minister Department, Razali Ibrahim announced in parliament that the 10th Malaysia Plan mid-term report is unavailable to be reviewed as the normal practice that the third year of a five-year plan period is being "scrapped" to be replaced with the "rolling review" that is organized along the rolling plan which allows amendments to be made as and when the government chooses to do so (Hee, 2009 in The Star Online; Tong, 2013 in The Edge).

The mounting cost of housing, which has escalated greater than household earnings, has a negative impact on the housing delivery system for the poor. Moreover, it reduces the capability of the poor to sustain the expenses of buying an affordable house. The question of affordability centres on end-financing by the purchasers. Only certain low-income household can afford to purchase houses by developers and those are mostly with a fixed source of income. Financial institutions would usually decline applications that do not meet that particular minimum requirement.

The implementation of the nation's development programmes has improved the cost of living for many Malaysians. The New Economic Policy (NEP), which was implemented during 1970-1990, has managed to alleviate poverty and restructure the nation's multi-racial societies. This has created a change of economic activities from agriculture to non-agriculture and a change in population distribution. It is estimated that the future housing needs is close to 2 million new houses will have to be constructed. As a result, the public and private sectors are pressured to provide them. There were the informal settlements that also began as soon as urbanisation in urban areas increased, but it is regarded as sub-standard and were soon demolished, replaced by a formal housing development.

In developing countries like Malaysia, the main players in the housing delivery processes are the households themselves. There have been a great number of people in Europe and the States practice incremental self-help housing because other options are out of their reach. Even with the low-cost housing developments provided by public and private sectors, the number is still insufficient to house the low-income families. Nowadays, urbanisation has expanded and influenced sub-urban areas, turning some towns as satellite towns and transforming neighbouring villages into modern day

housing park that lacks planning and infrastructure. Though there is price control over the low-cost houses, it is still a burden and difficult process to financially commit in purchasing these houses; consequently, many young families prefer to build their own houses on either inherited or rented land, thus making informal settlements as a more affordable solution. There were official strategies to experiment the self-help efforts of the poor developed in the 1970s through small-scale sites-and-services schemes around the sub-urban area of Kuala Lumpur², combined with some form of assistance for self-builders. Nevertheless the schemes were re-evaluated 20 years later as a failure by the authority due to the extensive renovation done by the supposedly 'the poor' in urban areas.

For years, the debate on housing in developing countries focused on the idea of informal settlements as a vehicle of ownership for the poor. Growing little by little, these informal settlements provided housing that, although certainly substandard, constituted the possibility of having a fairly decent home over time. The idea developed by Turner and other researchers in the 1960's, was that self-help processes, such as those going on in informal settlements, result in ownership for the poor if infrastructure and security of tenure were provided. In a rather optimistic vision that ignited the debate on self-help housing, they argued that what was frequently regarded as the problem was in fact the universal solution to house the poor (Abrams 1964, Turner 1968, 1972 & 1976).

John F.C. Turner in his article, "Housing as a Verb", explains the difference between two alternate approaches of meeting housing demands over the world, where housing is either seen as a product or a process. When housing is seen as a product, then it is

² Kampung Conggo or currently known as Bandar Tun Razak was one of the few sites and services schemes to house the poor during the rural-urban migration period in 1970s. Another sites and services scheme introduced was in Jalan Ikan Emas, Cheras.

treated like a commodity where all the emphasis is on its physical attributes. For some families, ownership even in its cheapest form has become increasingly inaccessible. As ownership becomes less feasible, rental and shared housing become more frequent options among poor households. On the other hand, when housing is approached as a process, it is an activity, which corresponds to both psychological and physical needs of its inhabitants (Turner, 1972: pg. 151-152).

Turner's ideas have influenced World Bank to initiate major sites and services projects throughout the third world and developing countries. By self help, Turner meant not only investment of sweat equity by owners in their homes but also the processes of owner-design and management (Harris, 2003). However, the desire to achieve the above aspiration can only be fulfilled if the populace accepts the idea of an alternative delivery system which requires hard work, not only physically but also mentally to build a sizeable housing unit for their own family.

In many developing countries, the main housing practice has been through self-help, strongly propelled by massive rural to urban migration. Since the 1980s, international research and policy agendas focused more and more on a broadened habitat approach and attention for self-managed house construction gradually declined. Yet, self-help housing is still a widespread phenomenon, although mostly unattended or even ignored by governments. This thesis stresses the importance of self-help housing and makes a plea for a reevaluation of 'assisted self-help' as part of national and local housing policies. In view of the urgency of the urban housing question, new pro-poor housing policies are to be developed that actively support self-build initiatives. Assisted self-help housing has to be put central on the urban development agenda. The significance of housing as a process with both social and material benefits for the community should

1.2 Scenario Of Housing In Malaysia

According to Hamdi (1991), debates within housing circles have examined whether the public or private sectors have been effective in delivering housing to the low-income people; whether standards should be lowered, increased, or abandoned altogether; whether the participation of users make any difference to productivity, user satisfaction or economies in building; whether cooperatives, sites and services or integrated upgrading projects, or rent control speculation, regulate densities, ensure affordability, create jobs and provide security of tenure. Yet despite commitments and effort, housing situation has worsened since 1976.

Affordable housing provision has always been the government's programme since 1946 when Malaysian Union government appointed a special housing committee to look into problems in housing matter as well as financial and other measures required for solutions (Federation of Malaya, 1950). Both private and public sectors have accepted extensive responsibilities in the housing industry. This has included setting the housing standards, provision of subsidies, exercise of control over housing agencies and provision of housing at various costs. Due to economic stability coupled with government's principle of *property owning democracy* (Agus, 2001) and subsidised housing loans to government employees, developments of mass housing have grown and advanced rapidly. Regrettably, many people still face the difficulty to gain access for affordable housing (Agus, 2001; Shaari, 2000).

On top of that, the 30% low cost housing quota has been imposed by the government since 15 august 1982 as a social obligation by developers to complement the effort of the government to provide affordable housing for all. Developers cross subsidise the cost of building low-cost units from the sale of higher cost units. Since land is a state

matter, different states have their own policies on housing and there is no uniformity in implementation of certain policies. The number of low cost houses needed for a state also differs; therefore the 30% provision of low cost housing does not meet the demand of the population in the particular state. Take for example Kedah, the housing development must have 50% low cost housing for the minimum area of 5 acres (Salleh, 1997).

Reviewing the reports from 6th, 7th and 8th Malaysia Plan (MP), the backlog of houses planned to build are most apparent from the public sector, whereby during the 6th MP, only 48.58% were built and out of that percentile 13.47% were low cost houses, land scheme housing and site and services. For the period of 7th MP, the percentage increases to 52.88% and from that portion 24.51% were of the previous mentioned housing types. In the 8th MP, 60.47% were completed, and 28.21% were for low-income group as for the hardcore poor (6th, 7th and 8th Malaysia Plan). This demonstrates the performance of the public sector is poor in trying to achieve its objective to provide access to housing particularly for the lower income group. Today, the private sector dominates the construction scene. Due to the lack of government enthusiasm for solving housing shortages and lack of funds, the private sector is increasingly encouraged by the government to build houses extensively especially areas of suburbia in and around the largest cities (Yap, 1991). There is also the issue on the provision of low cost housing in certain areas in a state exceeds demand and some lack in supply (PMBJ website, 2010).

Previous research on low-cost housing had focused on many aspects such as cheap construction materials, efficient construction method and project management, design and thermal comfort in low cost housing and what the low-income families need in an affordable house, but only a few discussed about the introduction of self help housing in

Malaysia (Yusof, 1995; Shaari, 2000). Currently, REHDA (2010) has presented that the total construction cost of a low-cost housing unit is estimated near RM70,000 for a multi-story residential in Klang Valley, and near RM40,500 for terrace houses in other towns (Table 1.1 and 1.2). The prices displayed excluded land cost for both locations. The following are the breakdown of the construction cost. When there was a price hike in 2013, REHDA requested that the construction price should be reviewed to reflect on the current situation – from RM42,000³ to RM60,000 for housing in other towns and RM75,000 for housing in Klang valley.

Table 1.1: Current construction cost for Low-cost Housing in Klang Valley
Source: http://rehda.com/wp-content/uploads/2014/06/april_feature_2014.pdf
[Accessed 5 April 2014].

| | Construction Cost (per unit basis) | Cost (RM) |
|--------------|---|------------------|
| 1 | Earthwork | 1310.28 |
| 2 | Local infra | 7,057.00 |
| 3 | Major infra | - |
| 4 | Piling | 6,078.60 |
| 5 | Building | 49,089.30 |
| 6 | Contingencies | 1,906.06 |
| 7 | Statutory Contributions | 2,001.28 |
| 8 | Professional fees | 1,780.55 |
| 9 | Advertisement & Marketing | - |
| TOTAL | | 69,223.07 |

Table 1.2: Current construction cost for Low-cost Housing in other towns
Source: <http://rehda.com> [Accessed 5 April 2014].

| | Construction Cost (per unit basis) | Cost (RM) |
|---|---|------------------|
| 1 | Piling and footing works | 5,787.55 |
| 2 | RC Framework | 1,684.94 |
| 3 | Roof covering and accessories | 7,132.80 |
| 4 | External walls | 985.20 |
| 5 | Internal walls and partitions | 2,886.93 |
| 6 | Windows | 2,826.38 |
| 7 | Doors | 2,242.00 |
| 8 | Wall finishes | 3,926.70 |

³ Pricing of low-cost housing based on area, source KPKT, 2002

Table 1.2: continued

| | Construction Cost (per unit basis) | Cost (RM) |
|--------------|---|------------------|
| 9 | Floor finishes | 1,059.03 |
| 10 | Ceiling finishes | 1,895.17 |
| 11 | Painting | 2,063.19 |
| 12 | Sanitary fitting | 856.90 |
| 13 | External works within boundary | 3,540.06 |
| 14 | Infrastructure work per lot | 3,500.00 |
| TOTAL | | 40,386.85 |

In order to introduce self help housing as an alternative strategy for low-income households in Malaysia, relevant and applicable theories, especially those related to security of tenure, empowerment, human motivation and intervention, in addition to strict building codes, standards and regulations should be examined extensively. Yusoff (1995) established that the current approach of providing ready-built low-cost housing units to low-income households was not an effective way of satisfying the housing needs of families in Malaysia. This is due to a number of reasons such as financial capacity of each household, credit-worthiness by the formal financial institutions and down payment requirement. Tan (1992) concluded that based on the development of the Group Self Build program in Victoria, Australia, the state government has successfully demonstrated a more efficient approach to manage such agenda. Kamau (2005) also revealed that self build housing is a good potential to facilitate for housing provision in Nairobi, Kenya, where most self-builders are middle aged, medium income employed people who have taken up the challenge of developing their own houses.

For that reason, an alternative approach relying on incremental development of the housing unit by the household could be an effective way of fulfilling the families housing needs. The rationale behind it is that there are consistencies in aspects such as the households' financial capacity, no down payment required, as well as it is affordable

and utilises unemployed or under-employed labour in the country. Most importantly, this incremental alternative approach to own a house may save the government a substantial amount of funds in housing subsidies, leading to more accessible affordable houses (Yusoff, 1995).

The introduction of self help housing in Malaysia requires many changes in current conditions of construction industry for housing delivery system. These changes include the government recognises the process of self help housing hence, flexible building codes, standards and regulations to be reviewed. Other changes are comprehensive administration, legal and financial reorganisation and operation during construction period should be re-examined.

Apart from that, availability of adequate supply of construction materials is essential for prompt delivery of housing supply. Basic materials such cement and steel are categorised under controlled items, unfortunately the supply fluctuates from time to time resulting price instability. This has directed the government to emphasise on the usage of prefabricated systems for low cost housing development.

1.3 Background Of The Research Area

Malaysia consists of 13 states and 3 federal territories. Kedah is chosen as the case study for this research purpose due to a few factors. Firstly, one of the policies outlined that the state government promotes people empowerment, which directly relates to the approach of self help⁴ (www.keda.gov.my/, 2011). Second, record from National Housing Department showed a significant number of applications from Peninsular

⁴ There were three objectives listed under KEDA (Kedah State Economic Development); 1) to develop rural community especially KEDA target group in all socioeconomic field through human development efforts, skills training, economy and physical focusing on improvement of quality of life; 2) to increase group participation through people empowerment; 3) to balance developments between rural and urban in KEDA operational area.

Malaysia for financial support to build their own houses on their own land is from Kedah as being the second highest state, the first is Kelantan. Third, due to logistics of time, accessibility, resources and man power, Kedah is more accessible as compared to Kelantan, and therefore chosen as the case study. The State of Kedah with an area of 9426 kilometre squared is located up north of Peninsular Malaysia where its bordering neighbours are Perlis and Thailand (north), Kelantan (east) and Perak (south) and Pulau Pinang (west). Refer to Figure 1.1.

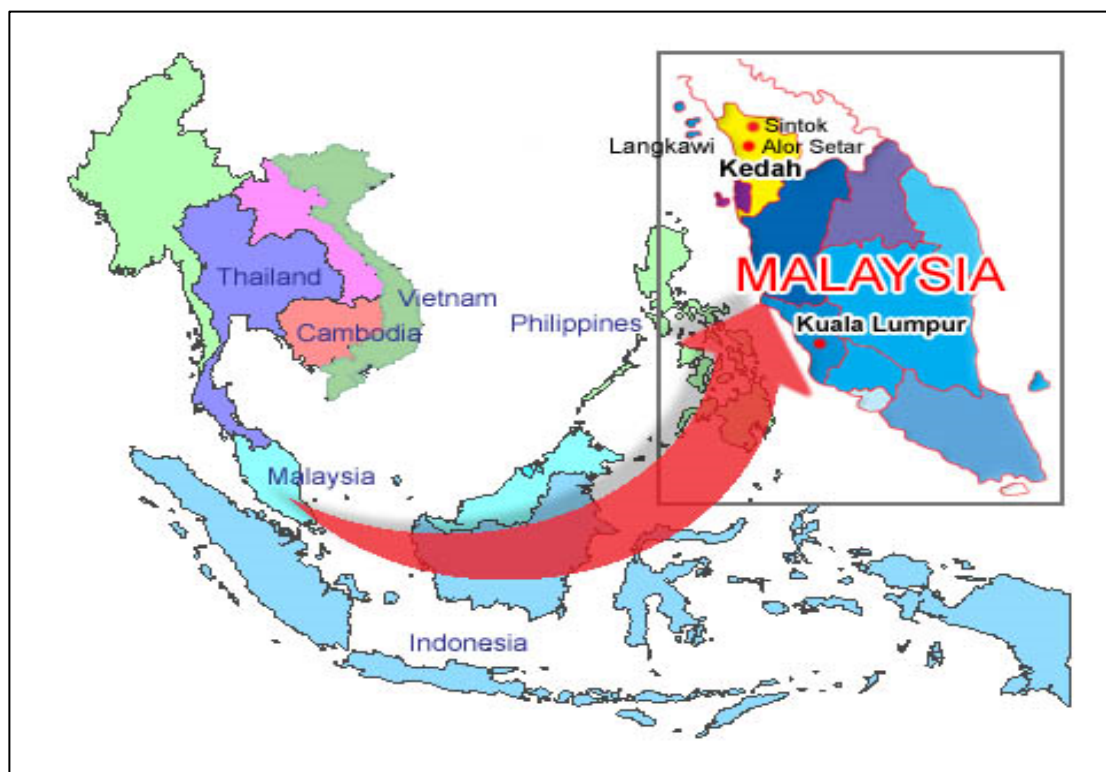


Figure 1.1: Location of Kedah in relation to Peninsular of Malaysia.

Source: <http://www.kedah.gov.my/kedah/daerah/> [Accessed 12 October 2008].

Kedah is divided administratively into twelve districts, which are Langkawi, Kubang Pasu, Padang Terap, Pokok Sena, Kota Setar, Pendang, Yan, Sik, Kuala Muda, Baling, Kulim and Bandar Bharu (Figure 1.2 and Table 1.3).



Figure 1.2: Districts in Kedah

Source: <http://www.kedah.gov.my/kehad/daerah> [Accessed 12 October 2008].

Table 1.3: List of districts and the area

Source: <http://www.keda.gov.my> [Accessed 12 October 2008].

| | District | Area (km ²) | Percentage (%) |
|-----|--------------|-------------------------|----------------|
| 1. | Langkawi | 467 | 4.95 |
| 2. | Kubang Pasu | 948 | 10.06 |
| 3. | Padang Terap | 1357 | 14.39 |
| 4. | Kota Setar | 665 | 7.05 |
| 5. | Pendang | 626 | 6.65 |
| 6. | Yan | 242 | 2.47 |
| 7. | Sik | 1635 | 17.35 |
| 8. | Kuala Muda | 923 | 9.79 |
| 9. | Baling | 1529 | 16.22 |
| 10. | Kulim | 765 | 8.12 |
| 11. | Bandar Bharu | 269 | 2.85 |
| 12. | Pokok Sena | 240 | 2.48 |

Each district is further divided into townships whereby in each township consists of villages. Figure 1.3 shows that the majority of population living in Kedah are Malays, therefore this research focused on one ethnic only. In addition, the secondary data

obtained from SPP (Bahagian Skim Pinjaman Perumahan) confirmed that majority applied for housing loans are Malays.

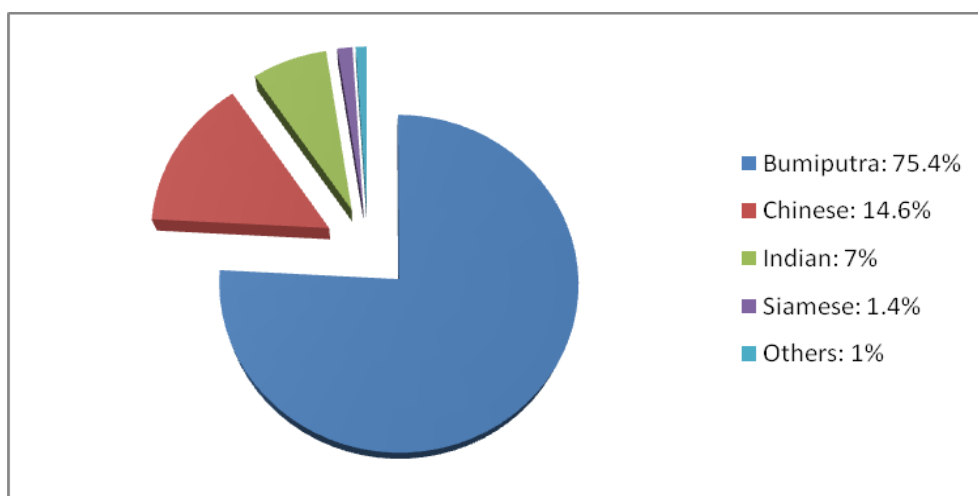


Figure 1.3: Percentage of population according to ethnicity.
Source: SPP (2012)

Table 1.4: Number of poorest families in Kedah according to districts.
Source: SPP (2012)

| | DISTRICTS | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | Total |
|----|-------------------|------|------|------|------|------|------|------|-------|
| 1 | Kota Setar | 70 | 137 | 155 | 182 | 150 | 440 | 423 | 1,557 |
| 2 | Padang Terap | 799 | 603 | 410 | 653 | 469 | 589 | 621 | 4,144 |
| 3 | Kubang Pasu | 632 | 686 | 273 | 330 | 108 | 303 | 279 | 2,602 |
| 4 | Sik | 607 | 119 | 140 | 120 | 154 | 302 | 322 | 1,764 |
| 5 | Kuala Muda | 300 | 779 | 400 | 232 | 334 | 185 | 211 | 2,441 |
| 6 | Pendang | 218 | 310 | 246 | 164 | 82 | 180 | 257 | 1,457 |
| 7 | Yan | 717 | 168 | 463 | 163 | 423 | 154 | 189 | 2,277 |
| 8 | Kulim | 231 | 448 | 435 | 87 | 164 | 145 | 98 | |
| 9 | Baling | 432 | 77 | 228 | 683 | 551 | 231 | 226 | |
| 10 | Bandar Baharu | 299 | 125 | 142 | 256 | 120 | 65 | 98 | |
| 11 | Langkawi | 58 | 58 | 120 | 120 | 256 | 14 | 12 | |
| 12 | Unknown districts | - | - | - | - | - | - | 7 | |
| 13 | Additional | - | - | - | - | - | - | 37 | |
| | TOTAL | 4363 | 3510 | 3012 | 2990 | 2811 | 2608 | 2780 | |

Table 1.5: Number of participants that received PPRT according to districts
Source: SPP (2012)

| | DISTRICTS | YEAR | | | | | | | Total |
|----|---------------|------|------|------|------|------|------|------|-------|
| | | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | |
| 1 | Kota Setar | 744 | 659 | 452 | 691 | 551 | 360 | 528 | 3985 |
| 2 | Kuala Muda | 368 | 458 | 440 | 509 | 475 | 334 | 127 | 2711 |
| 3 | Kulim | 363 | 269 | 429 | 479 | 137 | 313 | 119 | 2109 |
| 4 | Baling | 763 | 462 | 1824 | 745 | 487 | 431 | 224 | 4936 |
| 5 | Kubang Pasu | 363 | 710 | 349 | 421 | 303 | 16 | 50 | 2212 |
| 6 | Yan | 208 | 353 | 287 | 450 | 166 | 234 | 94 | 1792 |
| 7 | Sik | 775 | 518 | 997 | 636 | 234 | 367 | 211 | 3738 |
| 8 | Pendang | 301 | 373 | 284 | 679 | 330 | 372 | 125 | 2474 |
| 9 | Padang Terap | 1853 | 3681 | 3562 | 2159 | 588 | 394 | 201 | 12438 |
| 10 | Langkawi | 166 | 119 | 134 | 217 | 186 | 24 | 226 | 1072 |
| 11 | Bandar Baharu | 233 | 186 | 246 | 254 | 157 | 165 | 111 | 1362 |

1.4 Problem Statement

The design of housing is one of the most difficult tasks in the field of architecture. A proper understanding of the nature of human needs is of crucial importance in the formulation of housing and space standards. A shelter provides people their functional, social and spiritual needs. Therefore the dynamic issues on housing which partly can be solved by bureaucratically administered; politically imposed programs are seen as one of the method of solving housing shortages (Turner & Fichter, 1972).

Different agencies, authorities and developers have come with numerous efforts to solve the problems of low-cost housing within their local context, where situations of many poor people depend on contractor-oriented, bureaucratic systems for house building causing exorbitant costs for the final product. This approach seems to be a favourable method for Malaysian government in attempting to respond to low-cost housing deficit across the country. In comparison to other countries that looked in to

other alternative approaches in meeting the demands of low-cost housing such as self-help housing delivery system.

As we are all aware, housing delivery systems have been classified as developmentally oriented (self help/self build) or conventionally oriented (contractor-built) process. It has been claimed that a developmentally-oriented approach to building procurement would encompass the parameters of community empowerment and participation in design, job creation via the development process, and economically and environmentally-sustainable procurement (Alexander, 1985; Serageldin, 1997). Although it may take longer to construct than the contractor-built houses and it needs appropriate support, it generally results in a better housing product, more sustainable income generation opportunities, greater community development and greater mobilisation of sweat equity and monetary savings (Reddy, 2003; Mutua, 2003; Manie 2003).

The research focuses on alternative provision of low-cost housing at the local level, in the context of collaborative participation for community development or also known as self help approach and of developing a simplified prefabricated construction system that could promote self build housing among the low-income household in rural area. The study takes a broad perspective on the development of self help housing issues and explored through a detailed site experimentation, in which the participatory experience has been relatively appropriate. The principles of Segal Method developed by an architect in United Kingdom, to promote self build schemes are reviewed and compared.

1.5 Research Questions

According to O’Leary (2004; p.47), research questions are essentials to define the investigation, set boundaries, provide direction and act as a frame of reference for assessing the work. The fact that self build houses still exist in other developing and developed nations and has significantly contributed to the housing provision among the public and private sector, indicates that this type of approach has been executed by the low-income group as well as policy makers. It is a wonder how it was able to be implemented, why is it successful there, what are the key ingredients needed and so on. The research questions are as follow to which answers will be sought to further understand about self help/self build housing in Malaysia:

1. Why are self build houses not popular in Malaysia?
2. What are the factors or key features of self help housing that are able to promote such activities among the low-income households in the rural area?
3. What are the main constraints in promoting self build houses among the low-income households in rural areas of Malaysia?

Another fundamental issue that this research is addressing is to analyse the possibility of introducing a simplified system of house construction which relates to self build principles as a mean to initiate any self build group in rural areas. On that foundation alone, the following are research questions that need to be dealt with:

4. How can the available low technology of self build houses be applied into housing design and planning process?

5. What are the material preferences of Malaysia's rural low-income households should they opt for self build houses?
6. How can prefabrication system be implemented in promoting self build houses?

1.6 Aim And Objectives Of The Research

The aim of this research is to study the potential of self build housing system as an alternative for home ownership among the low-income households through a prefabricated system. The true participation of the end-users ensures the complete interpretation of their needs and requirements for the future sustainability of the project in addition to empowering and creating a sense of ownership among the people.

The development objectives were conceived to ensure that the research is well-guided to answer the research questions. The development objectives of the study are as follow:

1. To critically review the theory and practices of self help approach in housing.
2. To study the principles of Segal Method and its potential as an alternative to home ownership in Malaysia.
3. To determine the extent of acceptance and identify issues on the concept of self build houses in selected rural areas of Malaysia.
4. To develop and construct prototype using an adapted prefabricated system.
5. To evaluate the perception of end-users on the said prefabricated system.

1.7 Research Methodology

The collection of necessary data for this research imposed several different methods to be applied. It is necessary to divide the methodology of this study into two phases, since it requires separate methods to extract the data. The following lists all the methods that were used in order to further investigate the issue of self build housing in Malaysia.

1.7.1 Literature Review (Content Analysis)

The initial stage will involve the conventional method of collecting and reviewing the existing literatures on the subject matter, gather all relevant information for the study, identify the gaps that will be complemented by other methods. Literature review is essential as it will provide the background information on the existing system and assist in charting the directions of the research, in drafting the questionnaires, interview schedule. For example, documents and published information on housing planning and design from reliable sources will be analysed to see the current practices and possible room for improvement. Study on best practices from other countries will be referred for possible adaptation.

A literature review was conducted on the origin and development of self-help housing policy in developing countries, this was followed by an analysis of Malaysia literature on the development and practice of low-income housing policies with specific reference to self-help housing. A diversity of literature (books, academic journals, theses, media, conference papers, Internet) dealing with both national and international experiences of self-help housing policy and practice were consulted. The primary aim of the literature review is to paint a truthful picture of the national and international emergence and development of self-help housing policy and its theoretical assumptions.

1.7.2 Pilot Study

A pilot study is needed to measure and identify the matters in question and refine questionnaire. This small scale preliminary study was conducted to evaluate feasibility, time, cost, lucidity of the questions and identifying relevancy of questions in relation to the self help housing issues. This pilot study was carried out on a small group of low-income household in the sub-urban area. These respondents will not be involved in the final sampling as it would influence behaviour of the research subject.

1.7.3 Focus Group Interview

The purpose of focus group interviews is to engage a variety of prospective users in dynamic conversation about housing solutions, needs and preferences in order to gain the understanding of current specific issues that are related to housing markets, and to begin the development of project concepts that are appropriate for the target market. This process will provide qualitative data, up to date information and issues, which are not considered by the researchers or other reports.

1.7.4 Quantitative – Questionnaire (Phase One And Phase Two)

Another methodological dimension of the research project involved two quantitative surveys. Due to the distinctive nature of this research, a multi-method approach is sought to be the best-fitted formula. A quantitative technique relates here to the level of institutional phenomena and uses 'semi-structured' forms of data collection - both interviewing and observation. This is necessary to understand the perception and response towards the questions. Qualitative technique is also applied in the form of open-end interviews for some selected household individuals, which participated in the constructing the unit of the module in two different areas. The detailed analysis concerns issues of society's basic microstructures, i.e. households, networks of

households and related informal social networks connecting individual household principles and willingness, which comprise the primary units of cultural issues and voluntary efforts. This is followed by a second set of quantitative survey which examines the extent to which participatory initiatives can work as a mean of activating the possibilities that are present within existing structures and systems, based on the developmental participation theory (Sharp and Bath 1993) and the institutionalist framework (Healey 1997).

1.7.5 Site Experimentation

Next methodology is the design development and manufacturing of a simplified prefabricated system, which is used to test the perception and participation level among the low-income group in a rural area. This site experimentation is used to test the hypothesis of the study. This is a controlled experiment to provide insight of cause-and-effect through display of result that materialised based on certain exploited factors.

1.8 Limitations Of Research

Every research has certain limitations caused by the nature of the research methods employed and the way they are applied. One of the limitations in this research is disclosing and predicting the actual cost of the prototype. It is based on a one room or space prototype, hence there are various experimentations done on designs of wall panels as well as sizes of floor modules. Further to that the price of timber fluctuates based on demands and supply in the market.

Furthermore, even though the size of the sample used in the research was substantial, but this limits the generalisation of the findings. The researcher tried to gain an in-depth view of the studied population and to avoid generalisation, having in mind that it was not within the scope of the current micro research to produce a general theory.

1.9 Significance Of The Research

The importance of end-users perceptions on the self help housing issues need to be recognised and fully understood before policy related to housing can be addressed effectively. When there is still a high demand for low cost houses from the end-users, they can easily be interpreted as inefficient government housing policies. There are a few valuable outcomes, which can be exploited from this study:

1. Development of self build housing system using prefabricated design through low technology in jointing components as a people-friendly assembly technology to relate to the Malaysian rural context.
2. Development of manuals or guidelines to start a self help housing activities or organisations in local context.
3. Revision of existing housing policy with the intention to acknowledge self self housing association as part of an alternative house ownership.
4. Incentives to individuals that could use prefabricated components in self build housing.
5. Development of community projects with a simplified prefabricated system using self help approach and workshop to educate the low-income households on possibilities of self build houses.

All the points listed above has a sense of value towards the community empowerment and social sustainability. It is the process of self-discovery, development and empowerment that should be ranked as an investment to recognise the culture, lifestyle and capabilities of the low-income group as compared to forcing an idea or a housing program that we think they need. The return on the effort invested, other than physical and time, would create self-confidence and independence in creating one's home.

1.10 Conceptual Framework Of The Research

This research was initiated with some general ideas of an alternative housing delivery system that could assist governments to provide low-cost houses. Pre-government and rural societies engaged self-help as a mean of delivery of housing. The traditional order was such that individuals who already existed in a particular geographical context organised their resources to construct dwelling units for themselves (Turner, 1986: pg. 8). Practitioners and theoreticians observed that this mode of housing delivery existed even in modern societies and had the potential of delivering cost effective housing.

This research is based on certain aspects, which is crucial when dealing with low-cost housing approaches in Malaysian context. The current low-cost housing delivery system is centrally administered by the federal government, which in its conventional approach has not been successful (8th, 9th and 10th Malaysia Plan). Turner (1982) argued that a centrally-administered system cannot effectively satisfy the housing needs of the low-income group.

Currently in Malaysia, the supply of low-cost housing has been done by the public and private sectors. The administration, policies, planning and by-laws accommodate these two main sectors for submission, approval and implementations. The third sector, which does exist in other developing countries and also recognised as one of the sectors that do supply houses is the self help housing. Many issues that revolve in self help housing include accessibility, materials performance, financial aid and empowerment have always seen as obstacles to venture into the third sector. A conceptual framework (Refer Figure 1.4) is organised to illustrate on the ideas in order to achieve the research objectives that can be directly translated by the collection and analysis of data.

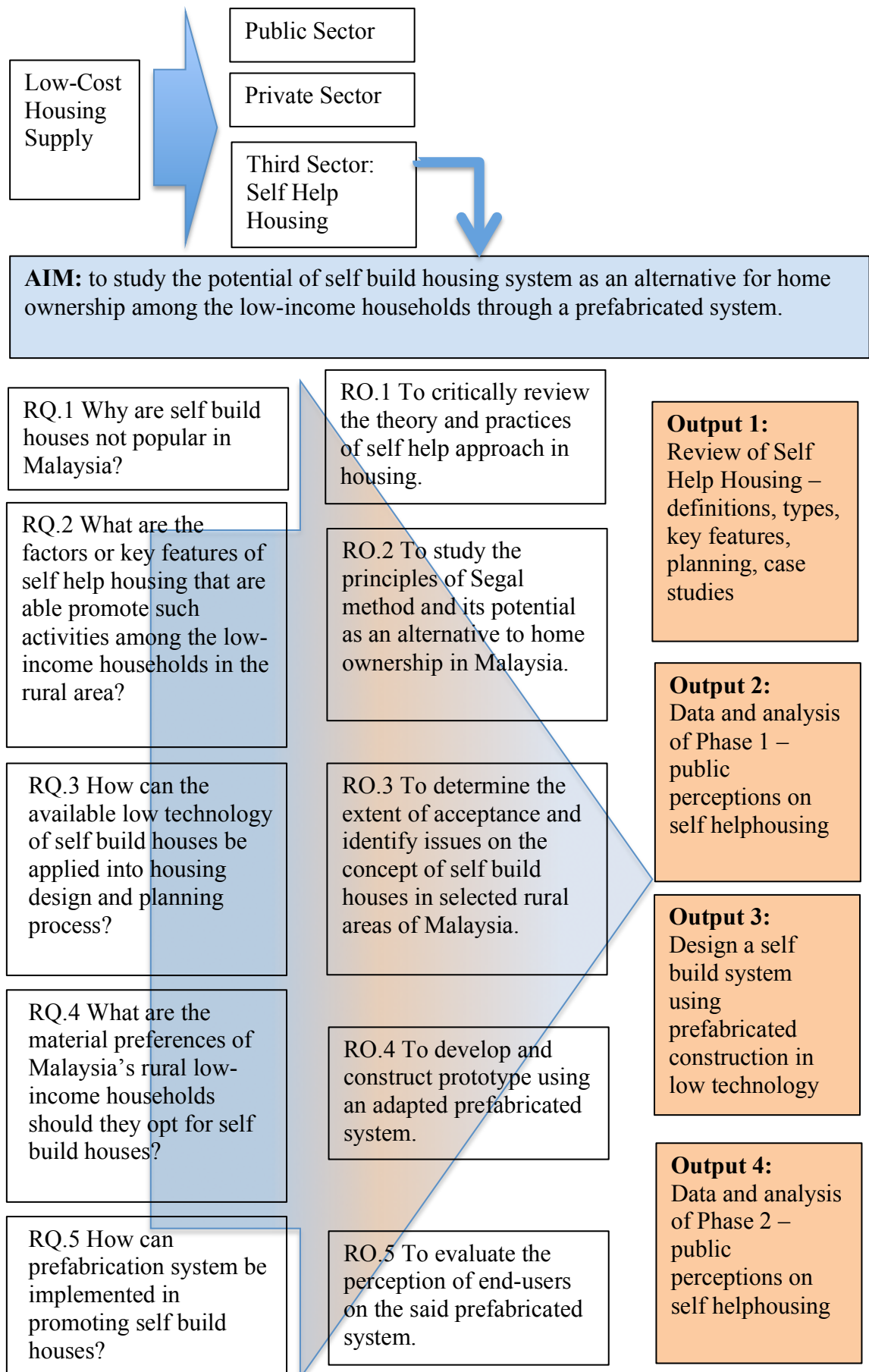


Figure 1.6: The conceptual framework of the research⁵.

⁵ Note: The Research Questions (RQ) do not necessarily answer Research Objectives (RO) in this order.

1.11 Theses Structure

The thesis is divided into 7 chapters. Refer to the flow chart in Table 1.6. **Chapter 1** introduces the background of the study, the general issues of low-cost housing and self help housing, the current scenario of housing in Malaysia, the aim and objectives of the research, the research questions and hypotheses, the significance and scope of the study as well as limitations of the study. **Chapter 2** provides the current issues on local housing matter to substantiate the need to encourage self help housing in Malaysia. This chapter also critically reviews the literature on theories and concepts that are related to the study, which includes reviewing the practice of self help at global and local scales. **Chapter 3** deals with the methodology of the study, research design, selection of subject matter, forming of questionnaire and selection of test chosen to analyse data with justification of study area in Kedah. This comprises of the interviews conducted with selected and relevant authorities in housing especially for the low-income group. **Chapter 4** analysed data quantitatively which is crucial in steering this research further into designing a self build housing system. **Chapter 5** presents and discusses the similarities of Segal approach with Malay traditional houses in employing for self build houses on the development of RTA self build housing system. **Chapter 6** illustrates the analysis of the second phase of this study whereby the design of RTA is manufactured and experimented in the field among the low-income households. Final chapter, **Chapter 7** recapitulates the thesis with the overall research outcomes and proposes some recommendations for possible establishment of self build group among the low-income group in rural area of Malaysia.

Table 1.7: The Thesis Framework

| | |
|---|--|
| CHAPTER 1: The Study | This chapter introduces the background of the study, the problem statement, the aim and objectives of the research, the research questions and hypotheses, the significance and scope of the study as well as limitations and assumptions of the study. |
| CHAPTER 2: Self Help Housing | This chapter looks into the concepts that are related to the study. It also includes reviewing the practice of self help at global and local scales, as well as comparing the Segal method to Malay traditional house construction. This chapter provides the current scenario of housing in Malaysia with an understanding of the roles and expectations of the governance. |
| CHAPTER 3: Methodology | This chapter discusses the methods applied in this study where decisions of sampling and enumerator selection, research design, development of questionnaire and test chosen to analyse data are included. |
| CHAPTER 4: Phase 1: Data Analysis and Findings | A series of analysis are conducted and described in this chapter to justify decisions made when proceeding in the 2nd phase of the research. |
| CHAPTER 5: Development of Ready-To-Assemble (RTA) Self Build Housing System | Further comparisons and literature reviews were done to look into self build housing using prefabricated systems. Principles from Segal Method is adapted in this study as it does suit local context culturally and environmentally. |
| CHAPTER 6: Phase 2: Data Analysis and Findings | The design, manufacturing and testing of the RTA self build housing system were made to validate and answer research questions on self build housing issues. |
| CHAPTER 7: Summary and Recommendations | General summary the impact of self build housing issues and RTA self build system is made in this chapter followed by recommendations and further research. |