Quality of life among residents in a sub-urban area. Case study: Puncak Alam, Selangor, Malaysia.

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Abstract. Along with the sub-urbanisation, people working in urban can stay in the sub-urban areas. Sub-urban housing areas provide cheaper and larger houses and more greenery environment. However, the residents are required to travel in longer distance. The effect on Quality of Life (QOL) due to the migration to sub-urban areas may not be positive even with the better environmental quality and lower direct housing cost. Puncak Alam, a new sub-urban area in Selangor, Malaysia had been chosen as the study area to examine the change of QOL among the residents after they moved into the study area. Through a questionnaire survey, the satisfaction of residents on the various aspects/indicators of QOL were examined. Through the statistical analysis, it is found that slightly more than half of the respondents felt that the QOL was dropped after they were moved to the study area. The sub-urban area did provide better quality for their residents. It had increased respondents’ satisfaction on most of the indicators in the aspects of economic, social and physical. However, due to the decreasing of satisfaction in job opportunities, family life, social activities, safety, and transportation system, most of the respondents were felt that their QOL were dropped.

1. Introduction

The Quality of life (QOL) is a broad multidimensional concept that includes subjective evaluations of both positive and negative aspects of life [1]. It is a term used to describe many aspects of life and its enjoyment or lack thereof [2]. The measurement of QOL is related to the human perception of ability to meet daily needs, physical activities, and well-being [2]. QOL is also defined as a social welfare component that includes all the important aspects of human, i.e. nutrition, shelter or housing, health, education, security, social stability, recreation, physical environment, transportation, arts, and economy [3, 4]. For World Health Organization [5], the main four elements of QOL are identified as health, personal safety, social relationship and family life. Thus, QOL covers the perception/satisfaction of people on their life for the aspects of physical (basic needs & environmental quality), economic (income, affordability, jobs, etc.) and social well-being (relationship, happiness, values, etc.).

A high quality of life is very important in an area because it is one of the effective measures in assessing the progress of a community and development. QOL is also an important determinant in describing the population of a country that was enjoying a comfortable standard of living. In the context of built environment, sub-urbanisation may affect the QOL of people. Under the sub-urbanisation development, people working in urban are living in the sub-urban areas. Moreover,
housing in the sub-urban areas are cheaper with larger land size and more greenery environment. However, the residents are required to travel longer in terms of distance and time to/from working places which are located in city/urban areas. Furthermore, the rapid urbanisation in Selangor including the sub-urbanisation has led to extreme changes in the state land use pattern. Its impact towards the macro environmental quality is worrying [6]. Arguably, the effect on QOL due to the migration to sub-urban areas may not be positive. For example, the residents of Puncak Alam (study area) are taking more than 45 minutes to commute to the nearest major cities, i.e. Shah Alam and Klang, and more than an hour to Subang Jaya, Petaling Jaya and Kuala Lumpur. The connecting roads between Puncak Alam and Shah Alam/Klang were experiencing serious traffic congestion particularly during the peak hours, i.e. morning and evening, when Puncak Alam’s residents are travelling to/from work. Based on the questionnaire survey, 69% of respondents agreed that Puncak Alam was facing the problem of traffic congestion.

![Figure 1. The view of traffic congestion at the Persiaran Mokhtar Dahari, the main connecting road to Puncak Alam from Guthrie Corridor Expressway](image)

2. Research method

2.1. Scope of research and the analysis

The aim of this study is to examine the changes of QOL among residents in a sub-urban area (Puncak Alam). The examination of the level of QOL was carried out using indicators for economic, physical and social aspects (Table 1). Flynn, Berry and Heintz [7] stated that indicators are attitudinal, which may give a complete picture of contemporary society. The understanding of QOL indicators in measuring the well-being is necessary since its aims to evaluate society and add substantially to the regnant economic indicators that are favoured by some policymakers [8]. Its reflect people’s objective circumstances in a given cultural or geographic unit [9]. For this study, data were analysed using Frequency, and Cross-tabulation tests as available in Statistical Package for Social Science (SPSS) software. The relationship analysis was carried out to examine the influence of distance to workplaces and changes of QOL.

| Aspects     | Indicators                                                                 |
|-------------|-----------------------------------------------------------------------------|
| Economic    | Satisfaction of respondents on: Financial status; Cost of living; Job opportunities |
| Physical    | Satisfaction of respondents on: Comfortable of living place; Safety of living area; Road safety / Frequency of road accidents; Provision & quality of public facilities; Provision & quality of commercial area; Transportation system; Access to workplace |
| Social      | Satisfaction of respondents on: Health; Happiness; Social activities; Neighbourhood activities; Pressure of life; Family life / quality time with families; Leisure activities |

2.2. Study area

Puncak Alam as the main township development in Kuala Selangor District, State of Selangor, Malaysia has been selected as the case study area. Kuala Selangor District is one of the less urbanised districts in Selangor. It is located approximately 20 kilometres in the Northwest direction from Shah Alam, the state capital of Selangor. Puncak Alam development was started in the late 90's under the management of Bukit Cherakah Development Sdn Bhd with approximately 57km² in size. However, from 15 May 2001 the development was charged to Puncak Alam Housing Sdn Bhd as the principal
developer. Currently, most of the developments in Puncak Alam are housing area with a small percentage of commercial and industrial units. As refer to the Figure 2, the satellite image clearly showed that Puncak Alam is located away from the major built-up area in Klang Valley (Klang – Shah Alam – Petaling Jaya – Subang Jaya – Puchong - Kuala Lumpur – Damansara). As a sub-urban area, Puncak Alam is surrounded by rural lands within the boundary of Kuala Selangor district.

![Figure 2. Location of Puncak Alam in Klang Valley [10]](image)

**Table 2. Distribution of Respondents in the Study Area**

| Bandar Puncak Alam | Number of houses [11] | Population [11] | % of respondents |
|--------------------|-----------------------|-----------------|------------------|
| Phase 1            | 1,250                 | 5,560           | 13               |
| Phase 2            | 2,530                 | 10,120          | 22               |
| Phase 3            | 4,820                 | 14,520          | 32               |
| Shah Alam 2        | 1,580                 | 7,900           | 18               |
| Alam Jaya          | 1,650                 | 6,600           | 15               |
| **Total**          | **11,830**            | **45,000**      | **100**          |

**Table 3. Background of Respondents**

| Variables                  | Percentage (%) | Variables                  | Percentage (%) |
|----------------------------|----------------|----------------------------|----------------|
| Length of stay             |                | House ownership            |                |
| 5 years or less            | 35             | Own property               | 81             |
| 6 - 10 years               | 40             | Renting                    | 16             |
| 11 – 15 years              | 16             | Others                     | 3              |
| More than 15 years         | 9              | Distance to workplace      |                |
| Income level               |                |                            |                |
| RM1000 or less             | 2              | 5 km or less               | 13             |
| RM1001-RM3000              | 38             | 6 – 12 km                  | 20             |
| RM3001-RM5000              | 41             | 13 – 15 km                 | 16             |
| RM5001-RM8000              | 13             | 16 – 20 km                 | 18             |
| RM8000 & above             | 6              | More than 20 km            | 33             |

2.3. Questionnaire survey and sampling of respondents

For the purpose of this study, the satisfaction of residents on the various aspects/indicators of QOL was collected through a questionnaire survey. Data from the questionnaire survey was used to measure the QOL among the respondents in the study area. In general, the questionnaire covers the following aspects:

a) Background of respondents, *i.e.* gender, age, employment, educational level, income, type of house ownership, the length of stay in Puncak Alam and distance to the workplace.

b) Satisfaction of respondents on the indicators as shown in Table 1. Respondents were required to answer the questions to examine their quality of life before and after living in the study area.
By using the stratified random sampling technique, 100 units of houses were chosen from a total of 11,830 units of houses in the area, which covered different housing types and pricing. It covered general households (Malaysian only) with various socio-economic backgrounds. Table 2 shows the distribution of respondents in the study area. The majority of the respondents (65%) were living in the area more than 5 years. Meanwhile, the majority of the respondents (81%) were the house owners. From the 100 respondents, 33% of them commute to/from work more than 20km every day (Table 3).

3. The result and findings

3.1. Economic indicators in measuring QOL

In measuring QOL, one of the important aspects is the economic or financial condition of people. Nowadays, people cannot live without financial healthiness especially in the urban area. Based on the satisfaction of respondents on the financial status of their family, most of the respondents (65% to 67%) were on the moderate level before and after they moved into Puncak Alam. The satisfaction level on the financial status of their family was becoming better after they moved to Puncak Alam. Before they moved to Puncak Alam, there were 21% weakly (or very weakly) satisfied on their financial status as compared to only 10% of those who were weakly satisfied after they moved to Puncak Alam. The percentage of respondents who were strongly satisfied with their financial status was increased from 14% (before moved in) to 23% after moved into Puncak Alam.

For the level of satisfaction on the cost of living, the percentage of respondents who felt moderate and strongly satisfied with their ability to manage their cost of living were increased. Meanwhile, the percentage of respondents with the weak or very weakly satisfied with their ability to manage the cost of living was decreased from 70% to 25% only.

However, the satisfaction of respondents on job opportunities was still low after they moved to Puncak Alam. Percentage of those who answer “weak” or “very weak” was increased from 62% (before moved in) to 70% after moved into Puncak Alam. Those who answered moderate and strongly satisfied were reduced in the number or percentage. It showed that even though the respondents were experiencing better financial status and cost of living, they were facing fewer job opportunities in their new area (Puncak Alam). Normally, job opportunities are available in urban areas especially the major cities in Selangor and Kuala Lumpur. Thus, they were required to work at places far from their new housing areas and not within the area of Puncak Alam.

3.2. Physical indicators in measuring QOL

In measuring the QOL, respondents’ satisfactions on the physical aspects of the study area, were also analysed. There were seven (7) physical aspects in total for this study. However, the physical aspects not showing clear decrease or increase in QOL after respondents moved to the study area.

For the aspect of comfort, percentages of respondents who felt weakly satisfied as well as strongly satisfied were decreased. At the same time, the percentage of the moderate level was increased after respondents were moved to the study area. It showed that the study area was at the moderate level for the comfort aspect. For the aspect of safety, Puncak Alam was less safe as compared to other areas. The percentages of respondents who felt weak and very weak for the level of satisfaction on safety were increased after they moved to the study area. The percentage for the moderate level was decreased from 55% to 21% only. However, in term of road safety, more respondents felt the roads were safer as compared to their previous living area. The study showed an increase in the percentage of respondents who strongly satisfied with the safety aspect of the roads in the study area.

Based on the survey, respondents were more satisfied with provision and quality of the commercial area in Puncak Alam as compared to the previous living areas. Percentages for weak as well as very weak satisfaction were decreased after respondents were moved into the Puncak Alam. At the same time, the percentage for those who were strongly satisfied was increased from 1% to 35%. It showed that the newly planned and developed Puncak Alam was providing good commercial facilities for the respondents. For the satisfaction of public facilities, it showed not a clear general trend of increase or decrease after respondents moved to the study area.

Being a sub-urban area, Puncak Alam is suffering from traffic congestion during the peak hours. Furthermore, the transportation system in the area was weakly satisfied by most of the respondents.
(40% felt weak, and 38% felt very weak). There was only 22% of respondents felt moderate satisfaction on the transportation system. There was no respondent felt strongly satisfied on the transportation system. As compared to the satisfaction level before they moved to Puncak Alam, generally, the satisfaction level was dropped.

3.3. Social indicators in measuring QOL

Percentage of respondents felt strong satisfaction on their health was increased after they had moved into the study area. Meanwhile, the percentage of respondents who were weakly satisfied on their health was decreased (Table 4). Besides, a higher percentage of respondents were feeling happier after moved into the study area (Table 4). However, there were also a slightly increased number of respondents who felt very weakly satisfied on their happiness (from 0 to 4).

Table 4. Satisfaction on their health and happiness

| Level of satisfaction | Health (% respondents) | Happiness (% respondents) |
|-----------------------|------------------------|---------------------------|
|                       | Before | After | Before | After |
| Very weak             | 0      | 0     | 0      | 4     |
| Weak                  | 35     | 13    | 19     | 17    |
| Moderate              | 55     | 53    | 75     | 37    |
| Strong                | 10     | 33    | 6      | 41    |
| Very strong           | 0      | 1     | 0      | 1     |
| Total                 | 100    | 100   | 100    | 100   |

For the aspects of family life and social activities, there was a clear increase in the percentage of respondents who felt weakly satisfied. However, there was also a slight increment in the percentage of strongly satisfied. It showed that higher percentage of respondents who were moved into the study area (sub-urban area) were facing reducing of time with family and satisfaction in carrying out social activities. It might be due to the longer travelling time and distance to workplaces. However, for the aspects of neighbourhood activities, leisure activities, and pressure of life, the percentage of respondents who were strongly satisfied was increased after they moved to the study area.

3.4. Overall QOL level

When the respondents were asked about their overall opinion on their QOL changes after they moved to the study area, slightly more than half of the respondents (56%) felt that the QOL was dropped. However, there were 44% of respondents felt that the QOL was increased. There were 55% of respondents regretting their decision to move into the study area. It was due to the fewer job opportunities and longer travelling distance to the workplace. It has led to the reduction of time with family (family life) and social activities.

It showed that the new development area (the study area) did provide better quality for their residents. For example, it had increased respondents’ satisfaction on most of the indicators in the aspects of economic, social and physical. However, due to the decreasing of satisfaction in few indicators (i.e. job opportunities, family life, social activities, safety, and transportation system in relation to the working trip), most of the respondents were felt that their overall QOL level were dropped and they were regretting their decision to move into the study area. Among the respondents, there were 35% answered that they might be moving out from the study area.

3.5. Distance to workplaces and change of "overall QOL"

Cross Tabulation analysis was carried out to examine the relationship between distance to workplaces and the changes of QOL by respondents. Table 5 showed that high percentage of respondents who travel in a longer distance (>20km) as well as shorter distance (<6km) were experiencing decrease of QOL. Among those who were living within 13 to 15 km from workplace, 50% experiencing decrease of QOL and another 50% experiencing increase of QOL. It showed that the moderate distance to workplace is having better impact on QOL.
Table 5. Relationship between Distance to Workplaces and Changes of QOL

| Distance to Workplace | Percentage of respondents (%) | Increase of QOL | Decrease of QOL | Total |
|-----------------------|--------------------------------|----------------|-----------------|-------|
| 5 km or less          | 40.0                           | 60.0           | 100.0           |
| 6 – 12 km             | 46.2                           | 53.8           | 100.0           |
| 13 – 15 km            | 50.0                           | 50.0           | 100.0           |
| 16 – 20 km            | 44.4                           | 55.6           | 100.0           |
| More than 20 km       | 42.4                           | 57.6           | 100.0           |
| Total                 | 44.0                           | 56.0           | 100.0           |

4. Conclusions and recommendation

In conclusion, slightly more than half of the respondents (56%) felt that the “overall QOL” was dropped after they were moved to the study area (sub-urban). However, there were 44% of respondents felt that the “overall QOL” was increased. The new development of sub-urban area did provide better quality for their residents. For example, it had increased respondents’ satisfaction on most of the indicators in the aspects of economic, social and physical. However, due to the decreasing of satisfaction in few indicators (i.e. job opportunities, family life, social activities, safety, and transportation system), most of the respondents were felt that their “overall QOL” were dropped and they were regretting their decision to move into the study area. The situation of less job opportunity and longer travelling distance to the workplace at the sub-urban area, has led to the reduction of time with family (family life) and social activities. There were one-third of respondents who might be going to move out from the study area. This preliminary study has successfully indicated the changes of QOL among the residents in one of the sub-urban area in Malaysia. It is proposed that urban planning and development for a sub-urban area should be carried out with more concern on the aspects of QOL among residents, especially the aspects of job opportunities, travelling distance, social activities, and family life.

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