

Urban Growth Determinants for the State of Kelantan : Opinions of the State's Policy Makers

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Abstract

The paper presents views of key officers with regard to the factors that accelerate urban growth in Kelantan. These factors can be divided into four main categories namely: locational factor, economic factor, infrastructure factor, and political and administrative factor. The survey using questionnaires was conducted in 1992. Results gained from this research indicate that Kelantan needs to improve its infrastructure and facilities as well as encourages more public and private investors to locate in Kelantan in order to help the towns grow.

1.0 INTRODUCTION

Peninsular of Malaysia has seen a remarkable economic and political stability in the past two decades. A few large urban centres have become the target of emigrants seeking employment. As a result, many problems have arisen due to this form of centralisation. Among such problems are a high rural-urban migration rate, urban congestion, increase of squatters and poor housing. To overcome or at least to reduce these problems, many researchers (Richardson, 1978; Hardoy and Satterthwaite, 1986; Rondinelli, 1983a and 1983b) have come up with the idea of strengthening smaller places, in particular intermediate cities and small towns. It is believed that the promotion of an effective hierarchy of urban centres is the most important spatial element in a regional development strategy.

1.1 The Purpose of Study

The main purpose of this study is to identify the underlying factors which have contributed to the growth, stagnation or decline of small and intermediate cities in Peninsular Malaysia with special reference to the State of Kelantan. The research would also attempt to analyse the impacts of growth of these urban centres on their surroundings. By so doing, the criterion of growth could be identified and could be used as a tool of the development process for achieving greater development in less developed areas.

Another reason for this study is that it seems appropriate to strengthen the existing small and intermediate sized cities, as many empirical studies (Haji Abdul Rahman, 1984; Choguill, 1985) have shown the ineffectiveness of "new town programmes" in Malaysia. Despite the availability of a relatively high standard of urban infrastructure in these new towns, Choguill (1985) indicated that they have not reached the stage at which self-generated growth can take place. To a significant extent, "land development schemes have not significantly raised rural incomes nor prevented city-ward migration" (Osborn, 1974, p.246).

1.2 The Scope of Study

This study will focus on small and intermediate sized towns in the east coast states of Peninsular Malaysia, particularly in the state of Kelantan. Again, the government's definition of urban centre is used and the lower limit of small sized cities (towns) is confined to 1,000 people (where data is available).

1.3 The Objectives of Study

The main objectives of this research are as follows:

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1. To examine and analyse the growth determinants which contribute to the sustaining of population and economic activities in the small and intermediate sized urban centres.
2. To clarify the precise roles played by small and intermediate sized towns in the north-east of Peninsular Malaysia in relation to their hinterlands and regions.
3. To suggest policies that might promote regional balance in terms of spatial distribution of population and economic activities as well as the distribution of income and welfare of the population.

1.4 The Selection of Study Area

Urban centres and small towns located in the state of Kelantan will be used as the case study area. Kelantan was selected for several reasons. *Firstly*, despite the fact that the New Economic Policy (NEP) was introduced to upgrade the status of Bumiputras and to alleviate poverty, Kelantan which has the biggest number of Bumiputras, has the lowest average monthly household income in Malaysia. Its ratio to the national average were 0.57 in 1985 and 0.58 in 1990 (see Table 1.1).

| | 1985 (RM) | Ratio to National Average | 1990 (RM) | Ratio to National Average |
|-----------------|--------------|------------------------------|--------------|------------------------------|
| Malaysia | 1,098 | | 1,254 | |
| Johor | 1,065 | 0.97 | 1,220 | 0.97 |
| Kedah | 690 | 0.63 | 860 | 0.69 |
| Kelantan | 625 | 0.57 | 726 | 0.58 |
| Melaka | 1,040 | 0.95 | 1,190 | 0.95 |
| Negeri Sembilan | 1,039 | 0.95 | 1,162 | 0.93 |
| Pahang | 960 | 0.87 | 1,092 | 0.87 |
| Perak | 883 | 0.80 | 1,067 | 0.85 |
| Perlis | 692 | 0.63 | 852 | 0.68 |
| Pulau Pinang | 1,183 | 1.08 | 1,375 | 1.10 |
| Sabah | 1,212 | 1.10 | 1,358 | 1.08 |
| Sarawak | 1,033 | 0.94 | 1,199 | 0.96 |
| Selangor | 1,590 | 1.45 | 1,790 | 1.43 |
| Terengganu | 756 | 0.69 | 905 | 0.72 |
| Kuala Lumpur | 1,920 | 1.75 | 2,102 | 1.68 |

Source: Table 1-12 of the Sixth Malaysian Plan.

Table 1.1: Average Monthly Household Income by States

Secondly, Kelantan is located somewhat in isolation from the industrial corridor on the west coast and far from the sphere of influence of Kuala Lumpur, Penang and Singapore. Therefore, this study is essential to determine the forces of the state's urban growth determinants because urban centres in Kelantan have their own unique mix of potentials and constraints. *Thirdly*, the state government of Kelantan has been governed on and off by both the ruling federal government (National Front) and the opposition (PAS). The opposition has ruled longer in Kelantan than in any other states. Given the above facts, it is justified that a special study be carried out on urban centres in Kelantan.

According to the Malaysia Censuses of Population in 1957, 1970, 1980, and 1991, many towns have increasingly emerged as urban centres. Nevertheless, a few centres seem to be stagnant or declining in population. Malaysia has used a minimum population threshold of 10,000 people located in the gazetted areas to define an urban area. Recently, this definition has been changed in order to clarify the problems of "underbounded" and "overbounded" urban areas in Malaysia. Urban areas were defined as;

"Gazetted areas with their adjoining built-up areas which had a combined population of 10,000 or more at the time of the 1991 Population Census". Meanwhile, built-up areas were defined as "areas contiguous to a gazetted area and had at least 60 percent of their population (aged 10 years or more) engaged in non-agricultural activities and at least 30 percent of their housing units with modern toilet facilities" (*Preliminary Count Report for Urban and Rural Areas, 1991 Population and Housing Census of Malaysia*, p.12).

In 1957, the state of Kelantan had only two urban centres, namely Kota Bharu and Pangkal Kalong. In addition to Kota Bharu and Pangkal Kalong, Peringat, Pasir Mas and Tumpat were recognised as urban centres in 1970 as their population thresholds passed the 10,000 mark. In 1980, Tumpat dropped out of the list but two newcomers, namely Kuala Krai and Kadok have emerged as the new urban centres. In the latest census report of population and housing of Malaysia 1991, four more new urban centres have emerged and perhaps one of them has re-emerged, as the new definition of urban centre was adopted in 1991. Below is the list of urban centres in Kelantan during the 1957 to 1991 period (Table 1.2).

| NO. | URBAN CENTRES | POPULATION | | | |
|-----|---------------------|------------|--------|-----------------------|---------|
| | | 1957 | 1970 | 1980 | 1991 |
| 1) | Kota Bharu | 38,103 | 55,124 | 167,873 | 234,604 |
| 2) | Pangkal Kalong | 11,248 | 14,426 | 21,628 | 29,431 |
| 3) | Tanah Merah | | | | 21,678 |
| 4) | Kuala Krai & Guchil | | | 12,607 ^(a) | 19,825 |
| 5) | Peringat | | 11,806 | 13,808 | 18,251 |
| 6) | Kadok | | | 11,711 | 15,352 |
| 7) | Pasir Mas | | 11,233 | 13,402 | 15,267 |
| 8) | Gua Musang | | | | 14,465 |
| 9) | Wakaf Baru | | | | 14,312 |
| 10) | Tumpat | | 10,673 | | 11,785 |

(a) Population for Kuala Krai only, but in 1991 census both Kuala Krai and Guchil are considered as one urban centre.

Source: *Population and Housing Censuses of Malaysia 1970, 1980 and 1991*.

Table 1.2: Kelantan's Urban Centres in 1957, 1970, 1980 and 1991

1.5 Background of the Study Area

Kelantan is one of the eleven states in Peninsular Malaysia. Its location on the north-east coast of the Peninsular leads to an adverse climate in the months of November, December and January due to the annual monsoon season. The State contains a fertile alluvial plain, ideal for crops such as rice, tobacco, fruits and vegetables.

Kelantan covers an area of 14,922 sq. km which is 4.4 percent of the total area of Malaysia, and is administratively divided into ten districts: Kota Bharu, Pasir Mas, Tumpat, Pasir Puteh, Bachok, Kuala Krai, Machang, Tanah Merah, Jeli and Gua Musang.

The State's population totalled 1,181,680 in 1991. The District of Kota Bharu accounted for 366,849 inhabitants in 1991. Pasir Mas District has the second largest number of population which is 150,375. Meanwhile, Tumpat, Pasir Puteh, Kuala Krai and Bachok Districts have a relatively about the same number of inhabitants. Jeli and Gua Musang Districts seem to have a very small population. The distribution of population by districts in 1991 is given in Table 1.3.

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| DISTRICT | Population (1991) | Percentage of State Total |
|---------------|-------------------|---------------------------|
| 1)Kota Bharu | 366,849 | 31.0 |
| 2)Pasir Mas | 150,375 | 12.7 |
| 3)Tumpat | 115,925 | 9.8 |
| 4)Pasir Puteh | 96,802 | 8.2 |
| 5)Bachok | 98,572 | 8.3 |
| 6)Kuala Krai | 90,831 | 7.7 |
| 7)Machang | 71,504 | 6.1 |
| 8)Tanah Merah | 94,282 | 8.0 |
| 9)Jeli | 32,675 | 2.8 |
| 10)Gua Musang | 63,865 | 5.4 |

Source: *Population and Housing Census of Malaysia 1991*.

Table 1.3: Distribution of Population by Districts in 1991

Kelantan's economic activities are primarily centred around agriculture, manufacturing and the agro-industrial sector, as well as tourist industry. Over the years, agriculture has seen its share slowly decreasing, being 43.2 per cent of the economy measured in Growth Domestic Product in 1980 and 29 per cent in 1990, with a corresponding increase in manufacturing and industrial activities. The larger manufacturing industries are found in the wood-processing, agro-based and export-oriented industries. Wood-based industries include logs and sawn timber with secondary processing activities engaged in plywood and veneer manufacturing, furniture making, and production of match sticks. Kelantan produces 470,000 cu metres of sawn timber annually, while engaged in primary processing of rubber, rice and palm oil. Gold mining is also an important activity.

2.0 METHODOLOGY

It is important to examine the data collection process in this study that comprises of sampling strategy, questionnaire designs, respondents' background, and the collection of primary data. The analysis and results of primary data will be explained later.

2.1 Data Collection Strategy

Both primary and secondary data were used in this research project. Primary data was collected by the researcher during the fieldwork from February 1992 to May 1992. Secondary data was gathered mainly from the State of Kelantan Library, SEPU's (State Economic Planning Unit) library, and Department of Statistics in Kota Bharu as well as in Kuala Lumpur.

2.2 Sampling Strategy

One of the first steps in the survey design is to define the population to be studied. Kalton (1983) describes the term "population" as the totality of the elements under study, where the "elements" can be persons, households, schools, or any other unit, are the units of analysis. If the population is big, sampling is almost always used. In this research project, sampling is not used because the population is small. Since the survey was intended to cover the views of administrators and other policy makers for the state of Kelantan, the researcher tried to have as many respondents from various departments and sections as possible. Basically, the objective of the survey is to see how the decision makers look at the issues and problems, and how (according to their opinions) then they try to amend them.

2.3 Respondents

Respondents from departments and sections below were selected for the survey;

- a) **District Office** (i.e. District Officer (D.O) and A.D.O)
- b) **District Council** (i.e. D.O and Secretary of District Council)
- c) **Municipal Council** (i.e. Chairman and Deputy Chairman of Municipal Council, Chief Town Planner, and Chief of Licensing Department)
- d) **State Economic Planning Unit** (i.e. Director, Deputy Director and Assistant Director of SEPU)
- e) **State Department of Town and Country Planning** (i.e. Director and Deputy Director)
- f) **Local Government Department**
- g) **Regional Development Authority** (i.e. Chairman of KESEDAR)
- h) **Agriculture Development Authority** (i.e. Director of Administration and Finance Department for Kemubu Agriculture Department Authority (KADA), Head of Land Consolidation and Padi Estate Department for KADA, and Land Consolidation Engineer in KADA)
- l) **State Investment Centre** (i.e. Assistant Manager in Industry Section)
- j) **State Economic Development Corporation** (i.e. General Manager, Deputy General Manager of SEDC, and Head of Agricultural Department in SEDC)
- k) **State Treasury Office** (i.e. Treasurer and Assistant Treasurer)
- l) **Politician** (i.e. from Ruling and Opponent Parties)
- m) **State Service Commission** (i.e. Deputy Chairman)
- n) **State Legislative Assembly** (i.e. State Legal Advisor, Executive Council Member (Exco) and ex-Exco member)
- o) **State Structure Plan Unit** (i.e. Project Manager)

The chosen respondents were not the most expert in the planning field but they happened to be the most experienced senior officers who have been involved in various disciplines and agencies. They are the decision makers for the development policies adopted in Kelantan.

2.4 The Coverage of the Survey

The researcher attempted to obtain an even number of respondents from each of the ten districts of Kelantan, but as most of the State Department Offices are located in Kota Bharu, the majority of respondents come from this part of the area (see Table 2.1). However, most of them have experienced working in many parts of the state during their careers (see Table 2.2 for place of working experiences). Furthermore, given the small size of Kelantan and short travel distances, information travels very fast and one does not need to be there to know what is going on in the other parts of the state. Moreover, most of the urban centres are located less than fifty kilometres away from Kota Bharu, with the exception of Jeli, Kuala Krai and Gua Musang (see Table 2.3 and Figure 2.1).

| DISTRICT | NUMBER OF RESPONDENTS |
|----------------------|-----------------------|
| 1) Kota Bharu (K.B) | 18 |
| 2) Pasir Mas (P.M) | 2 |
| 3) Tumpat (Tum.) | 1 |
| 4) Pasir Puteh (P.P) | 2 |
| 5) Bachok (Bac.) | 1 |
| 6) Kuala Krai (K.K) | 1 |
| 7) Machang (Mac.) | 2 |
| 8) Tanah Merah (T.M) | 1 |
| 9) Jeli | 1 |
| 10) Gua Musang (G.M) | 3 |
| TOTAL | 32 |

Table 2.1: The Distribution of Respondents According to Districts

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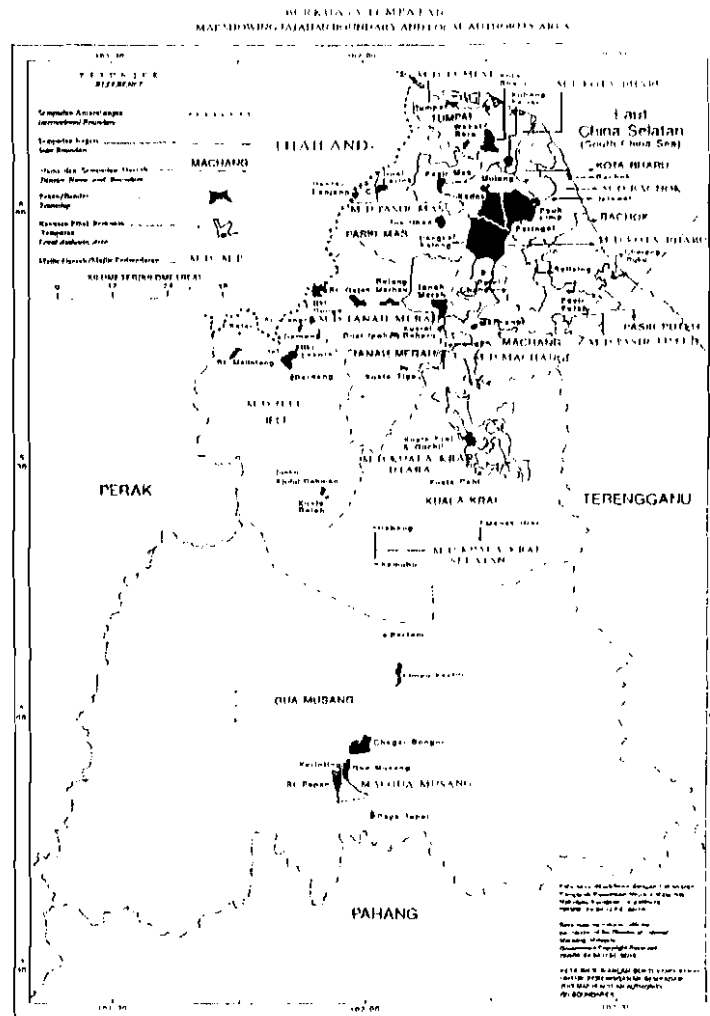


Figure 2.1: Map of Case Study Area

| Respondents | Respondents' Working Experiences in Districts of Kelantan | | | | | | | | | |
|---------------|---|-----|------|-----|------|-----|------|-----|------|-----|
| | K.B | P.M | Tum. | P.P | Bac. | K.K | Mac. | T.M | Jeli | G.M |
| Respondent 1 | X | X | X | X | X | X | X | X | X | X |
| Respondent 2 | X | | X | | | X | | | | |
| Respondent 3 | X | X | X | X | X | X | X | X | X | X |
| Respondent 4 | X | X | X | X | X | X | X | X | X | X |
| Respondent 5 | X | X | X | X | X | X | X | X | X | X |
| Respondent 6 | X | X | X | X | X | X | X | X | X | X |
| Respondent 7 | X | | | | | | X | X | | |
| Respondent 8 | X | | | | | X | | X | | |
| Respondent 9 | X | | X | | X | | | | | |
| Respondent 10 | X | | | | | X | | | | X |
| Respondent 11 | X | | | | | | | | | |
| Respondent 12 | X | X | X | X | X | X | X | X | X | X |
| Respondent 13 | X | | | | | X | | | X | X |
| Respondent 14 | X | X | X | X | X | X | X | X | X | X |
| Respondent 15 | X | | | | X | | | | | |
| Respondent 16 | X | | | | | | | | | |

| | | | | | | | | | | |
|---------------|---|---|---|---|---|---|---|---|---|---|
| Respondent 17 | X | | | | | | | | | |
| Respondent 18 | X | | | | | X | | | X | |
| Respondent 19 | X | | | X | | X | | | X | X |
| Respondent 20 | X | | | X | | | X | | | |
| Respondent 21 | X | X | | X | X | X | | X | X | X |
| Respondent 22 | X | X | X | X | X | X | X | X | X | X |
| Respondent 23 | X | X | X | X | X | X | X | X | X | X |
| Respondent 24 | X | X | X | X | X | X | X | X | X | X |
| Respondent 25 | X | X | X | X | X | X | X | X | X | X |
| Respondent 26 | X | | | | | | | | | |
| Respondent 27 | X | X | X | X | X | X | X | X | X | X |
| Respondent 28 | X | X | X | X | X | X | X | X | X | X |
| Respondent 29 | X | X | X | X | X | X | X | X | X | X |
| Respondent 30 | X | | | | | | | | | |
| Respondent 31 | X | | | | | | | | | X |
| Respondent 32 | X | | | | | | | | | |

Source: *Research Fieldwork 1992*

Table 2.2: Work Experiences of Each Respondent in Districts of Kelantan.

| Road Link | Distance (km.) |
|------------------------------|----------------|
| Kota Bharu - Pengkalan Chepa | 10 |
| Kota Bharu - Tumpat | 19 |
| Kota Bharu - Pengkalan Kubor | 28 |
| Kota Bharu - Pasir Mas | 18 |
| Kota Bharu - Rantau Panjang | 40 |
| Kota Bharu - Tanah Merah | 28 |
| Kota Bharu - Jeli | 94 |
| Kota Bharu - Bachok | 25 |
| Kota Bharu - Pasir Puteh | 40 |
| Kota Bharu - Machang | 42 |
| Kota Bharu - Kuala Krai | 68 |
| Kota Bharu - Gua Musang | 185 |

Source: *Public Works Department, JKR Kelantan in Kelantan Development Statistics 1990 and Own Calculation.*

Table 2.3: Distance of Major Road Links within Kelantan

2.5 Questionnaire Designs

At the outset of this research, it was hoped that it would be possible to develop the Delphi Method of questionnaire analysis, but due to lack of financial support and time constraints, this approach was simplified and can now be called an expert survey. Delphi was originally developed by Helmer, Reschner, Gordon, Dalkey, and others at the Rand Corporation (Dickey and Watts, 1978). The Delphi method is summarised by Helmer (1972, p.15) as "a systematic method of collecting opinions from a group of experts through a *series of questionnaires*, in which feedback of the group's opinion distribution is provided between question rounds while preserving the anonymity of the responses." There are three important factors which need to be met if one wants to use the Delphi approach: a panel of experts, a series of questionnaires, and provision for feedback of findings to respondents. The second and third factors could not be met for this research project since the survey was intended to be done only once, even though there exists a pool of experts in Kelantan.

According to Preble (1984), the criteria for choosing these experts varies depending upon the application that is envisaged. By and large they are selected for their knowledge of the area and the problems that are being considered. Thus, from the researcher's point of view, these respondents were selected for this study because they were the best and most informed about the area and aware of the problems.

The questionnaire is structured in such a way that both choices and open-ended questions are given. The open-ended questions serve to break up monotony and give respondents an opportunity to express their opinions that may otherwise be restricted by rigid questions (Dicky and Watts, 1978).

3.0 METHOD OF GATHERING INFORMATION

The method of getting information from the respondents is varied and depends on the readiness of the respondents.

3.1 The Schedule and Interview Guide

Interviewing respondents and going through the questions in the questionnaire one by one was done when possible. The process was either done in the office or over lunch. This type of observational method of the data collection is known as '*The Schedule and Interview Guide*'. The Schedule and Interview Guide consist of "a set of items or questions (structured or unstructured) that are asked and filled in by an interviewer in a face-to-face situation with the respondent" (Labovitz and Hagedorn, 1976, p.74).

3.2 The Questionnaire

Sometimes, the respondent asked the researcher whether he could take the questionnaire home. When this occurred, another date was set to collect the questionnaire. This type of data collection is known as '*The Questionnaire*'. Labovitz and Hagedorn (1976) refer to *The Questionnaire* as an instrument composed of a series of questions that are filled in by the respondent himself, and it may be handed out to the respondent at work or mailed out to him at home.

Both approaches have disadvantages. The main disadvantage of interviewing is that the process can introduce bias, because it is difficult to treat all respondents in the same way. A self completion questionnaire requires good literacy skills. Furthermore, there is no guarantee that the respondents will complete the questionnaire (Dicky and Watts, 1978, p110; Nachmias and Nachmias, 1981; Glastonbury and MacKean, 1991).

In the end, 32 questionnaires were collected during the fieldwork.

4.0 RESULTS OF THE EXPERT SURVEY

The *Wilcoxon Signed-Rank Test* and the *Friedman Test* are used to analyse the officers' views in respect to the importance of locational factors, economic factors, infrastructural factors, and political and administrative factors. The results of the survey are presented below according to the four main factors as mentioned before.

4.1 Locational Factors

Stephenson (1980) emphasized the importance of integrating physical factors with social and economic variables when discussing urban growth and development. He stressed that these physical factors have not always been appreciated or properly documented even though physical factors played a very important role in city growth.

Locational factors are considered as one of the physical factors. Locational factors can be categorised into two different elements;

- 1) favourable geographical location, and
- 2) proximity to other bigger cities.

Let us begin the test by stating the hypothesis that the importance of a favourable geographical location and proximity to other bigger cities in causing urban growth in Kelantan is the same. The Wilcoxon signed-rank test was used to test the hypothesis that the two variables are the same. If the distribution of the two variables are the same, the average ranks of positive and negative differences should be similar.

4.1.1 Results of The Wilcoxon Signed-Rank Test for Locational Factors

It is shown in Table 4.1, the average rank of the 15 negative differences is 14.33. The average positive rank is 7.63. In the row labelled *Ties*, there are nine cases with the same value for both variables.

Table 4.1: Wilcoxon Matched-Pairs Signed-Ranks Test

| Location 1 (Favourable Geographical Location) | | |
|--|-------|------------------------------------|
| with Location 2 (Proximity to Other Bigger Cities) | | |
| Mean Rank | Cases | |
| 14.33 | 15 | - Ranks (Location 2 LT Location 1) |
| 7.63 | 8 | + Ranks (Location 2 GT Location 1) |
| | 9 | Ties (Location 2 EQ Location 1) |
| | ---- | |
| | 32 | Total |
| Z = -2.3420 | | 2-Tailed P = .0192 |

The observed significance level associated with the test is small (0.0192), therefore the hypothesis of no difference is rejected. It is shown that Location 2 has less than Location 1 in negative ranks in 15 cases, and greater than Location 1 in positive ranks in only 8 cases.

Therefore, we can safely conclude that a 'favourable geographical location' is in general more "preferable" than 'proximity to other bigger cities' among the locational factors in triggering urban growth for the urban centres in the state of Kelantan.

4.2 Economic Factors

Economic factors are categorised by diverse economic activities namely; investment in industries, good agricultural land and productivity, availability of resources in surrounding areas, and availability of skilled and un-skilled labours.

4.2.1 Results of The Friedman Test for Economic Factors

Table 4.2 shows the results of the Friedman test, examining the hypothesis that diverse economic activities, investment in industries, good agricultural land and productivity, availability of resources in surrounding areas, and availability of skilled and un-skilled labours, have the same share of contributing factors for urban growth in Kelantan.

Table 4.2: Friedman Two-Way Anova

| Mean Rank | Variable |
|-----------|--|
| 3.28 | Economic 1 (Diverse Economic Activities) |
| 2.98 | Economic 2 (Investment in Industries) |
| 3.38 | Economic 3 (Good Agricultural Land and Productivity) ... continued |

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|-------|---|------|--------------|
| 2.95 | Economic 4 (Availability of Resources in Surrounding Areas) | | |
| 2.41 | Economic 5 (Availability of Skilled and Un-skilled Labours) | | |
| Cases | Chi-Square | D.F. | Significance |
| 32 | 7.3563 | 4 | .1182 |

The observed significance level is large (0.1182), so it appears that the five underlying variables are having about the same share of contributing factors for urban growth in Kelantan. It is noticeable however, diversity in economic activity, and good agricultural land and productivity placed more weight on this factor. The availability of labour force indicates the lowest mean rank due to the fact that there is a surplus of manpower in Kelantan. Some people tend to migrate elsewhere to find jobs. For instance, many electronic and fabric companies in Penang, Selangor and Johor have Kelantanese as their workers.

4.3 Infrastructure Factors

Infrastructure factors can be divided into three main categories which are; a good communication and transportation network, provision of electricity and water supply, and investment in health and sanitary services.

4.3.1 Results of The Friedman Test for Infrastructural Factors

This test is conducted on the notion that the three variables (good communication and transportation network, provision of electricity and water supply, and investment in health and sanitary services) have no difference in making urban centres to grow.

Table 4.3: Friedman Two-Way Anova

| | | | |
|-----------|--|------|--------------|
| Mean Rank | Variable | | |
| 2.23 | Infrastructure 1 (Good Communication and Transportation Network) | | |
| 2.13 | Infrastructure 2 (Provision of Electricity and Water Supply) | | |
| 1.64 | Infrastructure 3 (Investment in Health and Sanitary Services) | | |
| Cases | Chi-Square | D.F. | Significance |
| 32 | 6.3906 | 2 | .0410 |

The output in Table 4.3 shows that the first factor, the good communication and transportation factor, has the largest average rank. The value of the Friedman statistics is 6.3906. The small observed significance level (0.0410) suggests that the three variables have different weights in contributing to urban growth. An investment in health and sanitary services is the least influential factor in initiating urban growth in Kelantan. Perhaps, it is important to invest in basic requirements of these services first, and then as the towns grow, other specialty or advanced medical treatment will take place. The average mean rank for this factor is 1.64.

4.4 Political and Administrative Factors

An efficient state government administration, supports and subsidies from federal government, annexation or boundary change, and being a centre for district or state government are considered under political and administrative factors.

4.4.1 Results of The Friedman Test for Political and Administrative Factors

The underlying hypothesis for this test is that an efficient government administration, annexation or boundary change, federal government supports and being a centre for district or state government are equally important in regard to urban growth.

Table 4.4 indicates the output from the Friedman test for the political and administrative factors. The observed Friedman statistic value is 9.15, and the associated significance level is 0.0274. Since the observed significance level is small the hypothesis that the four factors are evenly influential in causing urban growth is rejected.

Table 4.4: Friedman Two-Way Anova

| Mean Rank | Variable | | |
|-----------|--|------|--------------|
| 2.88 | Administration 1 (Efficient Government Administration) | | |
| 1.94 | Administration 2 (Annexation or Boundary Change) | | |
| 2.63 | Administration 3 (Central Government Supports and Subsidies) | | |
| 2.56 | Administration 4 (Centre for District or State Government) | | |
| Cases | Chi-Square | D.F. | Significance |
| 32 | 9.1500 | 3 | .0274 |

The respondents perceive the annexation factor as a second stage requirement, that is, when the town has self-generated income then, they would like to have their immediate surroundings to be included to benefit from the town services as well as to acquire taxes from the neighbouring population.

It is obvious that Kelantan, as with other states in Malaysia, is depending upon federal government allocations and subsidies to upgrade their standard of living. Most of the urban projects in Malaysia are done by the federal government. Kelantan, being one of the poorest and undeveloped states indeed requires as much assistance as she can possibly get from the federal government.

In fact, being the centre for district or state government is one of the essential factors that makes the towns grow in Kelantan. Most of the offices are being located there, and housing schemes and other services will be attracted to it. The Jeli and Gua Musang urban centres are good examples for this. On the contrary, to make any town to be self-generating in income in Kelantan is yet to be seen.

4.5 The Relative Importance of Each Variable in Overall

In order to see the importance of each item in overall, a "descriptive analysis" for each variable has to be carried out. By so doing, the mean and standard deviation of each variable is calculated by using the descriptive technique in SPSS for Windows. Table 4.5 shows the outcome of the analysis.

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| Variables | Mean | Standard Deviation |
|--|------|--------------------|
| 1)Favourable Geographical Location | 4.41 | 1.21 |
| 2)Proximity to Other Bigger Cities | 3.66 | 1.15 |
| 3)Diverse Economic Activities | 4.31 | 1.51 |
| 4)Investment in Industries | 4.09 | 1.20 |
| 5)Good Agricultural Land and Productivity | 4.28 | 1.35 |
| 6)Availability of Resources in surrounding areas | 4.00 | 1.05 |
| 7)Availability of Skilled and Un-skilled Labours | 3.63 | 1.18 |
| 8)Good Transportation and Communication Network | 4.75 | 1.30 |
| 9)Provision of Electricity and Water Supply | 4.66 | 1.12 |
| 10)Investment in Health and Sanitary Services | 3.94 | 1.13 |
| 11)Efficient Government Administration | 4.88 | 1.01 |
| 12)Annexation or Boundary Change | 3.62 | 1.48 |
| 13)Central Government Supports and Subsidies | 4.47 | 1.50 |
| 14)Centre for District or State Government Offices | 4.56 | 1.32 |

Table 4.5: A Descriptive Analysis of all Variables

The larger the mean, the more important the variable is. This is because from the scale of 1 to 6; 1 is categorised as "not important" and 6 is categorised as "very high priority". Therefore, the two most important variables according to the surveyed data in regard to urban growth in Kelantan are "Efficient Government Administration" as well as "Good Transportation and Communication Network". The list goes down as follows:

- 1) Efficient government administration
- 2) Good transportation and communication network
- 3) Provision of electricity and water supply
- 4) Centre for district or state government offices
- 5) Central government supports and subsidies
- 6) Favourable geographical location
- 7) Diverse economic activities
- 8) Good agricultural land and productivity
- 9) Investment in industries
- 10) Availability of resources in surrounding areas
- 11) Investment in health and sanitary services
- 12) Proximity to other bigger cities
- 13) Availability of skilled and un-skilled labours
- 14) Annexation or boundary change

5.0 CONCLUSION

The results obtained in this study reflect the importance of each variable within the associated groups as well as amongst all variables in all groups. A favourable geographical location is a more influential factor than proximity to other bigger cities in the locational factors group. All economic factors seem to have the same influence in urban growth in Kelantan even though one is slightly higher than the other.

Having a good transportation and communication network is the most essential contributing factor for urban growth in Kelantan. It is evidently proven when the test is carried out within its own group as well as between all variables in other groups. Perhaps the emerging of Tanah Merah as an urban centre with huge population increase in 1991 is due to existence of the East-West Highway, connecting Kelantan with northern part of the west coast of Peninsular Malaysia. Similarly, the towns of Gua

Musang, Kuala Krai and Guchil are improved in population might be caused by a new highway, linking Kota Bharu and Kuala Lumpur through these towns.

The provision of electricity and water supply also seems to be an important factor. Having said that, it would certainly attract industries to locate in the areas where these facilities are available.

An efficient government administration is seen to be the most prominent factor in determining urban growth and development, but without the support and subsidies from the Federal Government, Kelantan would remain the least developed state in Malaysia.

According to the survey, the availability of labour supply and annexation factors do not play a bigger role in urban growth in Kelantan.

This study has also pointed out factors that cause slow growth of towns and cities in Kelantan. They are:

- a) Inadequate Public and Private Investments.
- b) Different Political Ideologies Between State and Federal Governments.
- c) Lack of Infrastructure and Public Facilities.

Therefore, Kelantan needs to improve its infrastructure and facilities, has a good rapport with the federal government, as well as encourages more public and private investors in order to help the towns grow.

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