Regional Development Disparities in Malaysia

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Abstract: Achieving balanced regional development will remain as one of the key objectives of national development during the development Plans in Malaysia. Therefore this paper analyses regional disparities amongst major states in Malaysia to find out gap and rank of regional development during two development plan (Seventh and Eighth plan). The paper proposes a new methodology that includes TOPSIS (Technique for Order Preference by Similarity to Ideal Solution) and Shannon entropy for first time in terms of ranking in this field. The empirical results indicate that in terms of regional balance, little progress was made in reducing development gaps between regions during two plans and Wilayah Persekutuan Kuala Lumpur was the most developed region in 2000 and 2005. On the other hand, Sabah was the least developed region in same period. [Journal of American Science 2010; 6(3):70-78]. (ISSN: 1545-1003).

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1. Introduction

Regional Disparities or imbalance refers to a situation where per capita income , standard of living, consumption situation, industrial and agriculture and infrastructure development are not uniform in different parts of a given region. Regional Disparities are a global phenomenon. The problems of regional disparities in the level of economic development are almost universal. Its extent may differ in different countries. Most of the countries of the world are experiencing the problem of regional disparities. The problem is not a new phenomenon. Even during the earlier periods also there were difference in the level of economic development both in the advanced countries of the Europe and developing countries of Asia and Africa. But due to the lack of statistical measures these imbalances didn't attract notice. However, in recent years they have received a lot of attention because of their adverse implications for balanced economic development.

Growth pole dynamics and inverted-U hypothesis sustain that regional inequalities within developing countries will be eventually reduced through factor mobility. Neoclassical growth theory highlights the mobility of supply side factors, in particular capital stock, technical change and labor, as the reason for the eventual reduction of such disparities. On the other hand the opposing theories, in particular dependency and structural change theories, postulate that regional inequality is an inevitable outcome of capital accumulation and profit maximization. Therefore the goal of this study is to survey regional disparities in Malaysia.

Malaysia is an independent nation state, a parliamentary constitutional monarchy, with a federal government structure. The country, one of 10 nations (plus Timor-Leste) in South- East Asia, comprises thirteen states spread across two major regions separated by the South China Sea (Peninsular Malaysia and East Malaysia on the island of Borneo), and three Federal Territories—Kuala Lumpur, established in 1974; Labuan, established in 1984; and Putrajaya, established in 2001. Peninsular Malaysia and East Malaysia had a common background of British colonial administration, though this administration began at different times in different states(Malaysia, Economic Planning Unit (2005). Malaysia has an abundance of natural resources, providing the basis for its key wealth-creating industries. These include rubber, tin, timber, oil palm, and petroleum and natural gas. The various states of Peninsular Malaya, including four Federated Malay States, five Undefeated Malay States, Pulau Pinang, and Melaka, transferred peacefully from colonial rule to independence as the Federation of Malaya in 1957. Subsequently, the Federation of Malaya joined with Sarawak, Sabah, and Singapore in 1963 to form the Federation of Malaysia. Following the separation of Singapore from the Federation in 1965, the present nation of Malaysia was in place. The colonial heritage included a multi-ethnic, multicultural, and multireligious society, resulting from the inflow of Chinese over a long period (to both Peninsular

Malaysia and East Malaysia) and a more targeted inflow of Indians to Peninsular Malaysia as rubber estate workers (Leete, 1996).

Malaysia was still sharply differentiated in terms of economic activity in 1970. The Bumiputera were more concentrated in rural areas in smallholder agriculture, but were also represented in government, the police, and the armed forces; the Indians were still heavily concentrated in the plantation sector, as well as in railways and government utilities; while the Chinese dominated trade and commerce. The states located in Borneo—Sabah and Sarawak—are very large, making up 60 per cent of Malaysia's total land area but only 18 per cent of its population. Clearly, issues of isolated populations, while not totally absent in Peninsular Malaysia, are more pressing in these states, and strengthening the transportation network, as well as bringing basic services to small communities, has been a major preoccupation of their development activities. The colonial heritage also included a relatively prosperous economy based mainly on rubber cultivation and tin mining, along with the more traditional smallholder production of rubber, rice, vegetables and fruits, and small-scale fishing. There was a good transportation network in Peninsular Malaysia, including railways and macadamized roads, though not so advanced in East Malaysia, where the road network was embryonic and river transportation remained very important. In comparison with many other neighboring countries, the education system was relatively well developed, and well functioning national and state civil services were in place.

Malaysia is a resource-rich country and these resources have provided the foundation for much of the economy's growth. Moreover, successive governments have provided an appropriate legal framework and stable democratic political setting for the economy to take full advantage of its rich natural and human resources. Medium-term economic planning in Malaysia has been effected through a series of five-year plans, and the country's relatively high-quality public administration has allowed for effective implementation of its development policies and programmers. During the Eighth Plan period, all states recorded economic growth and increase in the mean monthly household income. The quality of life also improved in the rural and urban areas. However, in terms of regional balance, little progress was made in reducing development gaps between regions, states as well as rural and urban areas. Achieving balanced regional development will remain as one of the key objectives of national development during the Ninth Plan. Measures will be undertaken to reduce disparities in development between regions and states as well as between rural and urban areas. In this regard, the development of transborder areas between states will be emphasized while the development of existing growth centers within states will be intensified. Emphasis will also, be given to develop rural growth centers and urban conurbations by generating income-creating activities and improving the quality of life. Malaysia's development planning foresees the country becoming a fully developed nation by 2020. For achieve this purpose it should be need survey disparities among all stat in Malaysia. Therefore the aim of this research is to determinant disparities among all stat in Malaysia according to economical, social and cultural Indicators during seventh Malaysia Plan (1996–2000) and Eighth Malaysia Plan (2001–5).

Table1: Overview of Malaysia's Development planning Framework**.**

1960-70	1971-90	1991-2000	2000-2010
Pre-NEP	New Economic Policy (NEP)	National Development Policy (NDP)	National Vision Policy (NVP)
First Malaysian Plan(1966-70)	Second Malaysia plan(1971-5) Third Malaysia Plan(1976-80) Fourth Malaysia Plan(1981-5) Fifth Malaysia Plan(1986-90)	Sixth Malaysia Plan(1991-5) Seventh Malaysia Plan(1996-2000)	Eighth Malaysia Plan(2001-5)

Source: Malaysia, Economic Planning Unit (2006)

2. Regional Development during Seventh and Eighth Plan

During the Seventh Plan period, the major thrusts of regional development were to achieve balance in social and economic development across regions and states and to raise the standard of living and quality of life of the people. In this regard, the economic structure of the less developed states were diversified with larger contributions from manufacturing and services sectors. In addition, the increase in private sector investments further stimulated economic activities within the context of the Eastern Corridor development strategy. The expansion of social and physical infrastructure contributed towards better living standards and progress was also made in the Growth Triangles cooperation through the implementation of several joint-venture projects.

During the Eighth Plan period, the focus of regional development was to raise the standard of

living and quality of life as well as attain balanced social and economic development across regions and states. All states recorded economic growth and as a result of which the standard of living in rural and urban areas improved. Nevertheless, development gaps between states and rural-urban disparities widened during the period. Gross Domestic product .the central region accounted for 41.1 per cent of the national GDP in 2005 with manufacturing and services sectors as major contributors. Meanwhile, the eastern region which is agriculture-based, Accounted for only 11.5 per cent of the national GDP. In terms of states, Selangor accounted for the largest share of the national GDP at 23.0 per cent in 2005 with the manufacturing and services sectors accounting for 53.5 per cent and 41.2 per cent, respectively (Malaysia, Economic Planning Unit, 2006).

Growth of Gross Domestic Product: In terms of the average growth rate of GDP in constant prices, the central region and southern region as well as Sarawak recorded growth rates higher than the national average of 4.5 per cent during the Plan period, as shown in Table 17-2. The eastern region recorded the lowest GDP growth rate of 3.5 per cent per annum. The GDP growth by state indicated that Selangor registered the fastest growth followed by Johor and Pulau Pinang, while Kelantan recorded the lowest growth.

Household Income and Incidence of Poverty: The average mean monthly household income increased from RM2,472 in 1999 to RM3,249 in 2004, growing at 5.6 per cent per annum. The highest mean monthly income was recorded in Selangor at RM5,175 while Kelantan recorded the lowest at RM1,829 in 2004. However, the income gap between the state with the lowest income and the state with the highest income narrowed from 1: 3.12 in 1999 to 1: 2.83 in 2004. All states except Wilayah Persekutuan Kuala Lumpur recorded a decline in the incidence of poverty in 2004, based on the new poverty line income. The incidence of poverty remained high in the less developed states of Sabah, Terengganu and Kelantan (Malaysia, Economic Planning Unit, 2006).

The development gaps between states are also reflected in the attractiveness to new manufacturing investment in certain states. During the Plan period, the direction of investment was skewed towards the more developed states. Selangor, Johor, Pulau Pinang and Melaka remained as the major choices of location for both domestic and foreign investment due to the availability of adequate and good infrastructure, proximity to air and sea hubs, financial centers and support services. A total of 4,807 manufacturing projects was approved with a proposed capital investment of RM132.4 billion of which RM73.6 billion or 55.6 per cent were intended for these four states. Among the less developed states, Sarawak was the exception as it ranked third after Selangor and Johor in terms of new manufacturing investment approved during the period. Meanwhile, Perlis and Kelantan attracted the least investment at RM83.0 million and RM474.9 million (Malaysia, Economic Planning Unit, 2006).

3. Theoretical Basis for Regional Development

A number of the multitudinous theories and concepts of development that have been put forward in the past hundred years have significantly shaped regional development thinking. The following sections discuss these theoretical trajectories in terms of their basic concepts or perspectives and how the same have translated into policies and strategies in regional development. Richardson (1973) explains the claim of neoclassical economics that regional disparities in terms of supply and demand of factors of production (labor, capital, technology) or commodities will even out inevitably given the sufficient increase in the accessibility between regions and consequently by the mobility of these production factors and commodities. According to the theory, regional imbalances in supply and demand manifest themselves in differences in prices of these factors of production and commodities.

Hirschman (1957) and Perroux (1964) have been considered the forerunners of the trickle down or the center down paradigm, which had been the basis for the development of the growth center approach. The concept largely mirrors the view of neoclassical economics. Stohr (1981) in succinct terms, explained that the trickle down paradigm purports that “development can start only in a relatively few dynamic sectors and geographic locations from where it is expected to spread to the remaining sectors and geographical areas of a country”. The trickle down process starts from a high level (from worldwide or national demand, or from world or national innovation centers) filtering down and outward to national and regional units through various mechanisms: urban hierarchy, multi-plant business organizations and large-scale government organizations.

3.1 The Theories of Growth Pole Centers

As originally presented in the mid-1950s and onward by French economist Franc¸ois Perroux, growth pole theory was a largely abstract conceptualization. The theory implied the idea of a complex of industries, mutually linked by functional relations and dominated by a propulsive industry (the so-called industrie motrice), the latter being the

engine of the development dynamic, thanks to its intrinsic capacity to innovate and stimulate economic growth as well as to nurture the formation of other economic activities and industries (the so-called industries mues, or 'mute industries').

Conceptually, Perroux premised his theory upon a neo-Schumpeterian understanding of the mechanics of development within capitalist economies. Development proceeds, in Schumpeter's view, by the direct and the indirect effects of innovations which are able to take an economy away from a stationary equilibrium (both sectoral and spatial). This means that the newer and more efficient industries in which innovations take place grow at a faster pace compared to the older and more static industries. Regional economic development, therefore, implies cumulative sectoral and spatial differentiation in impact and thus deviates from a stationary conception of equilibrium growth. Building on this conceptual argumentation, which had many points of convergence with subsequent theories of unbalanced and cumulative growth (notably those of leading economists and planners such as Albert Hirschmann, Gunnar Myrdal, and John Friedmann), Perroux thought that in order to act as a pole the propulsive industry should satisfy the three criteria of: (1) large size, (2) a potential of economic leadership, and (3) a rate of growth faster than that of the local and regional economy in which it becomes embedded. The existence of these conditions allowed the deployment of a mechanic of polarization, which in Perroux's view could take place in two specific respects: first, the leading firm can make anticipation of demand, both correct and incorrect, affecting smaller firms; second, the effects of the leading firm is able to change the balance of factor inputs in other firms.

4. Literature Review

There are a few studies about regional disparities. The rest of those researches are analyses regional disparities amongst various states based on HDI (Human Development Index), Economic and socio-economic indicators with a simple models such as Normalize and weighted mathematical method as follow:

Riskin (1988) observes that substantial disparities between Chinese provinces in the 1950s became much more serious with industrialization. He states that the leadership opted for the diversion of investment resources to the more backward provinces and consequently "…relative convergence of provincial industrialization occurred from the start of the First Five Year Plan [1953-57] with less industrialized provinces growing at higher proportional rates than more industrialized ones." (Page 227). Nevertheless, he argues that the regional disparities in terms of rural poverty remained high. Fedorov (2002) highlights the growing regional inequalities in Russia in the1990s. Referring to recent studies on regional disparities in Russia he states that "Virtually all authors agree that the transition period has been characterised by rapidly growing economic inequality among Russia's regions…" Vanderpnye-Orgle (2002) after citing a number of studies on the growing regional disparities in Ghana, discusses the growing trends in spatial inequalities and polarization in Ghana during the period of stabilization and structural adjustment programmes – late 1980s to late 1990s. This study concludes that regional inequality increased during the first stages of reform period, followed by a short period of decline before resuming its increasing trend for the rest of the period to 1999.

Wei and Kim (2002) shown that the increasing regional inequality is widely considered to be the reason for the existing regional problems in China and an obstacle to its stability and development. In this study of inter-county inequality in Jiangsu province of China they conclude that for the period of 1950-95.

Noorbakhsh (2003) analyzed regional disparities amongst major states in India to find out if they are on a convergence or further divergence course. The analysis is extended to the evolution of disparities amongst the states with respect to a larger set of socio-economic indicators especially HDI. A number of regional composite indices are constructed from the selected indicators and tested for their validity.

In case of regional development disparities in Malaysia, there is just one study by Economic planning Unit in 2006 that used of the Development Composite Index (DCI), based on 16 indicators include social and economic index. This study used of a simple method (Normalizes method) for ranking states in Malaysia the result shows that Wilayah Persekutuan Kuala Lumpur ranked the highest DCI followed by Pulau Pinang, Melaka and Selangor.

5. Data

The data for this study consist of observations from a number of different sources on 15 indicators in 14 states in Malaysia during 2000-2005, also indicators are include economically, social, cultural, education and health indexes as follow:

Table 2: Data and Sources

DATA	SOURCE
Mean Monthly Household Income(RM)	Economic Planning Unit
Incidence of Poverty (%)	Economic Planning Unit
Urbanisation Rate(%)	Economic Planning Unit
Unemployment rate(%)	Economic Planning Unit
GDP Per Capita(RM)	Economic Planning Unit
Road Density	Economic Planning Unit
Production Capacity of water supply (mld)	Economic Planning Unit
Net enrolment rate in primary education.	Malaysian Educational Statistics
Proportion of pupils starting grade 1 who reach grade 5	Malaysian Educational Statistics
Literacy rate of 15-24(%)	Malaysian Educational Statistics
Under five mortality rate (per 1,000 live births)	Ministry of Health
Death rate associated with malaria	Ministry of Health
Death rate associated with tuberculosis.	Ministry of Health
Proportion of population with sustainable access to improved water source, rural	Ministry of Health
Unemployment rate of 15 - 24 year olds	Economic Planning Unit

6. Methodology

TOPSIS (Technique for Order Preference by Similarity to Ideal Solution), developed by Hwang and Yoon (1981), was based on the concept that the selected best alternative should have the shortest distance from the ideal solution and the farthest distance from the negative-ideal solution in a geometrical (Euclidean) sense. In other words, the ideal alternative has the best level for all attributes considered, whereas the negative ideal is the one with all the worst attributes value. A TOPSIS solution is defined as the alternative that is simultaneously farthest from the negative-ideal and closest to the ideal alternative. The TOPSIS has two main advantages: its mathematical simplicity and very large flexibility in the definition of the choice set. When solving real-life problems, or representing real world phenomena, linguistic variable usually appears to be an important output of the process (Hsu et al, 2009). The fuzzy set theory has been applied to the field of management science; however, it is scarcely used in the field of Economics. Thus, this study includes a fuzzy multiple-criteria decision-making process provides a coherent process for incorporating subjective views into an explicit decision process. Due to verified success and robustness in different decision situations (Cheng, 1996; Deng et al., 2000), the entropy method is suggested for accomplishing the task. This task is efficiently achieved by applying Shannon's entropy concept, which basically considers decision matrix contents as a specific source of information emitted through criteria to the decision maker. Entropy based method in turn computes unbiased relative criteria weights, and enable the final step – an application of the TOPSIS multi-criteria method to rank scenarios appropriately. Obtained ranking is considered the final result of proposed methodology (Shannon and Weaver, 1947), the TOPSIS method evaluates the following decision matrix (Kandakoglu et al,2009):

$$P= \begin{array}{c} \\ A_1 \\ A_2 \\ A_3 \\ \cdot \\ \\ A_n \end{array} \begin{array}{c} \begin{array}{ccccc} C_1 & C_2 & C_3 & \ldots. & C_n \end{array} \\ \begin{bmatrix} x_{11} & x_{12} & x_{13} & \ldots & x_{1n} \\ x_{21} & x_{22} & x_{23} & \ldots & x_{2n} \\ x_{31} & x_{32} & x_{33} & \ldots & x_{3n} \\ \cdot & \cdot & \cdot & \cdot & \cdot \\ x_{m1} & x_{m2} & x_{m3} & \ldots & x_{mn} \end{bmatrix} \end{array}$$

Where *Ai* is the ith alternative, Cj is the jth criterion, and xij is the performance measure of the ith alternative in terms of the jth criterion. Then the TOPSIS method consists of the following steps (which are adaptations of the corresponding steps of the ELECTRE method).

Step 1: Calculate the weights of the evaluation criteria. To find the relative normalized weight of each criterion, this task is efficiently achieved by applying Shannon's entropy concept, which basically considers decision matrix contents as a specific source of information emitted through criteria to the decision matrix. Entropy based method in turn

computes unbiased relative criteria weights, and enable the final step – an application of the TOPSIS multi-criteria method to rank scenarios appropriately.

Obtained ranking is considered the final result of proposed methodology. Entropy is generally understood as a measure of uncertainty in the information. By considering scores of alternatives as specific emitters of information about importance of each criterion, entropy approach enables measuring that source and determining the relative weights of criteria (W1,W2,…,Wn) in rather simple and straightforward manner. By additive normalization (1) of each column in matrix p a new matrix is derived containing relative scores of alternatives across criteria.

$$P_{ij} = X_{ij}\left[\sum_{j=1}^{n} X_{ij}\right]^{-1}, \quad \text{i=1,2,……m} \qquad (1)$$

The information contained in matrix X can be considered as 'emission power' of each criterion Cj (j=1,2,…n), and used to compute an entropy value ej :

$$E_j = -k\sum_{i=1}^{m}(P_{ij}\ln P_{ij}) \quad \text{j=1,2,……n} \qquad (2)$$

Constant k=1/ln (n*m) is used to guarantee that $0 \le ej \le 1$ Degree of divergence dj of average intrinsic information contained in each criterion is calculated as:

$$d_j = 1 - E_j \qquad \text{j=1,2,……n} \qquad (3)$$

If dj is considered as specific measure of inherent contrast intensity of the criterion Cj, final relative weights for all criteria can be obtained by simple additive normalization:

$$W_j = d_j\left[\sum_{j=1}^{n} d_j\right]^{-1} \qquad \text{j=1,2,……n} \qquad (4)$$

Because the criteria weights are obtained directly from the decision matrix, which means independently of the DM, this qualifies the entropy method as unbiased ('objective') evaluation procedure and the same may be adopted as valid for the result obtained – criteria weights (W1,W2,…Wn).

Step 2: Construct the normalized decision matrix. This step converts the various attribute dimensions into no dimensional attributes. An element rij of the normalized decision matrix R is calculated as follows:

$$\text{Rij} = \frac{x_{ij}}{\sum_{i=1}^{m} x_{ij}^2}, \quad \text{i=1,2,….m;} \quad \text{j=1,2,….n} \qquad (5)$$

$$\text{Where N} = \left\lfloor R_{ij} \right\rfloor_{m\times n} \qquad (6)$$

Step 3: Calculate the weighted normalized decision matrix (V). The weighted normalized value vij is calculated as:

$$\text{Vij=wjrij , i=1,2,….m;j=1,2,….n} \qquad (7)$$

$$\text{Where V} = \left\lfloor v_{ij} \right\rfloor_{m\times n} \qquad (8)$$

Step 4: Identify the positive ideal solution and negative ideal solution.

$$\overset{*}{A} = \{\overset{*}{V}_1, \overset{*}{V}_2, ..., \overset{*}{V}_n\} = \{(\max_j v_{ij} \mid i \in I'), (\min_j v_{ij} \mid i \in I'')\}$$

$$\bar{A} = \{\bar{V}_1, \bar{V}_2, ..., \bar{V}_n\} = \{(\min_j v_{ij} \mid i \in I'), (\max_j v_{ij} \mid i \in I'')\}$$

Where I' is associated with benefit criteria and I'' is associated with cost criteria.

Step 5: Calculate the separation measure. In this step the concept of the n-dimensional Euclidean distance is used to measure the separation distances of each alternative to the ideal solution and negative-ideal solution. The corresponding formulas are:

$$S_i^* = \sqrt{\sum_{j=1}^{n}(v_{ij} - v_j^*)^2}, \quad \text{i=1, 2,…m} \qquad (9)$$

$$S_i^- = \sqrt{\sum_{j=1}^{n}(v_{ij} - v_j^-)^2}, \quad \text{i=1, 2,…m} \qquad (10)$$

Step 6: Calculate the relative closeness to the ideal solution. The relative closeness of the alternative Ai with respect to A* is defines as:

$$C_i^* = \frac{S_i^-}{S_i^* + S_i^-}, \quad i=1, 2,..m \qquad (11)$$

Where $0 \le C_i^* \le 1$ that is, an alternative i is closer to A* as C_i^* approaches to 1.

Step 7: Rank the preference order. Choose an alternative with maximum C_i^* or rank alternatives according to C_i^* in descending order.

7. Result

The result of TOPSIS and Shannon Entropy method for ranking regional development in Malaysia is shown in Tables 3 and figure 2 Based on the Development Index (DI), during two development plan (Seventh and Eighth) all states recorded economic growth and increase in the mean monthly household income. The quality of life also improved in the rural and urban areas. However, in terms of regional balance, a little progress was made in reducing development gaps between regions and states. Which comprises Wilayah Persekutuan Kuala Lumpur, Melaka, Negeri Sembilan and Selangor was the most developed region in 2000 and 2005. Sabah, Sarawak and the states in the eastern region which comprises Kelantan, Pahang and Terengganu were the least developed regions. Wilayah Persekutuan Kuala Lumpur ranked the highest DI followed by Pulau Pinang, Selangor and Melaka indicating a higher level of economic activity and quality of life in 2000 and 2005, as shown in Table 3. The states of Sabah, Pahang and Sarawak remained at the lower end. Besides DI, there is a big development gaps according to DI between regions and states were identified, while DI index for Wilayah Persekutuan in 2005 is around 0.905136 this amount for Sabah is 0.171592, that shows a big development gap between this two regions. On the other hand, during seventh and Eighth development plan development index (DI) and gap between all state were remained same that means this two development could not reducing development gaps between regions.

Table 3: Ranking of State Development in Malaysia (2000-2005).

Rank	State	DI 2000	DI 2005
1	WilayahPersekutuan Kuala Lumpur	0.905136	0.904869
2	Pulau Pinang	0.666958	0.666725
3	Selangor	0.66531	0.665194
4	Melaka	0.596663	0.596218
5	Negeri Sembilan	0.549142	0.548594
6	Kedah	0.532712	0.532133
7	Perak	0.504573	0.504129
8	Perlis	0.499811	0.499086
9	Johor	0.49444	0.49453
10	Terengganu	0.45114	0.450614
11	Kelantan	0.445555	0.444759
12	Sarawak	0.438568	0.438233
13	Pahang	0.427402	0.427127
14	Sabah	0.171592	0.172037

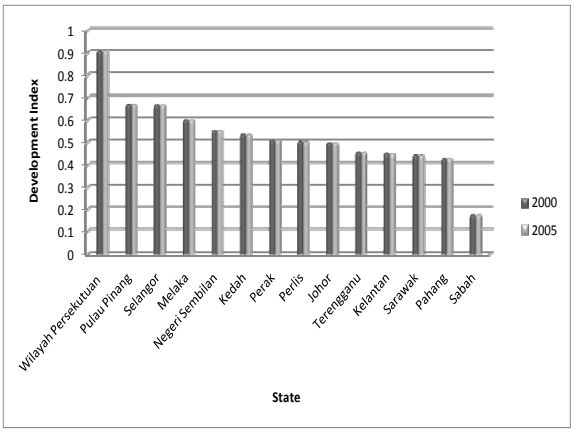

Figure1: Regional Development Disparities in Malaysia (2000-2005)

8. Conclusions and Policy implications

During the Eighth Plan period, efforts were undertaken to promote balanced regional development. Despite all states recording economic growth, the development gaps between regions, states and rural-urban areas remained wide. During the next plans, measures will be undertaken to accelerate the development of less developed states, particularly in northern Peninsular Malaysia, the Eastern Corridor, Sabah and Sarawak to attain regional balance and reduce development gaps. The main objective of balanced development during the Future Plan period will be to narrow development gaps between regions, states as well as between rural and urban areas. Measures will be undertaken to reduce disparities in terms of per capita income and household income, incidence of poverty in the less developed states and disparities in terms of infrastructure and utilities, between the states in the Peninsular and between the Peninsular, Sabah and Sarawak.

It is hoped that this attempt at providing a new technique of regional development measuring

and suggesting a research agenda will help jumpstart more studies that will fill such gaps.

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