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Government of Malaysia, Total Planning and Development Guidelines, Department of Town and Country Planning, Peninsular Malaysia, Kuala Lumpur, (2nd Printed), 2001.

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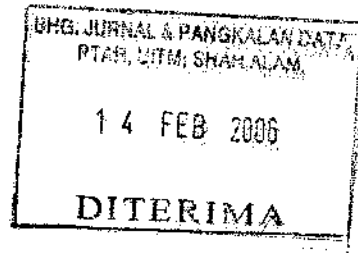
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New Towns in Peninsular Malaysia: Planning and Development

DASIMAH OMAR

ABSTRACT

The planning and development of new towns had been based on various planning objectives and has met different levels of success. The idea of the garden city movements was found to be an important approach in city planning and in creating the urban pattern. The basic principles of new town development to be considered included limiting the size of new towns in terms of scale of population, provision of green belts and creating a well connected system of cities. Perhaps the most significant aspect of new town development is the policy to seek an economic balance between housing, facilities, industrial and commercial development. The original idea in Howard's 'garden city' concept has been modified for various reasons and to meet wider policy aims. New towns were found to be significant for another important reason: as the element for decentralization of congested city centres. There is a strong need for an integrated national policy for new town development in Malaysia intended to co-ordinate and regulate large schemes and minimise competitive urban growth. There is no national policy yet to balance spatial development between states. If the planning and development of new towns is to be effective, a package of policy agenda, target and plan formulation and a co-ordinated scheme of implementation will become necessary condition.

DEFINITION AND THE HISTORY OF NEW TOWN FORMATION

Essentially, there is no clear-cut definition of what constitutes a new town. 'Most analysts define new towns as relatively self-contained cities within which most residents are employed. Some writers have also referred to huge urban renewal programmes containing equivalent of a new city as new towns in town' (Bish and Nourse:1975 p. 405). The notion of self-containment is rightly seen as central to many new towns and often been one of the underlying objectives. Self-containment has many dimensions to prove achievement and not all are always fully recognised. Self-containment could be related to employment, which involved balancing the jobs provided with the skills of communities; housing which provides units for various social groups and family size; provision of social services and facilities for residents (Phillips and Yeh:1987). Cullingworth and Nadin (1994) stated that one of the essential characters of the early post war new town policy was to be self-contained and balanced community for work and living. Self-containment was rarely fully achieved and the perceptions on the concept are important (Phillips and Yeh:1987). Ratcliffe (1974) maintained despite the overall balance between jobs provided and employee the amount of work travel had increased. The aim of the first generation new towns in Britain was to have a balanced concept where people can work and live. In practice it was difficult to achieve. There were new towns that succeeded in attracting industries and providing jobs but it was

difficult to build houses (Morris:1997). The concept of self-containment has been applied in the Malaysian first new town development since early 1950s with the development of Petaling Jaya. 'Petaling Jaya was planned to be self-contained, with wide range of commercial, residential, industrial, administrative and recreational facilities' (Lee Boon Thong:1987 p.154). The success story of Petaling Jaya was based on self-containment concept and it had strongly influenced other new town development. They were designed to meet the quality living and equipped with social facilities and modern infrastructure. In Malaysia the concept of self-containment was applied in new town development which emphasised the types of houses for social mixture built. The types of these houses are based on their cost, namely, low, medium and high. It was the Federal Government policy that requires private developers to build in each housing development at least 30 per cent of low cost houses to be sold at a price not exceeding RM25,000 each (Ahmad Zakki:1997). In terms of employment the self-containment concept was difficult to achieve. Most residents work away from home. The result of the survey demonstrated that 50.7 per cent of the respondents work outside the particular new town (Dasimah:2002). A lack of self-containment in terms of employment might be counter balanced by the provision of a comprehensive range of community facilities, infrastructure and commercial services.

THE URBAN GROWTH IN MALAYSIA

In Malaysia the urban growth that has developed was the results of various socio-economic factors over a period of time. While Kuala Lumpur has been the focus of economic activities, the other town centres do have concentrations of urban settlements although at a smaller scale. Before independence in 1957, these town centres were relatively small. Besides Kuala Lumpur, the other major towns were George Town, Melaka and Port Swettenham, which functioned as trading ports. Over the last forty years the sphere of influence has expended. Urban sprawl has been greatly encouraged by greater mobility of the population through the increasing use of motorized transportation. This phenomenon has been most pronounced in the Klang Valley Region which has been labeled the fastest growing region in the country.

Initially, in the Klang Valley Region, Federal Route 1 connecting Kuala Lumpur-Petaling Jaya and Port Klang formed the main corridor of urban development. The development of Petaling Jaya as the first satellite town to Kuala Lumpur in 1954, and the second new town of Shah Alam, which started in 1996 formed the basis for the Klang Valley Region. In 1973, the Klang Valley Master Plan was prepared, identifying growth centres and a comprehensive transportation network as part of the strategies for the urban development pattern.

The urbanization process resulted in urban sprawl towards the southern part of Kuala Lumpur to Kajang and Bangi. In the 1980s a new growth corridor began to take shape aided by the Kuala Lumpur -Seremban expressway. The early 1990s witnessed rapid growth and urbanization in Malaysia which stimulated further growth in all sectors particularly the upgrading of infrastructure and utilities. The southern growth corridor was further reinforced when the government identified Sepang as the site for a new international airport (KLIA) and selected Perang Besar for the new Federal administrative capital of Putrajaya. This corridor is also known as the Multimedia Super Corridor. Both the Federal and State Governments played an important role in urban development programmes, especially housing development. The government set up a number of statutory bodies such as the Urban Development Authority, State Economic Development Corporations and Regional Development Authorities as instruments to bring about socio economic development.

NEW TOWN PLANNING AND DEVELOPMENT IN MALAYSIA

In Malaysia, town planning emerged as a field of professional practice as early as 1912, when the Town Planning Enactment for the Federated Malay States was initiated. The formal planning techniques and functions had been imported from the west, especially in the earlier days when town planners were mainly expatriates. By the early 1980s, their functions were gradually being taken over by local professionals who had completed formal training in urban and regional planning in developed countries abroad, including the United States of America, United Kingdom, Australia as well as New Zealand.

The first Malaysian new town was Petaling Jaya, which begun to be developed in 1954 to cater for the spillover of Kuala Lumpur's population. Before this, the focus of development and economic growth was concentrated in Kuala Lumpur. Petaling Jaya was called a satellite town for Kuala Lumpur and was planned to accommodate only 70,000 people (Lee:1987). The state capital of Selangor, Shah Alam new town, was planned in 1966 when the Federal Government decided to have a separate administrative centre for the federal and state governments (Megat Adlan:1978). Shah Alam new town was designed to cater for a population of 200,000 (Lee:1987; Megat Adlan:1978). The existing town of Klang is to the west of Shah Alam. These three towns together formed what is called the Klang Valley Region which has been identified by Malaysian economists as the fastest growing area in the country (Esa:1997).

With the implementation of the New Economic Policy in the 1970's, more new towns were developed, both in suburban areas as well as in economic frontier regions. These new towns were planned and implemented by the Federal Government, state governments and private developers. The state governments planned and developed the new towns through their respective State Economic Development Corporations (SEDCs). There are 90 new towns of which 64 are urban based new towns developed by the private sector and 26 developed by the public sectors throughout the country (Dasimah:2002). More than 50 per cent of these new towns have been developed along the fringes of large urban areas such as Kuala Lumpur, Johor Bharu, George Town and Ipoh.

STATES	PUBLIC	PRIVATE	TOTAL
Selangor	12	28	40
Johor	2	8	10
Pahang	1	6	7
K.L. Federal Territory	1	3	4
Negeri Sembilan	-	6	6
Sarawak	2	3	5
Pulau Pinang	4	-	4
Kedah	-	4	4
Melaka	-	3	3
Terengganu	1	-	1
Kelantan	-	1	1
TOTAL	26	64	90

Table 1. The List of New Towns by States in Malaysia

Source: Dasimah (2002 p.3)

Table 1. shows there were 90 new towns where 40 are located in the state of Selangor. In Selangor more than half of the new towns were developed by private developers. Twelve were developed by the public sector. In the state of Johor, eight new towns were developed by private developers while two were by public authorities. There were six private new towns in Negeri Sembilan, four in Kedah and three in Melaka. In Perak, both the public and private developers have been involved in the development of new towns. In Sarawak, private developers were involved in both types of new towns with three financed by the private sector and two through joint ventures with the State Government. New towns in Pulau Pinang and Terengganu were developed by public sectors. In Pahang there were seven new towns, where only one was developed by the public sector. In the states of Perlis, Sabah and Kelantan it was found that this type of large property development was not available. The property development in these states were smaller in scale and not being listed as new towns (Dasimah:2002).

NEW TOWN DEVELOPMENT BY STATE ECONOMIC DEVELOPMENT CORPORATIONS

The Federal and State governments set up a number of agencies to implement some of their major policies, particularly in achieving the objectives of New Economic Policy. The public sector exercise direct power for natural resources allocation through a series of public investment such as those undertaken by the State Economic Development Corporations. The State Economic Development Corporations have played an important role in promoting urban development in the respective states, including the implementation of new town development.

In Peninsular Malaysia six State Economic Development Corporations for Selangor, Pulau Pinang, Perak, Johor, Pahang and Terengganu were involved in new town development. The emphasis on new town development varied between states. There was a lack of national co-ordination and integration among the states. Each of the State Economic Development Corporations planned and developed its new towns so as to meet the policy requirement of the respective state government, especially after the implementation of the New Economic Policy.

The Selangor State Economic Development Corporation was the most active with nine new towns namely Shah Alam, Bangi, Kelana Jaya, Ampang Ulu/Klang, Bandar Sultan Suleiman, Kota Damansara, Batu Arang, Bernam Jaya and Antara Gapi. The new towns were to serve as catalysts for the regions and also to strike a balance between the Klang Valley and other areas in the state. The Penang Development Corporation developed three new towns, with Bayan Baru on the island, and Seberang Jaya and Batu Kawan on the mainland. These new towns were established to encourage the development of the surrounding areas. The Perak State Economic Development Corporation developed its first new town called Seri Manjung with the objective of creating a balanced regional development, as well as achieving the New Economic Policy. Other new towns in Perak were Seri Iskandar and Meru Raya. The Pahang State Economic Development Corporation developed Indera Mahkota as an important new town in the east coast of Peninsular Malaysia. Pasir Gudang was developed by the Johor State Economic Development Corporation as the largest industrial new town in the southern part of the Peninsular. The Terengganu State Economic Development Corporation developed Kerteh to cater for oil and gas industries.

Research on these new towns has found that SEDC new towns in Selangor, Pulau Pinang and Johor were considered very successful. They were located in the most urbanized regions and were involved in developing new towns with industrial establishments. They were well served with infrastructure services including international airports, ports, highways, railways and other commercial services. They

were located in the more developed states in Malaysia. The two successful new towns developed by the SEDC of Perak and Pahang (Seri Manjung and Indera Mahkota) functioned as satellite and commercial service centres. They were found to have limited industrial land use that covered about five percent of the total acreage. The infrastructure services available were of the national level. The least successful new town was found to be that of the Terengganu SEDC which developed Kerteh. It is the smallest new town and functions as a service centre for the petrochemical industrial activities. Kerteh was the only new town planned without any industrial land allocation and it faced difficulties in implementation.

NEW TOWN DEVELOPMENT BY REGIONAL AUTHORITIES

Apart from the State Economic Development Corporations, new town development by Regional Authorities was also given attention by the government. In the 1970s and 1980s, the Malaysian government implemented the concept of new towns in regional planning development schemes to exploit rural economic potential and to reduce rural urban-migration. The Ministry of Rural Development was formed with the objective of building and modernizing the rural areas. There were three Land Development Authorities and seven Regional Authorities under the Ministry. The three Land Development Authorities are Federal Land and Development Authority (FELDA), Rubber Industries Smallholder Development Authority (RISDA) and Federal Land Consolidation and Rehabilitation Authority (FELCRA). The seven Regional Development Authorities are:

1. South East Pahang Development Authority (DARA)
2. South East Johor Development Authority (KEJORA)
3. Central Terengganu Development Authority (KETENGAH)
4. South Kelantan Development Authority (KESEDAR)
5. Kedah Regional Development Authority (KEDA)
6. Pulau Pinang Regional Authority (PERDA)
7. Jengka Regional Development Authority (LKWJ).

The concepts of new town development were applied here as a means of urbanizing the frontier regions and promoting economic activities focused on agricultural development (Mohd Zain:1994; Ibrahim:1993; Ghani:1992; Lee:1987). The Regional Development Authorities (RDAs) undertook new land development as a vehicle for economic growth and job creation. The projects were undertaken with the participation of the private sector, the public sector, small holders or by the local authorities themselves. Rural urbanization has been the main activity of RDAs, with the creation of new towns in regions lagging behind in growth or in previously uninhabited virgin areas. The new towns were the main components of the programmes while the hinterland was developed for economic growth based on agricultural activities and agro based industries. Initially, 36 new towns were planned under the regional development programme. However, the mid-term review of the Fourth Malaysia Plan showed that new town development programmes were below expectation. Only 30.3 per cent of the targeted population had settled down in these new towns in 1985.

This failure of new town development is similar to that of Thailand, South Korea, the Philippines and China (Nik Hashim: 1994; Ghani: 1991). The new towns in these countries were insufficient to generate the kind of widespread effects need to bring about sustained economic growth to the surrounding region (Nik Hashim:1994). Attempts were made by the Federal Government by setting out a strategy of effective implementation of an industrial dispersion policy. The policy was to decentralize

industries from the heavily developed Klang Valley Region to less developed Northern and Eastern states of Peninsular Malaysia. Nik Hashim (1994) has stated that due to the lack of theoretical capacity of human settlements and an inadequate conceptual basis of regional strategy, many of these regional development schemes have not been successful. Proposals and recommendations have been suggested to review the concept and strategies pertaining to the implementation of new towns in the frontier regions (Mohd Zin:1994; Nik Hashim:1994, Ghani:1991; Sufian and Ibrahim:1989). However, a study on KETENGAH showed the incompatibility between agricultural and urbanizing policies in the region. The new town of KETENGAH achieved only about 34 per cent of the targeted 1990 population of 85,000 (Ghani and Choguill:1992).

NEW TOWN DEVELOPMENT BY FEDERAL GOVERNMENT

The Federal Government initiated the highly comprehensive and integrated information technology project, which is called the multimedia super corridor. This encompassed various mega project developments namely Putrajaya, Cyberjaya, Kuala Lumpur International Airport and also the West Port at Klang. The Multimedia Super Corridor (MSC) could be viewed as an engine of growth for Malaysia's Information and Communication Technology (ICT) industry. The MSC which is 15 kilometres wide and 50 kilometres long, stretch from Kuala Lumpur City Centre (KLCC) southwards to the new Kuala Lumpur International Airport (KLIA). Both Putrajaya and Cyberjaya new towns are located within this corridor. The MSC is planned to have all the necessary multimedia infrastructure and was rated among the best in the world (Ibrahim Ariff: 2000).

Putrajaya, a new administrative capital city for the Malaysian Federal Government was planned as early as 1981. It applies the garden city concept which satisfied a fundamental trinity of human relationships between man and his creator, man and his environment, and man with fellow man (Zainuddin: 1997). Putrajaya is the first major intelligent garden city to be developed in Malaysia. The intelligent garden city means that the city is managed using an integrated information technology system together with a paperless administration. The total area of the Putrajaya development is 14,780 hectares, of which 30 per cent is for the administrative centre (4,400 hectares). In 1996 the Federal Government set up the Putrajaya Corporation to monitor the implementation of the mega project. The Putrajaya Corporation Act 1995 (Act 536) came into effect on January 5, 1996 and set out the power of the Corporation which is to administer and manage the Putrajaya Corporation Area on behalf of the Federal Government (Act 536:1996 p.4). Putrajaya was to have a district status by the end of 1998 (Land and Mines Department:1998). An official declaration of Putrajaya as the third Federal Territory after Kuala Lumpur and Labuan was made on February 1, 2001. The development of Putrajaya is expected to spur development in the neighbouring areas with the building of infrastructure, commercial centres and social facilities (Mahathir:2001). By February 1, 2001 the population of Putrajaya had reached 7,250 with 1,500 houses built. This figure is expected to increase to 67,000 people by the year 2020.

When complete, Putrajaya is expected to have a population of 570,000 of which 250,000 will live in the core area and the remaining 320,000 in the surrounding residential areas. The design of residential units applies a neighbourhood concept, under which fifteen neighbourhood units are planned to accommodate 52,000 houses. Seventy per cent or 35,000 houses will be allocated for government or institutional housing. There will be approximately 1.5 million square metres of government office space. The city will also have commercial space, public facilities and open space to satisfy the garden city concept.

Cyberjaya, which covers an area of 7,000 hectares adjacent to Putrajaya, was planned as the base for multimedia companies, cyber universities, smart homes, smart schools and several research centres. The MSC area has attracted sophisticated businesses, world class technology-led companies and Research and Development investments (Mahathir:2001a). It provides the best opportunity for both Malaysian and international companies to work together in a multimedia environment. Cyberjaya has been developed as an intelligent city estimated to have a final population of 240,000 when completed, and around 500 ICT and multimedia companies by the year 2020 (Ibrahim Ariff : 2000).

As of December 31, 1998, there were 195 companies in Cyberjaya which had been granted MSC status, the majority of which were local while others were joint ventures. There was an increase of more than 100 per cent by the end of 2000, by which time a total of 429 companies had been granted MSC status, and 274 were Malaysian-owned companies (Eighth Malaysia Plan:2001). The Multimedia University was established in 1998 with an initial intake of 1,300 students, aimed to meet the manpower needs as well as to cater for the skill requirements in areas related to ICT and multimedia activities (Seventh Malaysia Plan, Midterm Review Report). The Multimedia Development Corporation (MDC) was established by the government to lead the development and management of the Multimedia Super Corridor.

CONCLUSION

Over the years, due to the lack of fully effective policies and strategies, new town development in Malaysia had generally tended to be piecemeal and specific, and had little relation to national urban planning and development. There is no single agency at the Federal level with adequate power to co-ordinate the planning and development of new towns in Malaysia. This has given rise to unbalanced spatial development between states due to lack of co-ordination and regulation at the national level. There is need to prepare an integrated national development policy to ensure the consistency in planning and development of new towns in Malaysia. Currently there is no consistent land planning policy for new town development. This has led to duplication in functions. The integrated national policy on new town development would be an effective tool to monitor and control all the proposals as well as the involvement of all public and private developers, town planners, local authorities, state authorities and also federal authorities. As such, directions for future urban growth especially the new town development can be determined. It should provide a genuine assistance to all parties involved to determine and to predict the choices that will be made between competing uses for land. The national physical plan could guide the distribution of the future new towns with spatial distribution and economic activity.

BIBLIOGRAPY

- Bish, L.R. and Nourse, O.H. (1975) *Urban Economics and Policy Analysis*, New York, McGraw-Hill Book Company.
- Cullingworth, J.B. and Nadin, V. (1994) *Town and Country Planning in Britain (11th Edition)*, London: Routledge.
- Dasimah Omar. (2002). *New Town Development in Peninsular Malaysia: Case Studies of New Town Development by State Economic Development Corporations*. Ph.D Thesis, Universiti Teknologi MARA (unpublished).
- Esa Mohamad. (1997). *Putrajaya : The Administrative Capital City in the 21st Century*. In *Malaysia Today. Petaling Jaya: Asian Strategy & Leadership Institute, (ASLI)*, Pelanduk Publications.
- Ghani Salleh. (1992). *Rural New Towns in Malaysia: The Case Study of Ketengah*. *Design and Build. Academic Journal*, FSPU, Institut Teknologi MARA, March 1992.
- Ghani Salleh and Choguill. (1992). *New Towns in Rural Regions: A Case Study from Malaysia*. *Cities*, 9, 139-149.
- Ghani Salleh. (1991). *New Towns and Regional Development in Peninsular Malaysia: The Case Study of Terengganu Tengah*. Ph.D Thesis, University of Sheffield (unpublished).
- Government of Malaysia. (2001). *The Third Outline Perspective Plan, 2001-2010*.
- Government of Malaysia. (2001). *Eighth Malaysia Plan, 2001-2005*.
- Ibrahim Ariff. (2000). *Multimedia Super Corridor, What the MSC is All About, How it Benefits Malaysians and the Rest of the World*. Kuala Lumpur, Leeds Publication.
- Ibrahim Ngah. (1993). *Business Activities in New Townships in Rural Areas of Peninsular Malaysia*. Ph.D Thesis, University of Leeds, (unpublished).
- Lee Boon Thong. (1987). *New Towns in Malaysia*. In Phillips, D.R. and Yeh, A.G.O., eds. *New Towns in East and South East Asia, Planning and Development*. Hong Kong : Oxford University Press.
- Mahathir Mohamad. (2001). *Eighth Malaysia Plan 2001-2001*. Prime Minister's Speech in Parliament, April 3, 2001.
- Mahathir Mohamad. (2001a). *The Third Outline Perspective Plan 2001-2001*, Prime Minister's Speech in Parliament, April 3, 2001.
- Megat Adlan, M.S. (1978). *New Towns Development: Selangor State Development Corporation's Experience-A Case Study of Klang Valley*. Seminar on New Towns, Kuala Lumpur.
- Mohd. Zin Mohamed. (1994). *Regional Development in the Frontier Regions in Peninsular Malaysia: A Case Study of Three New Towns*. University of Birmingham, Ph.D Thesis, (unpublished).
- Morris, E.S. (1997) *British Town Planning and Urban Design: Principles and Policies*, Edinburgh: Longman.
- Nik Hashim Hj. Wan Ibrahim. (1994). *National Development Planning in Malaysia: System, Structure and Process*. In *Malaysian Development Experience, Changes and Challenges*, Kuala Lumpur: National Institute of Public Administration.
- Phillips, D.R. and Yeh, G.O. (eds.) (1987) *New Town in East and Southeast Asia, Planning and Development*, Hong Kong: Nodika Printing Co.
- Ratcliffe, J. (1974) *Introduction to Town and Country Planning, (2nd Edition)* London: Hutchinson. (1989 Reprinted).
- Sufian A. and Ibrahim Ngah. (1989). *Issues in the Development of New Townships, Seminar on Urbanisation and Development (IDS)*, eds. Mohd. Yaakob H.J. & Baldev S.S., Konrad Adenauer Foundation, Kota Kinabatu.
- Zainuddin Muhammad. (2001). *Towards Strengthening the Planning System in Malaysia*. Keynote Paper, Seminar Kearah Memperkukuhkan Sistem Perancangan di Malaysia, Universiti Teknologi Malaysia, Johor, 19-20 March 2001.
- Zainuddin Muhammad. (1997). *World Town Planning Day*, Message Note. International Seminar 1997, Kuala Lumpur.

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