

UNEVEN DEVELOPMENT

Bangkok in the national economy

Introduction

The unevenness of Thailand's development is shown most clearly in the growth of the capital. While the pattern in which one very large city dominates the national economy is common to many Third World economies (London, 1980), and the countries of South East Asia offer classic examples of primacy and uneven development (Hackenberg, 1980; McGee, 1967; Smith and Nemeth, 1986), Thailand demonstrates these features at their most extreme. In terms of measures of urban primacy Bangkok is almost certainly the most primate city in the world, and the national pattern of urbanisation the most uneven. The city dominates the Thai economy and its interaction with the international economy to the extent that it is often asserted that Bangkok *is* Thailand (for a discussion of this view see Krickkiat Phipatseritham, 1983). While this is of course an exaggeration, the unevenness of Thailand's development and the degree of concentration of population, economic activity and political power in Bangkok and its immediate environs is exceptional by any standards. The capital has long been described as the Kingdom's only 'growth centre' (Medhi Krongkaew and Pawadee Tongudai, 1984:43) and Thailand as 'a Bangkok based state' (Rigg, 1991b:164).

Bangkok—or, to give it its shortened Thai name *Krungthep*,¹—can refer to a variety of urban areas (Figure 6.1). From the founding of the city in 1782 until 1971 Bangkok referred only to the settlement on the eastern bank of the Chao Phraya river. There was, however, no administrative definition of the city area until the establishment of municipal authorities in 1933. Expansion on the west bank produced the port-associated settlement of Thonburi, which was merged with Bangkok in 1972 to create the Bangkok Metropolitan Area (BMA); this has provincial status, with a governor being elected every five years. For planning purposes reference is sometimes made to Greater Bangkok (or the Greater Bangkok Metropolitan Area)—this is not a legal administrative unit, it includes the urbanised areas of the adjacent provinces of Nonthaburi and Samut Prakan.



Figure 6.1 The Extended Bangkok Metropolitan Region.

Source: Luxmon Wongsuphasawat, 1997.

Since 1977 a broader planning region has been recognised—the Bangkok Metropolitan Region (BMR)—this includes all five of the bordering provinces, Nonthaburi, Phatum Thani, Samut Prakan, Samut Sakhon and Nakhon Pathom, and is treated as a national region for planning and statistical purposes (Figure 6.1). The Seventh National Plan (1992–6) introduced the concept of the Extended Bangkok Metropolitan Region (EBMR), comprising the BMR and the provinces of Ayutthaya, Chachoengsao, Chon Buri, Sara Buri, Ratchaburi and Rayong (Figure 6.1).

The dominance of Bangkok

The high degree of concentration of urban population, manufacturing and amenities in the BMA has been widely commented on (London, 1980; Rigg, 1991b:139). Indeed, the concentration in every respect equals or exceeds that for any other major city in Asia (Bronger, 1985). In 1993 the BMA contained 10.8 per cent of the national population and 57.6 per cent of the total urban population. The population of the BMA was 30 times that of the next largest city, Nakhon Ratchasima. On the basis of almost any measure of production, consumption, wealth, services or living conditions, Bangkok either dominates the national scene or has a provision several times that of the rest of the Kingdom (Rigg, 1991b:149–50). For many of these measures the gap between the capital and the remainder of the Kingdom continues to widen.

Economic growth has been disproportionately concentrated in the BMA and its immediate environs. This has been particularly evident in the accelerated growth that the Kingdom has experienced since the mid-1980s. (Indeed, this has been the experience of the other Asian industrialising economies—for an overview see Thomas, 1991). Between 1986 and 1990 the BMR increased its share of the gross industrial output from 62 per cent to 76 per cent (Ichikawa, 1990:2), and between 1988 and 1993 the share of GDP rose from 50.1 per cent to 55.4 per cent.

In terms of the share of the urban population, official statistics suggest that since the late 1970s there has been a gradual decline in the proportion of the urban population resident in the BMA. This reflects the general growth in the size and number of provincial centres that may be regarded as urban, particularly in the North Eastern Region. The comparatively rapid growth of the urban sector in the North East is illustrated by the expansion of Nakhon Ratchasima from the mid-1980s which enabled it to overtake Chiang Mai and Songkhla-Hat Yai to become the Kingdom's second city. However, since the mid-1980s the urban population has grown fastest in the areas adjacent to the BMA. Thus to a degree the fall in the proportion of the total urban population resident in the BMA reflects the spreading of the urban area into the adjacent provinces (see Figure 6.1 and the discussion on pp. 201–03).

As may be seen from [Table 6.1](#), the level of the BMA'S primacy appears to have declined sharply between 1980 and 1985. However, this is principally the result of boundary changes which recognised the expansion of the urban areas of such major provincial centres as Chiang Mai, Khon Kaen, Hat Yai and Nakhon Ratchasima. In this sense the decline in the primacy of the BMA has been much more gradual than [Table 6.1](#) suggests. However, it is also important to qualify the decline in two ways.

First, in terms of population the significance of the BMA and the BMR is probably greater than the official figures suggest. As was argued in [Chapter 1](#) (p. 20) it is possible that the city's population has long been underestimated. Particularly since the mid-1980s there has been a very large increase in the number of migrants into Bangkok and its immediate environs, who are either unregistered or remain registered in rural areas. This in addition to the estimated 2 million seasonal migrants ([Paritta Chalermpow Koanantakool, 1993](#)). Thus the urban population of Bangkok and its surrounding areas has probably increased very much faster than official statistics suggest.

Second, the dramatic spreading of Bangkok's built-up area suggests that the BMA is no longer the most appropriate unit for measuring the capital's dominance. It may well be that the BMR is a more appropriate measure. The BMA has become the centre of a rapidly growing metropolitan region; in this respect it is perhaps not so much that the capital's domination of the national economy and urban system has diminished, as that the city has spread, incorporating other centres. Indeed, since 1985 official statistics have referred to the 'urban population of the BMA and its vicinity'—that is the five outer provinces which together with in the BMA comprise the BMR ([Figure 6.1](#)). If this expanded definition is used the level of primacy increases from 39 in 1985, to 42 in 1990 and 47 in 1993. Thus it could be argued that there has been a rapid spreading of the capital's urban area, rather than a major reduction in Bangkok's dominance of the national and urban economies. However, even the reduced level of primacy based on the BMA and official figures reflects a situation which is extreme in global terms. In 1993 the World Bank reported only four countries with a larger proportion of the urban population resident in the principal city.²

The origins of Bangkok's dominance, 1782–1940

The size and growth of Bangkok during the nineteenth century are matters of considerable debate (see [Sternstein, 1984](#)). Despite these uncertainties, however, there is little doubt that the city's dominant role as the focus of the national economy and the Kingdom's interface with the international and Asian economy was firmly established during the nineteenth century. Indeed, the growth of the city's unique position may be seen as an integral part of the internationalisation of the economy, particularly after 1855.

Given the occasional, partial and uncertain accuracy of data for the pre-1900 period it is difficult to draw any firm conclusions as to Bangkok's level of primacy. Sternstein (1984:67) concluded from an extensive review of sources from the early nineteenth century onwards until c.1900 that Bangkok was generally some ten times the size of the next largest city, Chiang Mai. The primacy of the capital appears to have increased steadily between 1900 and 1940, rising dramatically thereafter (Table 6.1).

The establishment of the capital at Bangkok in 1782 was followed by a rapid expansion of the Kingdom's overseas trade (see p. 25). Under the 'port polity' of the early nineteenth century the city appears to have developed rapidly as the interface with the expanding and increasingly Western-controlled international and regional trading economies. The economic and political structures of this period tended to concentrate surplus in the capital, creating conditions favourable to international trade but hindering the development of internal trade and provincial centres (Korff, 1986:26).

Following the signing of the Bowring Treaty in 1855, Bangkok's growth accelerated and generally paralleled that of such colonial centres as Jakarta, Manila, Rangoon and Saigon. Trade, warehousing, processing and related manufacturing concentrated in one major port city, which increasingly overshadowed other, often much longer established, urban centres.

Table 6.1 The primacy of Bangkok, 1782–1992^a

<i>Time period</i>	<i>Ratio^b</i>	<i>Second centre</i>
1782–1900 ^c	10	Appears to have been Chiang Mai
1990	11	
1910	12	Chiang Mai was the second centre 1900–60
1920	13	
1930	14	
1940	15	
1950	23	
1960	25	
1970	33	Songkhla-Hat Yai ^d
1980	36	Songkhla-Hat Yai
1985	27	Nakhon Ratchasima
1990	28	Nakhon Ratchasima
1993	30	Nakhon Ratchasima

Source: 1900–80 based on Sternstein, 1984:67; 1985, 1990 and 1993 calculated from NSO data.

Notes:

- a Before 1980 this refers to the 'built-up' area of Bangkok. The 1980–93 figures refer to the BMA.
- b This is the ratio between the population of Bangkok and the second most populous centre.
- c For the period 1782–1900 the ratio is not more than a reasonable supposition.
- d These are two separate municipalities, Hat Yai and Songkhla, which may be regarded as comprising a twin city. If Chiang Mai is regarded as the second city during these years then the index of primacy reaches 51 in 1980.

In these respects the growth, form and functions of non-colonial Bangkok differed little from those of the colonial port cities of South East Asia (Smith and Nemeth, 1986:132–3). However, the concentration of population and function in Bangkok was by the early 1900s (and probably long before) significantly greater than was the case elsewhere in South East Asia (Table 6.2).

From its inception Bangkok may be regarded as the centre of a highly centralised state (Korff, 1986:25). This situation was greatly reinforced from the late nineteenth century onwards by reforms that substantially increased central control over the provinces (see pp. 37–40). Thus, the monarchy was able effectively to implement decisions which had been nationally made in the capital and with the bureaucracy concentrating power in Bangkok (London, 1980:50). The centralisation of power was reinforced by the internationalisation of the Thai economy and the spread of the market economy. These developments broke down provincial self-sufficiency and more significantly, bargaining power (Korff, 1986:26).

In Thailand, like Burma, the focus of the country was on a main river system which canalised produce to one port location. However, the focus was much stronger in the Thai case:

Bangkok can be compared to a hole at the bottom of a cone where all fluid has to pass through. The Chao Phraya river serves as the prime outlet for many parts of the country. Because Bangkok is situated at the mouth of the river, it plays a leading role in the process of interaction with the international economy.

(Thai University Research Associates, 1976:35)

Douglass has stressed that ‘Few other cities in Asia so well occupy the centre of gravity of the national economy and its linkages with the outside world’ (1990:24–5). This situation was reinforced with the construction of the railway system and later the modern road system (see Chapters 2 and 3). A glance at the maps of other South East Asian countries does suggest

Table 6.2 Urban primacy in South East Asia, 1900–41^a

<i>Rangoon</i>		<i>Saigon-Cholon</i>		<i>Manila-Quezon</i>		<i>Singapore</i>		<i>Djakarta</i>	
1911	2.1	1911	1.8	1903	5.7	1911	2.5	1905	2.3
1921	3.3	1918	6.1	1921	2.9				
1931	2.7	1931	2.3	1930	3.9	1931	2.3	1930	1.5
1941	3.9	1939	1.8	1940	4.6				

Source: McGee, 1967:54.

Note

a The index of primacy used here is the population of the largest city expressed as the ratio of the population of the second largest.

that very simple facets of national geography made for less concentration at the interface of the international and regional economies and of national trade in one major centre.

Given the uncertainty over the growth of Bangkok during the nineteenth century any comments on the source of population growth must be treated with extreme caution. However, it seems highly probable that, certainly before 1850, a major component of Bangkok's growth was Chinese immigration (Korff, 1986:42–3; Sternstein, 1984:55–7; see the discussion on pp. 66–7). In 1850 perhaps as much as 50 per cent of the capital's inhabitants were Chinese (Korff, 1986:35). The comparatively limited migration of the indigenous population into the capital reflected their lack of involvement in commerce and restrictions on their movements, the more attractive and more remunerative nature of agriculture, and the persistence of restrictions on their movements (see discussion on pp. 65–6). Thus even by the late 1930s Bangkok could be described as a Chinese-dominated city (Thompson, 1941:242) and the central districts remained so at least into the 1950s.³

The rapid expansion of the centralised bureaucracy from the later part of the nineteenth century, the removal of restrictions on the movement of individuals, the establishment of educational facilities (Chulalongkorn University was founded in 1916) and the growth of trade, commerce and limited industrial activity, created employment opportunities and attracted migrants from provincial areas (Evers, 1966). As well as facilitating the movement of agricultural labour, the construction of rail links, particularly from the North East to the Central Plain (Sompop Manarungsan, 1989:17), presumably facilitated migration to Bangkok. However, the scale of seasonal, temporary and permanent migration appears to have remained small until the 1930s (Korff, 1986:43). The expansion of migration from this period reflected the spreading of the exchange economy and associated 'decomposition' of the rural communities—reinforced by the slowing of the expansion of the rice economy, the loss of income resulting from the international recession, the beginning of a national road building programme, the rise of economic nationalism and the promotion of Bangkok-based industry (see Chapter 2).

While provincial centres grew during the 1900–40 period—responding to the growth of primary production, trade and administration—they served limited hinterlands. Direct linkages between provincial centres remained extremely limited, and they were often principally connected through the capital to which they became increasingly tied. Between 1920 and 1937 Bangkok appears to have grown very rapidly from 345,000 to 681,000 (Sternstein, 1984:97–109). While Chiang Mai, the second city, also grew substantially over the same period (from 26,500 to 45,400), this was insufficient to prevent the primacy of the capital increasing (Table 6.1). During the period 1900–40

the growth of urban primacy was very much greater in Thailand than elsewhere in South East Asia (Table 6.2).

In the South East Asian colonial states, while urbanisation was dominated by the large multi-functional port towns, there was also a proliferation of smaller provincial centres. These were vital to the effective operation of the colonial economies. As McGee has summarised:

the railway junction town, the small coastal port, the mining settlement, and the district headquarters enabled the colonial traditional economy and societies of South East Asia. These small centres were the dissemination points of colonial policy, through which the cash economy and the ideas of the West filtered into the countryside. While the 'primate' port cities of the nineteenth century were largely orientated to the West, these smaller urban centres played an intermediary role between the traditional rural society of Southeast Asia and the rapidly urbanising societies of western Europe.

(1967:53–4)

While Thai provincial centres carried out similar functions to those in the colonial areas, they probably did so far less intensively. This was particularly so with respect to administration and the development of the market economy.

It is tempting to conclude that the forces that gave rise to the pattern of dominance by major port cities during the colonial period operated in Thailand in a situation of already very uneven urban development, and interacted with the Kingdom's non-colonial form of articulation, giving rise to an extreme situation. Whatever the veracity of this view it is apparent that in Thailand there was little to offset the concentration of urban growth in Bangkok, and the seeds of Bangkok's extreme metropolitan dominance had been laid by 1940 (Falkus, 1991:576).

The dominant role of Bangkok in the national economy was reinforced during the Second World War and its immediate aftermath by the influx of Thai migrants that changed the character of the capital—making it a 'Thai' rather than a 'Chinese' city. (Thompson, 1947:242). Migration appears to have reflected the war-time disruption of the economy, the virtual cessation of rice exports and the breakdown of administration and control in many outer provinces. In addition, the curtailment of imports stimulated the growth of a variety of small-scale manufacturing concerns (Falkus, 1991:57) and inflation altered the income distribution in favour of many urban activities (Behrman, 1968:383).

From the 1940s onwards the growth of Bangkok was closely associated with industrialisation and the internationalisation of the national system (Korff, 1986:46–7). This was reinforced by the American presence and

expenditure which promoted industrial, financial and service sector growth. Despite the growth of manufacturing, between 1964 and 1975 the main growth in employment was in the service and commercial sectors (Kanok Wongtrangan, 1982:58). In response to increased employment opportunities there was a rapid increase in migration to the capital; by the late 1950s the influx of people from adjacent areas of the Central Plain and the North East accounted for most of the population increase (Thiravet Pramuanratikarn, 1979:29). Seasonal migration was gradually replaced by permanent migration as the 'decomposition' of rural society accelerated (Textor, 1961).

As was discussed in Chapter 5 (pp. 159–61), it seems likely that work in the rural sector was becoming more arduous and less rewarding for many people. So the dominance of rural-rural migration—in search of new land and employment—was gradually superseded by rural-urban migration, and more significantly rural-Bangkok. In addition, Bangkok was increasingly recognised not only as a source of employment and remittance income, but also as the only place which offered educational facilities and the prospects of social mobility (Evers, 1966).

By 1960 Bangkok contained a far higher percentage of lifetime migrants than the other region's: 22.8 per cent compared to 7.7–10.9 per cent. The proportion of lifetime migrants in the capital increased to 27 per cent in 1970 and 36 per cent in 1980. Throughout the whole period 1955–80 the majority of migrants came from the Central region. However, the percentage share of the Central region fell from 61.8 per cent in the 1955–60 period to 42.4 per cent in 1975–80. Over the same period the share of the North East increased from 20.4 per cent to 35.11 per cent. By 1980 the outer areas of the BMR, notably the provinces of Nonthaburi, Samut Prakarn, Nakhon Pathom and Samut Sakorn, were beginning to grow faster than the BMA—receiving migrants both from other regions and increasingly from the BMA (Askew, 1993:27; McGee and Greenberg, 1992b:27).

The rapid population growth in Bangkok during the period from the 1940s until 1980 resulted in a dramatic increase in the level of primacy (Table 6.1). This development cannot be attributed to any one cause. Undoubtedly the capital's growth reflected the position that the city had come to occupy in the national economy—not only the main port and linkage to the international economy, but also the focus of road and rail routes and the seat of a highly centralised administration. However, neither geography nor the way in which Bangkok has evolved as the focus of domestic trade and links with the global economy fully explains the extreme unevenness of urban development. A major factor in the post-1940 period has been government policy which has emphasised the growth of Bangkok to the neglect of the rest of the Kingdom. These policies have included:

- the low priority given to rural development
- the taxation of rice farming
- subsidies to ISI and EOI which were principally located in Bangkok
- emphasis of infrastructure expenditure in Bangkok
- limited, and generally ineffective attention directed at the spatial distribution of development.

Certainly a wide range of ‘implicit’ policies can be invoked as supporting the case for urban bias in development strategies. However, whatever the strength of government policies, they operated on tendencies towards the concentration of growth in Bangkok that were already very strong and long established. If there had been little such bias in government policies, Egan and Bendick (1984) are probably correct in their conclusion that Thailand would still have come to exhibit a lesser, but still extremely uneven pattern of urban growth. In summary it must be stressed that while none of the policies, historical developments or geographical factors are unique to Thailand it is their strength and combination that gives rise to the extreme spatial imbalance (Douglass, 1990:25).

The pattern of urban growth

The early spread of the city from the original fortified position in the bend of the Chao Phraya took place north and south along the river or followed the construction of successive lateral and radial canals. These provided transport, water supply and sewerage disposal. The linear settlements that developed along the canals were separated by orchards, gardens and paddy fields (ESCAP, 1986:30) which were only ‘in-filled’ at a very much later date. This pattern has continued as the canal links were progressively supplemented and replaced by road construction.

Until the 1940s the urban area expanded gradually; the city retained its essentially compact form, and a high proportion of the increase in population and economic activity was accommodated by increasing density (Korff, 1986:86). The subsequent acceleration in the growth of the population of Bangkok has been accompanied by a rapid expansion of the built-up area. This has involved the continuation of the established pattern of linear ‘sprawl’ and the incorporation of large numbers of villages (Thiravet Pramuanratkarn, 1979:29). From the mid-1960s factory and middle-class housing began to develop at the urban periphery; these had become city-wide trends by the mid-1970s (Thiravet Pramuanratkarn, 1979:4).

Since the late 1970s rising land prices coupled with traffic congestion and the associated difficulty of commuting between the suburbs and the centre has resulted in the dispersal of CDB functions. In 1978 57 of the top 100 Thai-registered corporations had their headquarters in the city centre. By 1988 12 had relocated either to the city fringe or adjacent areas and in

addition seven of the ten companies that entered the top hundred list between 1978 and 1988 were located 5 to 20 km from the city centre (Tetsuo Kidokoro, 1992a:80–4)—suggesting that new companies were tending to locate further from the centre. This pattern of decentralisation has not been followed by government offices, 90 per cent of which remain in the central area.

The dispersal of corporate headquarters has been accompanied by the development of shopping centres. In 1978 seven of the ten shopping complexes and department stores were located centrally. By 1988 the number of centres had increased to 29, of which 16 were in the outer areas (Tetsuo Kidokoro, 1992a:80–4). Overall, the dispersal of administrative and retail functions has given rise to a series of commercial sub-centres.

Between the mid-1980s and the early 1990s average land prices in the BMA more than doubled and in some industrial areas increases were as much as five times (Alpha Research, 1992; Luxmon Wongsuphasawat, 1997:204). The rising cost and increasingly short supply of industrial land has combined with rising relative wage levels (Alpha Research, 1992) and increasing congestion to make the BMA and, increasingly, parts of the outer ring, less attractive to industry (Luxmon Wongsuphasawat, 1997:205). Additionally, as is discussed more fully in on pp. 226–30, since 1986 the BOI has offered larger tax concessions to locate outside the BMR.

Since the early 1980s large-scale manufacturing has spread rapidly into the five outer provinces of the BMR and, to a lesser extent, the fringes of the ten surrounding provinces (Biggs *et al.*, 1990:4–5). In 1986 the BMA received 17 per cent of BOI approvals—the inner ring 32 per cent and the outer ring 13 per cent; in 1993 the BMA received 15 per cent, the inner ring 22 per cent and the outer ring 32 per cent (Ichikawa, 1990:5; Luxmon Wongsuphasawat, 1997:205–6). These changes were accompanied by an increase in the amount of proposed investment in the inner and outer rings, and a fall in the average size of investments in the BMA. Smaller scale manufacturing activities and service provisions continued to proliferate in the inner-city areas however (Ichikawa, 1990:5).

To the east of the BMA the above tendencies have been reinforced by the development of infrastructure associated with the exploitation of offshore oil and gas—notably the construction of a new port at Laem Chabang and associated road and rail links to Bangkok. Since 1981 the oil and gas developments have been seen as providing the basis for the development of a major industrial base in the Eastern Seaboard (Figure 6.2). During the early 1980s falling oil prices, recession and a shortage of public and private investment curtailed development. The planned construction of infrastructure and individual private and public projects were repeatedly reduced in scope, postponed or abandoned. However, the acceleration of Thailand's economic growth since the mid-1980s has rejuvenated the Eastern Seaboard

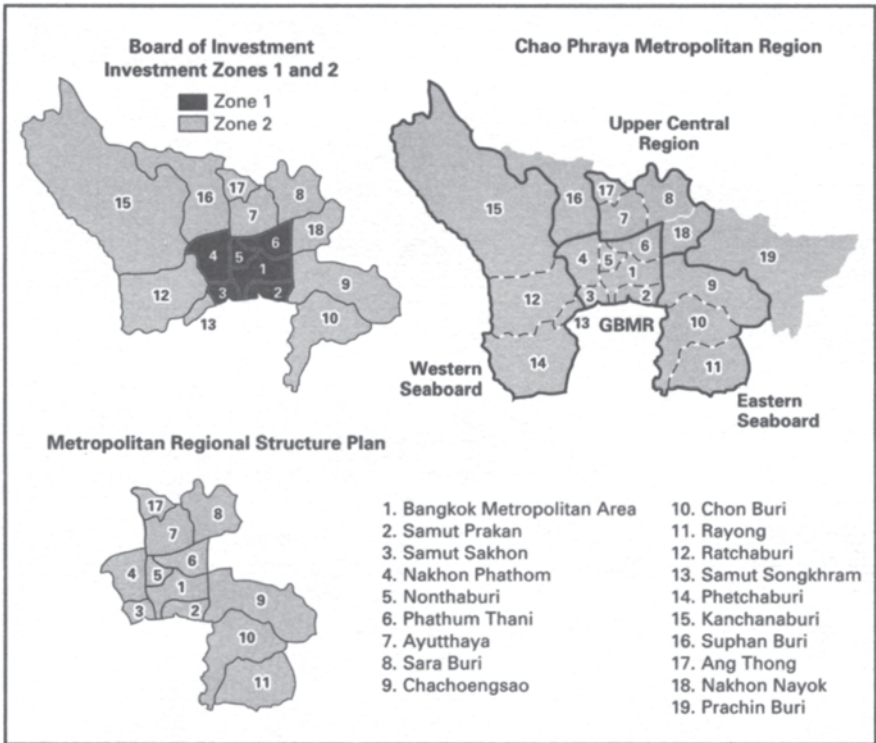


Figure 6.2 Variations on the definition of the Extended Bangkok Metropolitan Region.

Source: Luxmon Wongsuphasawat, 1997:264.

developments. Since 1988 the five eastern provinces have been the fastest growing in the Kingdom, with Gross Provincial Product (GPP) growing at an average annual rate of 18.3 per cent between 1989 and 1992, compared to 12.5 per cent for the six provinces to the north and east of the BMA, and 11.9 per cent for the BMA itself.

The spread of the urban-industrial fabric into the outer provinces of the BMR and beyond, particularly to the north and east, has been characterised by extensive, predominantly linear sprawl along the lines of the radiating roads, giving rise to the 'lines and points' development that has come to typify the structure of the EMR (Ginsberg *et al.*, 1991; Luxmon Wongsuphasawat, 1997; McGee and Greenberg, 1992a, b) (Figure 6.3). Growth, particularly in the outer areas, has been almost completely uncontrolled and uncoordinated. Typically, strips some 20 to 40 metres wide

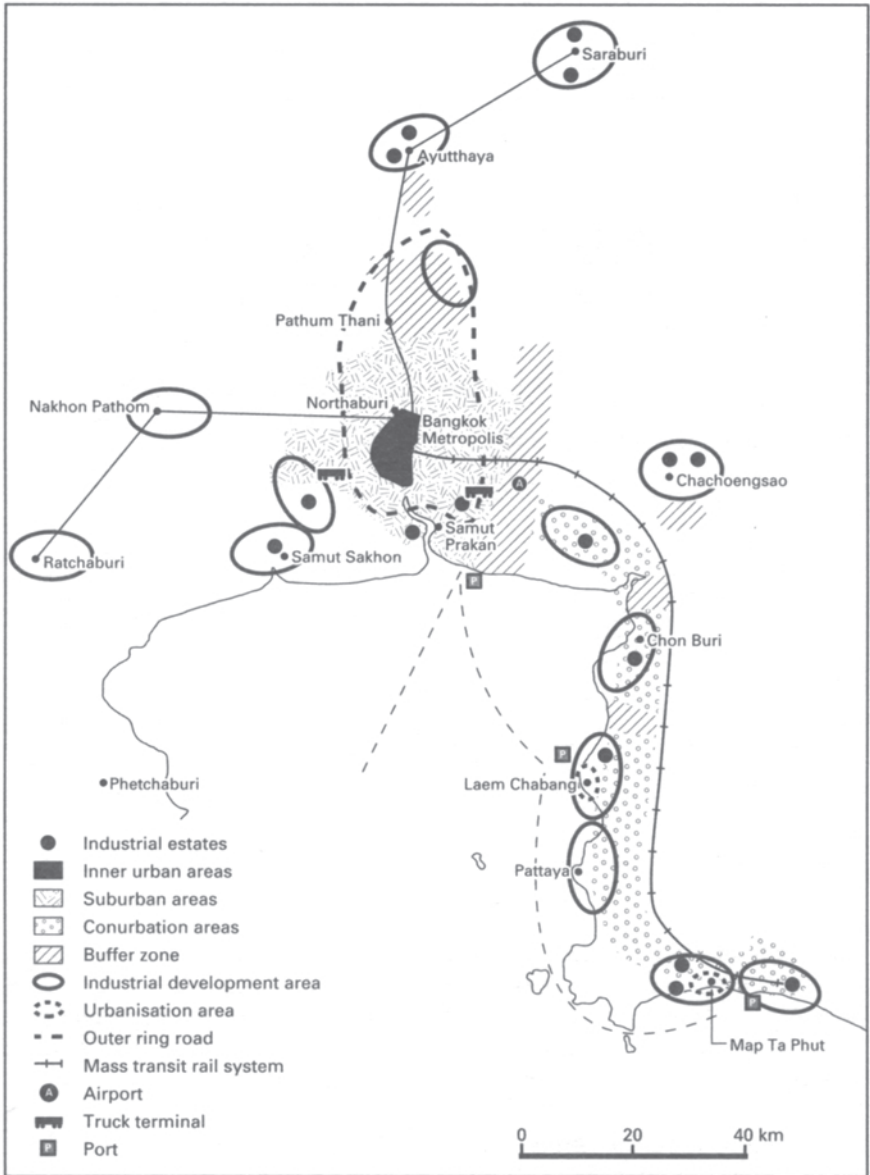


Figure 6.3 A schematic representation of the dots and lines structure of the EBMR.
 Source: Luxmon Wongsuphasawat, 1997:209.

have been developed, leaving large areas which are only in-filled at a very much later date (Banasopit Mekvichai *et al.*, 1990:26). The areas between the main routeways have generally been built up through a pattern of chaotic small *soi* (small side roads). Many of these are dead-ends, linking developments to main roads through a zigzagging route following the ends of intervening plots. Such feeder roads are the product of often protracted negotiations between developers and other owners. The resultant pattern of often extremely poorly surfaced and narrow roads poses serious problems for communications and service provision (Banasopit Mekvichai *et al.*, 1990:27).

From the early 1980s the established pattern of linear and *soi* development has been increasingly supplemented by a variety of large-scale planned housing and industrial developments. While much better positioned for service and communications, these also tend to be connected to the main routes through dead-end links.

Since the mid-1980s a number of very large-scale 'self-contained' industrial and residential complexes have been established in the fringes of the BMA. Much attention has focused on the 1,667 ha Gateway City development, promoted in terms of easy access to Dong Muang Airport, the port at Klong Toy and the Eastern Seaboard. The industrial element has been almost entirely committed by East Asian firms—Japanese, Taiwanese, Hong Kong and Chinese (Bank of Thailand, *Quarterly Bulletin*, Feb. 1991:32).

Since the early 1980s the peripheral areas of Bangkok have undergone a rapid transformation. This is apparent in both land use and socioeconomic characteristics. Large tracts of land have passed out of agriculture and into the hands of developers and speculators. Similarly large numbers of people while remaining rural in residence have been absorbed into a variety of urban-industrial activities. In Pathom Thani, for example, in 1991 60 per cent of the population were classified as living in 'rural settlements', while only 24 per cent of employment was in agriculture. To a degree, of course, this reflects the inadequate definition of 'urban' (see pp. 20–1).

Information on land use changes in the BMR is far from satisfactory. According to Department of Land Development data it appears that since the early 1970s on average *c.* 1 per cent of agricultural land was lost every year. However, since the mid-1980s the rate of loss has risen sharply to as much as 7.2 per cent in Nontaburi and 5.9 per cent in Pathum Thani between 1987 and 1989 (cited in Banasopit Mekvichai *et al.*, 1990:41).

The situation is complicated by data collected by the Ministry of Agriculture which suggest that the agricultural area of the BMR *increased* by 8.8 per cent between 1981 and 1986 and by 16.1 between 1986 and 1988 (cited in Banasopit Mekvichai *et al.*, 1990:43). However, examination of these data indicate that between 1986 and 1988 the area under paddy, field crops,

vegetables and flowers decreased by 6 to 15 per cent, while the areas of grass land, idle land and unclassified land increased substantially (Banasopit Mekvichai *et al.*, 1990).

Thus while continuing to grow ever faster through the concentration of migrants from provincial areas, the capital is now also growing by expansion and incorporation of adjacent, often densely populated areas of the Central Plain. This combination of what McGee and Greenberg (1992a) term urban concentration and regional urbanisation is producing not only very rapid growth but extremely complex patterns of land use, circulation of people and commodities, life styles and economy. These developments have been facilitated by the rapidity of urban-based industrial growth, the proliferation of motor vehicles and the lack of controls over development. In many areas serious conflicts over land use and resources, particularly water, are emerging. Thus the growth of the EBMR is resulting in major problems of planning, regulation, and the supply of services that are posing major new challenges for regional and urban planning.

Transport

The rapid increase in the extent and population of the capital has not been accompanied by significant development of transport facilities. The still heavy concentration of activities in the city centre, together with the unplanned expansion of residential areas—often at a considerable distance from the centre—without the development of the necessary transport facilities, have created major problems of congestion. The rapid spreading of the built-up area has been closely linked to a steep rise in the private ownership of motor vehicles. Since 1980 vehicle registrations in the BMA have increased at an annual average of 25 per cent, reaching 1.23 million in 1991. In the same period motor cycle registrations grew at 44 per cent a year, reaching 1.6 million in 1991. These figures do not include the large numbers of vehicles registered in surrounding provinces and used for commuting into the BMA. However, the vehicle ownership rate in the BMA is the highest for any Asian city outside Japan (Tetsuo Kidokoro, 1992a:75).

On the basis of estimates of the number of commuters and the capacity of the main radial roads Tetsuo Kidokoro (1992a:78–80) concluded that transport to the city centre was reaching capacity in 1984. The subsequent period of rapid Bangkok-based economic growth has taken place with little development of transport facilities. While there has been a degree of decentralisation, this has in some respects increased the pressures on transport facilities because of the continuing need for linkages with the central areas. The decentralisation of housing has principally affected the rapidly expanding high and middle income groups, who are predominantly tied to central area employment, services and schooling facilities; thus

these developments have been associated with substantial increases in commuting for work and education amongst these groups (see Sureeporn Punpuing, 1993 for a detailed study of patterns and determinants of commuting).

The congestion and consequent amount of time involved in commuting has resulted in many commuters adopting what appear to be very inconvenient and disruptive life styles. Even for short distances people will leave home one or two hours early in order to reduce the time spent in the traffic, travel on a less crowded bus, or secure a parking space, even if this means arriving at work or school unnecessarily early. Ross has described the situation as one in which:

Middle-income families try to spend time and conduct essential domestic activities in the car. Meals and preparation for the day are rushed, or carried out on the way to work. Travelling can account for a large proportion of the time couples and children spend together, and it is not unusual for children to be dressed, fed, or even do homework in the car. All of our respondents perceived a strong impact of commuting on family life, and neighbourhood life, since no one had time any more for interaction. Among young people, friendship and recreation activities are more commonly based in the workplace than the neighbourhood.

(1993:14)

It is all too apparent that the Bangkok road system is inadequate to the level of traffic—this despite efforts since the 1960s to convert the capital into an ‘automobile city’ (Manop Bongsadadt, 1987:554). This has involved the filling in of many canals (*klongs*) to facilitate road construction, a process which has interfered with water supply, drainage and flood control. In 1989 there were 2,800 km of roads in the BMA—representing only 12.5 per cent of the area of the city (Country Report, 1989:4). This compares to the 20 to 25 per cent norm for major western cities (NESDB, 1988:10).

Congestion is substantially increased by bus services being almost entirely confined to the main road system. The growth of the urban area, particularly in the outer areas, has created an intricate pattern of feeder roads, large numbers of which are dead ends. Thus a large proportion of the population are dependent on either private cars, taxis, minibus services or the varied ‘informal’ sector either for entire journeys or to and from the bus routes. The informal transport provisions principally comprise *son taw*—a light truck converted to carry 10–15 passengers, often on regular routes—and *soi-bikes*—motor cycle taxis. For large numbers of new peripheral developments there is little alternative to private vehicles and the informal sector.

Thus Bangkok has an exceptionally high level of traffic volume per unit of road area. The resultant congestion is exacerbated by the incomplete nature of the road network, the very mixed nature of the traffic, inefficient traffic management and, perhaps most critically, the absence of an adequate mass transit system effectively separated from the general traffic.

The Bangkok Metropolitan Transit Authority (BMTA), established in 1975, controls a fleet of some 7,000 buses. These are generally old and their exhaust fumes contribute substantially to the capital's air pollution. The BMTA is under-capitalised, saddled with heavy debts, and faced with government controls which keep fares low. In addition, the route management is considered inefficient. Overall, Bangkok's mass transit system provides a poor and unreliable service.

The planning and design of a separate mass transit system for the city was initiated on the recommendation of the 1971–5 Bangkok Transport Study. The original plan for a 100 km of elevated heavy double track railway was completed in 1981. This was to be entirely state financed; however, the recession of the early 1980s, the lack of development funds and the increasing difficulty the government was experiencing in raising international loans resulted in a decision in 1982 to privatise the scheme. However, the government's proposals, which centred on a 30-year concession with no grant or subsidy, failed to attract private-sector funding. As a result during 1984 the Expressway and Rapid Transit Authority (ERTA) produced a revised proposal. Under this the mass transit system was to be constructed in two stages, with the government holding 25 per cent of the company's concessionary equity. The terms of reference for the first stage were finalised during 1987, subsequently however there was a series of false starts, punctuated by corruption scandals, litigation, and changes of plan. Agreement was reached for three projects, all with start dates early in 1993. Together they were expected to provide 100 km of elevated commuter track capable of moving 3 to 4 million passengers a day by the year 2000. However, the three projects were designed by different government departments. It was reported that there were over 30 places where the systems conflict (Handley, 1992b). Subsequently, after further changes of plan and false starts, the first section was scheduled to open early in 1998, but this has been delayed by threats of litigation by land owners and enterprises along the route, and more significantly the 1997–8 economic crisis.

In the absence of any immediate prospect of the rapid development of a rail system, bus lanes were introduced in 1980 in an attempt to partly separate the only existing element of mass transit from the general traffic. While the operation of bus lanes has reportedly resulted in some improvement in bus and/or car travel time, it is also apparent that drivers widely ignore the regulations and enforcement is almost completely ineffective (Bampen Jatoorapreuk *et al.*, 1992:96).

The problems that have surrounded the development of the rail mass transit system and the ineffectiveness of traffic controls further underline the inability of either regional or national authorities to control developments effectively or to implement essential infrastructural projects. However, it must be stressed that while there is a chronic need for the establishment of a mass transport system separate from the general traffic, it will not be a panacea. To be effective it will have in the short run to be combined with coordinated transport and traffic management, and in the longer run substantial urban redevelopment and infrastructural programmes.

Housing provision

The growth of housing provision illustrates very clearly the strengths and weaknesses of Bangkok's largely uncontrolled and uncoordinated pattern of growth.

Until the late 1960s housing was constructed on an individual basis either by the occupiers or through the hire of contractors. Sites were either rented or purchased from land sub-dividers (Foo Tuen Seik, 1992:1138). In the more central areas this involved the sub-division of already small sites. Apart from the limited regulation of the sub-division of plots and building standards there are virtually no controls over land use in Bangkok. During the 1980s regulations governing house building standards, and the sub-division of plots were substantially relaxed. As a result Thailand has the simplest procedures for land sub-division in South East Asia (Tetsuo Kidokoro, 1992:64, 67). Thus it is asserted that it is possible to build virtually any type of house at any location (Foo Tuen Seik, 1992:1140). This situation prevails despite attempts by the Municipal Authority since 1937, and the Bangkok Metropolitan Authority since 1972, to control the capital's expansion.

From 1968, with the rapid expansion of the city area and the subdivision of large city fringe plots, private speculative developers began to build mainly detached units for the upper and middle income groups. In 1973 there were 33 firms constructing annually *c.* 8,000 units on some 800 ha of land (Nathalang, 1974). Between 1974 and 1984 the private sector provided some 90,000 units, principally at the more expensive end of the market. From the mid-1980s the acceleration of Thailand's economic growth was accompanied by a spectacular expansion of private-sector housing output. During the period 1980 to 1986 annual production averaged 15,000 units; in 1987 30,411 units were completed, in 1988 45,192, and in 1989 57,622 (government Housing Bank, 1990). By the later year there were over 1,000 development companies operating (Foo Tuen Seik, 1992:1138).

Since the early 1980s the production of housing in the BMR has become increasingly associated with private estate development. According to NESDB data the share of estate development in the annual output of housing units

increased from 4 per cent in 1974, to 15 per cent in 1984, to 57 per cent in 1989 and 73 per cent in 1990. A high proportion of these developments is occupied by well-educated middle-class, white-collar workers (Watanabe, 1993:15). However, there is evidence that unintended, and in some cases very unwelcome, small-scale commercial and manufacturing activities are being introduced in the cheaper developments. But, as Watanabe (1993:14) has suggested, many developments are effectively isolated islands in the suburbs of Bangkok.

The rapid expansion of private-sector housing provision since the mid-1980s, as well as being associated with estate development, has also involved moves towards the provision of lower cost units—including terraced, shophouse, and high-rise housing (made possible by the 1979 Condominium Act). These moves principally reflected the very competitive nature of the higher cost housing markets, rising land prices (reinforced by the rapid expansion of potential home buyers in the wake of the country's accelerated growth), the growth of the housing finance sector (from 1987 insurance and finance companies were allowed to invest in land and the housing market), low interest rates, and the availability of tax relief on housing loans. These developments led Angel and Sureporn Chuated (1990:20) to conclude that the private housing and land marketing sectors were moving rapidly towards the mass marketing of low-cost housing. This view is supported by income and housing cost surveys which suggest that the proportion of the BMA's population that could afford to purchase their own home rose from 20 per cent in 1980 to 50 per cent in 1990, but in the light of rising land costs is projected to fall to 40 per cent in 1996 (Bangkok Land Management Study, cited in Sophon Pornchokchai 1992:48–9).

Until the expansion of low-cost private-sector developments the only provider of mass low cost housing had been the National Housing Authority (NHA). From its establishment in 1973 until 1984 the NHA provided on average some 7,000 low-cost units annually (NHA, *Annual Report*, various years). Between 1984 and 1988 the annual expansion of public housing provision averaged only some 2,000 units, a reflection of budgetary constraints and the limited availability of land for public housing projects (Dowall, 1992:28). These constraints together with the take off of the mass provision of lower cost housing have caused the NHA to shift its activities from the construction of low-cost housing to the upgrading of slum areas (NHA, *Annual Report*, various years).

In 1990 NHA survey data indicated that there were 946,951 slum dwellers—16.1 per cent of the BMA's official population—living in 981 slums (these figures were subsequently verified by the Bangkok Metropolitan Authority, cited in Sophon Pornchokchai, 1992:63). The NHA study was based on a detailed analysis of aerial photographs followed by 'ground truthing'. Studies by Sophon Pornchokchai (1985; 1992) both

generally confirmed the NHA findings and suggested that there had been little significant change since the early 1980s. Similarly, Dowall (1992:280) concluded from an examination of NHA data that between 1984 and 1988 the increase in slum housing was a 'modest' 10,493 units. Such views suggest that slum dwelling had become relatively less important in the BMA (Chantana Chanont, 1990). However, other surveys suggest that large numbers of small clusters of slum dwellings were missed or excluded from the NHA and related surveys, and the density of population and hence numbers of inhabitants have been under-estimated (Setchell, 1991, places the number of slum dwellers as high as 1,495,525 in 1990). In addition, a new type of inner-city slum is emerging: rented 'apartments' generally measuring 4 by 3 metres in sub-divided run-down buildings. Their numbers are unknown but believed to be increasing rapidly (see Nathanon Thavisin and Ksemsan Suwarnarat, 1996:12). In addition, much construction worker accommodation and other sub-standard accommodation provided by employers should perhaps be added to the slum category (Sophon Pornchokchai, 1992).

The possibly limited increase in the number of slums and slum dwellings in the BMA since the mid-1980s has to be seen in the context of rising land values and the demolition of slum dwellings without their replacement by low-cost housing. In consequence there was considerable expansion of slum accommodation in the five outer provinces of the BMR (Askew, 1993:31; Dowall, 1992:28). Thus the 1990 NHA study revealed 529 slum areas in these outer areas, as against the 77 in Sophon Pornchokchai's 1985 study (however this did not cover all of the outer area). While the magnitude of the changes are in doubt, it is apparent that slum dwelling, like other forms of housing and manufacturing activity, has been forced to decentralise since the early 1980s.

During the period 1974 to 1984 51 per cent of the expansion of housing was concentrated in a ring between 11 and 20 km from the city centre. In contrast, between 1984 and 1988 the share of this zone had fallen to 40 per cent (Dowall, 1992:29). Shortage of land and the limited possibilities for major redevelopment in the central areas under prevailing conditions are pushing developments increasingly to the fringes. Between 1986 and 1990 the average distance of private housing projects from the centre increased from 16.7 km to 20.3 km. In addition, Dowall (1992:29-30) concluded that between 1986 and 1990 there was a sharp increase in the density of housing projects from 36 to 54 units per ha—a reflection of rising land prices even in the fringe areas. This increase in density is shown most clearly in the development of low-cost high-rise blocks. By 1990 such high-rise developments comprised 43 per cent of project development (Dowall, 1992:34).

Since the mid-1970s the housing stock in the BMR has grown substantially faster than the population. Between 1974 and 1984 the number of housing

units increased by 66 per cent, and between 1984 and 1990 by a further 53 per cent. In the same periods the population increased by 25 per cent and 10 per cent respectively. Given the backlog of housing provision and the poor quality of much of the older stock, serious problems of overcrowding and inadequate housing remain, even for those who can afford the formal sector provision.

Bangkok has been cited as an example of an efficient housing market under which the commercial provision of housing units has substantially exceeded the growth of population and the importance of the informal sector is steadily declining (Dowall, 1989). Such a view fits in well with current World Bank views that the state should only be involved in the housing market (and indeed the economy as a whole) in an 'enabling' role (see Foo Tuen Seik, 1992:1137). There are very few restrictions on housing construction in Thailand; indeed since the early 1980s these have been simplified and reduced in line with the general deregulation of the economy.

The reality of housing development in the BMR, and indeed urban growth in general, is very different. A number of writers have questioned the wisdom of the continuation of the *laissez faire* approach to the housing market. Indeed, Dowall's 1992 study raises serious concerns over the operation of the land market. Rapid increases in land prices and the continuation of extensive, largely linear sprawl are creating major long-term problems for the management of the housing stock. Dowall concluded that his second study 'has illustrated how rapidly the pattern of land development has shifted in Bangkok and illustrated the critical need for new government initiatives' (1992:37). In this respect the housing sector is a microcosm of the Thai economy. The euphoria over the post-1986 unregulated economic 'boom' has given way to concern over its sustainability, and calls for government initiatives and controls. In the absence of changes in policies towards land expropriation and infrastructure development, major central area redevelopment projects remain highly unlikely in a city where 80 per cent of the land is privately owned (United Nations, 1987).

The consequences of the concentration of growth in Bangkok

The results of the concentration of growth in Bangkok have been aptly summarised by *Business International*:

The snarled traffic, filthy air, clogged telephone system and the orgy of building may be the labour pains of a big new business centre in the heart of the dynamic part of the world economy. Or they could be the city's undoing.

(March 1990:13)

The rapid growth has been concentrated in a metropolitan area with inadequate infrastructure and weak and largely ineffective planning controls and urban management. Environmental degradation in the BMR is not so much a consequence of rapid urban and industrial growth as it is the result of the failure to supply infrastructure and controls consistent with the demands of economic growth. The following factors are particularly significant (Dhira Phantumnavit and Theodore Panayotou, 1990:21).

- high-density development without adequate provision of mass transit and road networks has led to traffic congestion
- high water demand without adequate municipal water supply has led to excessive ground water pumping and consequent land subsidence
- high density development without adequate drainage and sewerage has led to flooding and water pollution
- industrial development without adequate pollution control investment and enforcement has led to air, water and solid waste pollution.

Quite simply controls were inadequate and infrastructural provision lagged behind economic growth before the boom.

The sharp increases in traffic since 1986 have come to a city already notorious for its congestion. By 1990 the average speed was 7 km per hour (*Business in Thailand*, Feb. 1991:56).⁴ In 1991 the World Bank estimated that the cost of commuting in the BMR was the equivalent of 1.4 per cent of GDP (cited *Far Eastern Economic Review* 1991:6).⁵ In addition, air pollution—70 per cent of which is derived from motor vehicles—is amongst the worst in Asia (Banasopit Meckvichai *et al.*, 1990; Handley, 1991:44). In 1989 it was reported that air pollution had become ‘critical’, with 900,000 people suffering from related respiratory illnesses (*Bangkok Post*, 11 Sept. 1990). As was noted in Chapter 4 (p. 126), the rapid growth of the manufacturing sector has been accompanied by a substantial rise in the number of plants producing hazardous waste. Given the limited enforcement of regulations much of this is discharged directly into the drainage system. In consequence, the lower Chao Phraya is now ‘dead’—principally as a result of the large-scale discharge of aniline dyes.

The growth of the urban area has taken place with little regard to the provision of services. Large areas of the city lack any effective drainage or sewerage systems other than the canal system. This has led to the widespread use of septic tanks which in turn has led to pollution of ground-water supplies. The existing water treatment capacity serves only 2 per cent of the BMA’s population (Anuchat Pongsomlee and Ross, 1992:21). The wastewater from most households is discharged directly into canals that drain into the river. While large industrial plants are required to install water treatment facilities in order obtain their annual operating permit from the Ministry of Industry, this is far from rigidly enforced. In addition, large numbers of small

and medium sized plants appear to be exempt (Anuchat Pongsomlee and Ross, 1992:21).

Rapid urban-industrial growth, coupled with limited public water provision has resulted in the excessive extraction of ground-water. In 1990 an estimated 40 per cent of the population was dependent on ground-water from deep wells (den Haan, 1995:418). This has resulted in salt-water penetration of wells as much as 20 km from the sea (Dhira Phantumnavit and Theodore Panayotou, 1990). In addition, the removal of ground-water and the weight of modern buildings has resulted in widespread subsidence (Yeu-man Yeung, 1988:170). In areas of eastern Bangkok the annual rate of subsidence exceeds 10 cm per year and in central areas ranges from 5–10 cm per year (Rigg, 1991:155–6). Subsidence has increased the incidence of flood damage⁶ in this already low-lying area, as well as damaging roads, buildings, bridges, drains and water pipes. The continued extraction of ground water reflects the lack of development of public water provision and ineffective controls over urban-industrial growth and water abstraction. The combination of subsidence and inadequate drainage has led to the view that Bangkok is sinking into its own sewerage.

Conclusion

While it is difficult to contradict the view that Bangkok in the 1990s is a 'mess', it must be agreed that it is a dynamic 'mess'. In this respect it is important to see the Thai capital in the context of the historical experience of the presently industrialised nation and in relation to developments elsewhere in Asia. Though not overtly stated the official view appears to be pollute and congest today and clean up later. While this has been the pattern in Taipei, what Bello and Rosenfeld (1990) terms the Taiwanese 'environmental nightmare' was accompanied by very substantial centrally planned and financed infrastructural development. Further, the current 'clean-up stage' involves substantial relocation of predominantly Taiwanese industry to such locations as Bangkok. In this respect the Thai 'clean-up stage' would involve the substantial 're-export' of polluting foreign-owned industry. This raises the wider question of the extent to which Thailand, and the other recently industrialising ASEAN economies, will be able to make the transition to a domestically owned cleaner and higher tech industrial sector, and attract and retain similarly oriented transnational activities.

Bangkok in the mid-1990s lacks any effective comprehensive development plan. Indeed, many believe that it would be politically, as well as practically, impossible to implement one (Anuchat Pongsomlee and Ross, 1992:14). Attempts to draw up a comprehensive plan date from 1960 when an American consultancy firm drew up *The Greater Bangkok Plan*; this was never adopted (see Romm, 1972:76–7; Sternstein, 1971:1; 1973). In 1971 a revised *Plan for the Metropolitan Area* was published; also not adopted. Though some

elements of this Plan were used to provide some partial guidelines for the control of development, these were difficult to implement and largely ineffective. This is illustrated by legislation in 1975 and 1979, providing for the establishment of a 'Green Belt' to control the loss of agricultural land in the BMR. There have been demands by developers, industrialists and government agencies to 're-evaluate' this legislation because it is a major barrier to the city's economic development (Anuchat Pongsomlee and Ross, 1992:15). In practice, given the rapidity with which agricultural land is being converted to urban-industrial use it is difficult to credit that the Green Belt legislation plays any significant role in controlling development.

In 1992 a *Master Plan for the Metropolitan Area* was finally adopted, drawn up by the Office of Town and Country Planning (OTCP). However, it was subsequently subjected to a protracted process of consultation and modification. The large number of vested interests that are against many of the provisions lead one to question whether the adopted plan will in the event be any more effective than its unadopted predecessors.

The inevitability of the continued development of the EBMR appears to be accepted by planners and politicians—as is reflected in the Metropolitan Regional Planning Study (NESDB, 1993). This study, however, adopts a slightly different and broader definition of the metropolitan region, encompassing the BMR, Eastern Seaboard and the Upper Central Region (Figure 6.2, p. 201). A wide variety of infrastructure projects are envisaged as facilitating the development of these areas. Under the Eighth Plan (1997–2001) an even wider region is proposed, the Chao Phraya Metropolitan Region (NESDB, 1997), which includes the Western Seaboard (Figure 6.2). The promotion of these metropolitan regions is envisaged as resting principally on the development of infrastructure, particularly transport, and the establishment of sub-regional centres: thus the spreading of development from the BMR will be facilitated. However, it does seem to be more a matter of facilitating a process that is already underway, and there is no sign of decentralisation from the BMR to the outer regions of the country (see Chapter 7).