



THAILAND

BANGKOK

Size of the country	513 000 km²
Population	62 M
Population density	121 inhab/km²
Population growth rate (1993 – 1999)	1 %
Part of urban population	21%
Life expectancy at birth	69
Infant mortality (per 1000 live birth)	30
Access to improved water sources (% of population)	81
Ethnic groups, their percentages in the population	Thai: 75%, Chinese: 14%,
Official languages	Thai
Religions	Buddhism: 94%, Islam: 4%
Gross domestic product	121 billion USD
Gdp per capita	1960 USD per capita
Inflation	3,8 %
Gdp growth rate	5 %
Gdp repartition in different sectors	Agriculture: 11,6%, Industry: 41,7%, Services: 46,7%
Unemployment rate	4,5 %
Illiteracy (% of population age 15+)	5 %
Education	Primary schools: 98%, secondary schools: 38%
Tourism	7,5 M visitors (1997)
Urban area of Bangkok: Population	7,8 M

MY BANGKOK TALE: STORY OF A SPRAWLED CITY

Somrudee NICRO Urbanization and Environment Program Thailand Environment Institute

My Bangkok

I am a true Bangkokian.¹ I was born, grew up and lived on the west side of Chaopraya River and am now working and living on the east side of the Chaopraya. I am going to take advantage of this privilege and tell you about my Bangkok, in my own way.

Back in the time when I was a girl and still today, Thonburi side, as the west bank of the River is known, had much less to offer than the Pranakorn side on the eastern bank. My parents sent me to a convent school, one of the first private schools in town. This school sits on the river's east bank near the world-renowned Oriental Hotel in the Western District of old-time Bangkok. The school has been sitting there for almost a hundred years now. I was told that the teachers here used to teach the young girls in French. That was before the government demanded that all schools teach in the Thai language.

There were only two main bridges linking Thonburi to Pranakorn then: Sapan Buddha or Rama I Bridge and Sapan Krung Thon or Sang He Bridge. Due to the long distance and traffic jams (by the old standards), I often crossed the river by boat. It was rowed by a standing woman (or man). The only motor ferry in the neighborhood was white with a placard saying Dumex on its roof. The plant that produced the Dumex infant formula was on Thonburi side; therefore the company used this white boat, which always caught my young eyes, to ferry its visitors from the west bank. There were other motor boats for Western tourists at the hotel. Motor boats for our use came only shortly before I left school. The motor broke down during my first motor boat trip across the Chaopraya. Our boat floated along the river for a while before another one came to our rescue. This was some thirty years ago.

My school had two other schools as neighbors, one for girls and the other for boys. The three schools were all Catholic. We shared a cathedral that we were very proud of although, like the majority of Thais, most of the children and the teachers were Buddhists.

These schools were located in a district called Bang Rak or Love District. The term *bang* is used to name a district with a water source nearby. There were pretty canals along both sides of Sathorn Road back then. I recall that before I started making the journey to school



Map. 1. Bangkok Metropolitan Administration: Urban Area, 1987-1995

on the east side of the river, I went to a kindergarten where I had to walk across a high bridge over a canal to get to the wooden gate of my kindergarten. Like the canals along Sathorn Road, this one too is now gone. Many of Bangkok's canals, which once earned it the name "Venice of the East, " have been filled in and turned into roads to lead us into modernization.

To be specific, it was the first Bangkok Land-Use Plan known as the Litchfield Plan that was instrumental in this change.² Bangkok has since changed its primary mode of transportation from water to land; and its urban form has borne the drastic consequences. Later, in a per-

sonal interview with the then Director of the Office of Town and Country Planning, I was told that the Americans had initiated the land-use plan for Bangkok because they had been much bothered by mosquitoes in the city. I wonder if this had to do with their suggestion to fill in the canals -- so that mosquitoes would have a smaller surface of water on which to lay their eggs. After finishing junior high school, I went to a co-educational school on Phayathai Road, known to be one of the best high schools in the country. Its only rival was a boys-only school. The students in my school came from the cream of the schools in Thailand. It was very important for the children to get into

good schools so that later on they could have hopes of passing the university entrance examination. The best schools and universities were in Bangkok. There was no private university then. All universities were run by the State. Naturally, there was an influx of young boys and girls who came into Bangkok each year just for quality education.

After taking the entrance examination, I again went to a school on the river's east bank. I was still living in Thonburi when I was working on my baccalaureate in architecture at the Fine Arts University. But this time, I was driving a locally assembled Fiat 124 ST to campus, going over the nearby Prapinklao Bridge. This bridge had not been in existence during my junior high school years. On the way home, this bridge took me to Charansanidwongs Road on the Thonburi side, which later became the inner ring road. Although it was a ring road, it loo-

ked like any local road with shop-houses on either side. The traffic was and still is highly congested, especially during the rush hour: a classic case of ribbon development.

Nothing much happened during my college years, except for the 6 October incident in 1976, when I was a sophomore. As a result, many students left Bangkok, fleeing the State into the jungles. This was the first time that Bangkok had witnessed out-migration. Outmigration from Bangkok took its second toll after July 1997, when the economic crisis hit Thailand. Many enterprises closed down. As a result, a number of laborers originally from upcountry found themselves laid off. Being jobless, they returned home to their original families and roots. Aside from these two incidents, I have not seen any "policies" that have actually stopped in-migration or attempted to halt Bangkok's sprawl (see Map 1).

The Boom

The period around the turn of the 1970s-1980s was not very interesting for me. After spending one year studying city and regional planning at a graduate school in Bangkok, I left my hometown for the United States in 1982 and spent the next 9 years in upstate New York. This was a big step for me as I had rarely traveled outside Bangkok by myself. My father did not like me to go upcountry out of concern for my safety. In the 1960s the road system was just in the making under the first two national plans to implement " development " and also to fight communism. The following decade in Thailand saw social unrest twice in 1973 and 1976. Rural areas were then seen, not as " a place to meet nature " as urbanites see it today, but as areas of the deprived and of opposition to the government.

Bangkok's skyline changed each summer that I returned. The sky above Bangkok grew smaller, not because of trees but because of buildings and construction. It became difficult to see the bright blue sky.

The period when I was away from home, from the early the 1980s to the early 1990s, was a booming period for the Thai economy. Only after the 1997 crisis did the boom come to be called a "bubble." During my graduate studies in the United States, we students often heard of how wealthy our Thai friends at home were, how they could get rich so easily and so quickly, and how they could spend so lavishly. When I returned home for good at the end of 1991, the cityscape had changed enormously with high-rise buildings and, of course, elevated expressways. Bangkokians had changed

even more. It seemed everybody was carrying a cellular phone. International economists viewed Thailand as the next "tiger" and the Thai could contemplate being part of the rise and glory of the Asia-Pacific Rim. When there was a mass demonstration in the streets in May 1992, most of the demonstrators were in white-collar outfits and used cellular phones and fax for communication while on Rajadamnern Avenue.

I started my career in the field of environment in the early 1990s, working as a research fellow for an environmental Foundation. This was guite timely as Thailand's environmental deterioration had clearly surfaced by then. The Seventh National Plan (1992-1997) recognized the problem. Bangkok's was prey to mounting pollution, including air pollution, flooding, deteriorating water quality, and community and industrial wastes.3 Of less concern to the public, however, were noise and visual pollution, which were no less severe than other kinds of pollution the city was facing. Noise: what was supposed to be music in the mushrooming shopping malls was no more than incredibly loud noise. The city looked ugly with tall buildings engaged in endless competition, each trying to set itself as a landmark, and unruly commercial signboards. Most visible of all were the traffic jams.

The Sprawling City

The city is dense and crowded with its multitudes, and there is little *public space* for parks and recreation.⁴ Families and young lovers alike spend time in shopping malls, which also house small amusement parks for kids, cinemas and sometimes bowling alleys and ice-skating rinks for teenagers. The most prominent open public space in this city is its road surface, which is ruled by automobiles not pedestrians. Apparently, people keep coming to Bangkok. This flow has continued for decades. Actually, this is not surprising given the fact that Bangkok remains not only the country's biggest city but also its primate city. Indeed

Bangkok and its five vicinity provinces, Patumthani, Samutprakan, Nakhonpathom, Samutsakorn, and Nonthaburi, which form the Bangkok Metropolitan Region (or BMR), is Thailand's most economically productive region.

Gross regional domestic product per capita of BMR was 2.6 times the national average in 1978. In 1988, the ratio rose to 3.15 times. GRDP per capita of BMR was 10.23 times that of the poorest Northeast region.⁵ Spatially, the BMR has already merged into one mega-city of almost ten million people.⁶ Traveling out of the city, it is impossible to say when one is leaving Bangkok and entering one of its neighboring provinces.

It has been recognized since the early 1990s that the effects of Bangkok's urbanization are not limited to these neighboring provinces. Rather, the BMR's economic growth has extended to the provinces of Ayutthaya and Saraburi in the North, Ratchaburi and Petchburi in the West and the East Coast of Chonburi, Chachoengsao and Rayong provinces. This and similar phenomena have been observed both in Thailand and elsewhere by other city planners. Douglass calls such urban extensions " mega-urban regions or MURs. "8 Ginsburg et al. use the expression " extended metropolitan regions. "9 Dantzig and Saaty call the corridor from the south of Washington D.C. to the north of Boston " Megalopolis, "10 Sir Patrick Geddes uses the term " conurbation. "

While many factors have contributed to the expanding urbanization of Bangkok, including both international economic integration and localized development policies, one single factor — road and highway development — stands out. In making daily transportation accessible, the road and highway system has made the mega-urban region possible.

In Thailand much has been said about Bangkok being a primate city. The National Economic and Social Development Board (NESDB) has used urban strategy since the Fifth National Plan (1982-1987) to develop the rural regions and slow down the flow of rural-to-urban migration. It has successfully developed regional growth centers and secondary cities nationwide. Attempts have also been made to move national governmental functions to cities other than Bangkok. A plan for developing a city for central administration in Chachoengsao province was discussed about five years ago. All of these efforts are based on the argument that they would resolve the problem of population growth in Bangkok.

But city growth does not mean increase in population size alone. Cities like Bangkok keep sprawling. In spatial terms, this means longer travelling distances. More roads are needed and, in turn, these roads bring in more people and expand human settlements in the outskirts, unless regulations are made to restrain this "ribbon" form of development. Studies have time and again recommended the adoption of regulations on access to highways to limit the pattern of ribbon development¹¹ and create a green belt around the city's boundary.¹² These recommendations have yet to be implemented.

In many cases, what actually happened ran directly counter to the above recommendations. All the highways that link Bangkok to other regions — Bangna-Trad to the East; Rama II to the West; Pahonyothin to the North and Petchkasem and Praboromrajonnee to the South — have significantly changed the pattern of land use in the countryside from agricultural farming to massive industrial and housing estates.

The Transportation Nightmare

As early as 1963, Lewis Mumford warned in The Highway and the City that:

Cities, in turn, will be transformed into extravagant parking lots; and before you can awaken from this nightmare you may, if you ignore the experience of Los Angeles, Detroit, Boston, and a hundred other American centers, dismantle the one

kind of transportation that would, if properly organized, rescue you from this fate: the railroad ¹³

In administrative terms, several authorities are responsible for land transportation in Bangkok and Thailand: the Department of Highways (DoH), the Express and Rapid Transit Authority of Thailand (ETA), State Railways of Thailand (SRT), the Mass Transit Authority (MTA), and the local authorities, which, in the case of Bangkok, is the Bangkok Metropolitan Administration (or BMA), Each has its own responsibility and there is very little coordination among them, despite the fact that the Office for the Commission on Management of Land Transport (or OCMLT) has been established to oversee and coordinate land transport in Thailand. Only recently, on 4 October 2000, did the OCMLT hold a seminar to discuss its proposed Master Plan.

A rail system is preferable to highways and cars because it is more cost effective and can be more environmentally friendly. Yet, the recent proposal made by the State Railway of Thailand to build railroads to link the suburbs to Bangkok begs caution.14 This is because the proposed project will facilitate travel and commuting by people from the suburbs and rural areas to the city, increasing both volumes of passengers and speed of transportation. It is therefore foreseeable that if this proposed project is implemented, there will be many more people commuting daily to Bangkok than the current 150,000. This mass of commuters, accelerated by the new rail development, will certainly increase the pressing demands on urban infrastructures, including those related to in-town transportation, utility supplies, and environmental cleaning-up.

In theory, a rail system for in-town transport is desirable when compared with automobiles and expressways. An electric train system was actually proposed when I was still an undergraduate student. In reality, it took some 20 years for the first line to start operating in

1999. The development of an in-town rail network lags far behind that of expressways. Three phases of the expressway development have already been implemented and many more are in the pipeline, including new links to the neighboring provinces. This runs against the recommendations made in a study jointly undertaken by the National Economic and Social Development Board, United Nations Development Programme (UNDP) and Thailand Development Research Institute (TDRI) that priority should be given to sky trains over the expressways. 16

If there is no change in this ETA plan, it is foreseeable that Bangkok will continue to experience sprawling, population in the BMR will increase, and more people will commute to Bangkok to take advantage of the city's relatively abundant employment opportunities, services and amenities. Moreover, traffic in the city proper will get more congested despite the seemingly better flow in recent years as a consequence of the recent completion of some expressways. Needless to say, even if we can successfully make the shifting in vehicle fuel from gasoline to natural gas or electricity, we will still be faced with more severe environmental degradation due to the heavier burden of wastewater treatment and solid-waste management. It is not yet the time to mention the issue of city "liveability."

Naturally, we feel sympathy for Bangkokians who are overwhelmed by traffic congestion. But the more they want to get away from this web, the more tightly do they get entangled in it. This is mainly because it has become the norm for the authorities to give priority to automobiles. Apparently, the authorities believe that the only sensible way to solve traffic problems is to build more road surface, one layer over the other. There are no efforts to curb the number of automobiles on the streets while mass transit is way behind demand, in terms of accessibility, number of vehicles, services and safety.

On 23 September 2000, we had an election for our BMA Governor. There were more than ten

candidates and five of them were front runners. All the candidates put transport policies on their platform. It is worth observing that candidates who used to be in public office claimed credit for having built roads and ring roads during their previous terms of office. This only demonstrates the importance that Bangkokians attach to transportation in their daily life. Ironic as it may sound, the development of highways and rising urban transportation problems are actually conducive to urban growth.

The excessive admiration for automobiles that was created during the "development" period needs to be addressed and corrected. This year, Thailand joined other countries for the first time in launching a Car Free Day campaign on 22 September 2000. It was a cooperative effort by many organizations, both governmental and NGOs. The leading organization was the National Energy Policy Office (NEPO), whose agenda is to save energy. The campaign was possible because of the rapid rise in gasoline prices. However, the campaign did not tackle the issues of city transportation at large, social justice or urban sprawl. As a matter of fact, prior to the campaign, our research team had already proposed that the authorities drop their longstanding policy of giving priority to automobiles.¹⁷ We have yet to see if this recommendation will be taken up under the pressure of high oil prices or whether it will suffer the same fate as earlier studies which were simply shelved.

City Scale and "Liveability"

In discussing urban sprawl, it would seem that I am proposing a "compact city "concept. However, it is unlikely this concept can be successfully applied in a sprawling city like Bangkok. What I would like to address is the debate on this concept. The European Commission has argued that the high-density, mixed-use city is likely to be energy efficient because it reduces travel distances and maximizes prospects for public transport provision.

The commission argues that a compact city provides a better quality of life to its residents. Suburban development creates both high energy consumption and a lower quality of life. Friends of the Earth has also espoused this concept. For the same reasons, Dantzig and Saaty had already gone even further by developing models for compact cities almost as early as 1974.

What both the "compact city" and the "sprawled city" have to be judged against is the city's "sustainability" and "quality of life. "I would also call the latter "liveability."

What then is a "sustainable city?" Elsewhere, I have defined it as "a city which serves human beings and not motor vehicles (a humanized city), has a liveable and safe environment for its dwellers (a liveable city), is full of trees and plants (a green city), is friendly to the eco-system (an eco-city), clean (a healthy city) and lasts (sustainable). "20 In the next section, I would like to further elaborate this concept in two aspects.

First, the "scale": Looking at mega-city Bangkok, can one really believe that it deserves to be called a "sustainable city" with its population and extended region? I do believe that "scale" matters here. I think it would be honest to admit that Bangkok is far from being an ideal sustainable city. One possible way to try and make it sustainable (and liveable) is to improve it by working on a smaller and more manageable scale such as the district level rather than that of the whole city at once.

The Bangkok Metropolitan Administration (BMA) has implemented a "healthy city" project at this level by selecting three districts in 1994, namely Sathorn, Yannawa, and Bang Kolaem, as pilot cases. Two years later, in 1997, the Ministry of Health, with the support of the World Health Organization, expanded the implementation of the "healthy city" project to other municipalities outside Bangkok.²¹ Actually, one of the candidates to the office of BMA governor proposed a policy to create

"Small Towns in a Big City." ²² Her idea was to make each zone, possibly but not necessarily limited to the district level, become as self-sufficient as possible and create a sense of community in these zones. One proposed concrete measure included assigning BMA staff to work in the district of their own residence. This would help reduce the distances to be commuted each day. Unfortunately, this candidate was not elected and her concept will not materialize. At least, not for a while.

It is worth mentioning, though, that this proposal did not receive much support or attention from the public. Four years earlier, during the previous BMA gubernatorial election, a candidate proposing a policy to "Make Bangkok Smaller" also failed to win the election. 22 It may be that in the consumerist world, "small" is not beautiful, while "big" is. One never sees a commercial place with the word "small" in its name, only "big." Thus, "Big C" and not "Small C." 24 In other words, I am saying that city size counts and that urban sprawl moves the city to the verge of unsustainable growth. In this case, "big" is not beautiful.

Secondly, I would argue that the "sustainable city " concept should not mean only making a city sustainable. It should also mean city development that can make the whole country sustainable and as such contribute to the world's sustainability. This, of course, can apply only if one really shares the belief of many environmentalists that environment has no boundary. Cities are important because they are strategic to the whole world's sustainability. This is because cities consume energy and resources most intensively and, at the same time, release pollution and wastes most intensively. As Maurice Strong rightly states, " the battle for the environmental future of our planet will be won or lost in the cities, particularly the cities of the developing world. "

Many studies on the sustainable city tend to focus on the city's environmental sustainability, i.e., the availability of natural resources, energy consumption and pollution emission.²⁵ But I

believe that a city needs also to be "liveable." A technologically fixed, sustainable city, if not liveable, will not be desirable and therefore will not be able to sustain its residents, especially in today's high-mobility world. A sustainable city needs to recognize the people in the city as (qualitative) human beings not just (quantitative) population.²⁶

Social equality is becoming important to a city's sustainability.²⁷ A liveable city needs to be both environmentally sound and socially just.²⁸ I believe that it also needs to be able to preserve its cultural heritage and integrity. Viewed in this light, a city like Bangkok that wants to demolish the hundred-year-old Muslim settle-

ment of Ban Krua against the community's will, to make place for an expressway is, for me, not liveable. Although two public hearings have been held and while both suggest that the project is not viable, the government is persisting in its forced relocation of the population.²⁹

A "liveable and sustainable city " needs to be built not by policy makers (i.e., politicians and civil servants) alone, even though politicians come to office because of our votes. Rather, I believe that a "liveable and sustainable city" has to be built on the partnership between civil society and the State through a participatory decision-making process (or inclusive urban governance).³⁰

My Tale

Why is there a lack of policies aiming at regulating Bangkok's sprawl? Why are such recommendations generally disregarded?

Urban planners are taught in their college years to formulate their thinking on the basis of "facts and figures" and "rational" reasoning. Policy makers have their own rationale. The "facts and figures" that really count for top policy-makers — the cabinet — are those in the bank and in the ballot box, i.e., how much money and how many votes. If one asks the well-informed Thai public at random, the chances are they will say that this is the reason why politicians are inclined to implement mega-construction projects such as in transportation.

I live in an "open" city. The parents of a young German student at the International School Bangkok told me very recently that, compared to many other places, "Bangkok is a paradise for expats." I guess many Thais think this holds true for Thai politicians as well. The more congested the traffic, the louder the popular outcry for mega-transportation projects. Like hungry fish, the public will snap up anything thrown at them that look like food. The more mega-projects there are, the richer some people will get. More mega-projects means that some rich people will get even richer.

I do not want to be misunderstood here. I am not saying there is no difference in the amount of time I need to travel to work today compared with, say, four years ago. Compared with some six years ago, traffic has become more fluid. What I want to say, however, is that we are bound to see more and more traffic jams on expressways, unless *preventive* measures are taken to curb traffic problems and unless decentralization keeps up with Bangkok's expansion. Indeed, building more roads is not a preventive measure. It can only generate more problems. It may even backfire, causing more urban sprawl.

It is ironic that, at present, many studies and seminars focus on corruption in public office while the Prime Minister is known to be "clean." No less

startling is the fact that the contender for the office of Prime minister, whose announced policy is to fight corruption, is undergoing investigation, by the National Counter Corruption Commission, into allegations of having transferring stocks worth hundreds of millions of Bahts to his domestic helpers, security guards and chauffeurs.31 The Minister of Transportation is also suspected of being involved in a scandal about a cooperative store in Suratthani province in the South. It has been estimated that 20 to 30 percent of the government's budget goes into corrupt pockets.32 Whether these statistics can be verified is one thing. People's perception is another. What matters here is that the Thai people believe it is possible.

On a recent trip, I witnessed two men in their early sixties conversing about their old days in a suburban residence. One of them was a well-known artist, the other a retired deputy police commissioner. They had grown up in the same province of Samutsongkram, birthplace of the

King Rama II, not far to the west of Bangkok. Fending off mosquitoes while sipping a glass of wine, I then realized how little I, as a Bangkokian, knew about the lives of the young Thais just outside Bangkok and how much I had missed. This is not about "facts and figures" and therefore does not count in my life in the big city during the week.

Living in a city like Bangkok, one cannot even narrate the events of one day in one single, continuous story. It is quite impossible because each day is broken down into several mismatched pieces of a jigsaw. A telephone call changes reality from now to never, and vice versa.

Thai people call Bangkok, Krung Thep, which means "city of angels" (or heaven). I can assure you that this "heaven" is getting increasingly crowded. And yet, I continue to live here in this colorful city and love it. Oh yes, sometimes a little more and at other times a little less. But I continue to live here -- in my hometown named *Bangkok*.

Notes:

- 1. In writing this paper for the PECC conference in mid-October 2000, I used previous research and studies undertaken on Bangkok and Bangkok Metropolitan Region which were prepared by experts for the Bangkok Metropolitan Region (BMR) and the National Economic and Social Development Board (NESDB), and my own experience as a Bangkokian, to argue that there has practically been no policy to inhibit, not to mention prevent, the urban sprawl of mega-Bangkok. I contend that the transportation projects and plans proposed by the authorities will help promote Bangkok's sprawl even further. I am grateful to Genevieve Dubois-Taine and Christian Henriot for their valuable comments. The responsibility is solely mine.
- Bhongsadhat, Manop, "Reflections on City Planning Development of Bangkok: The Past, the Present and the Possible Future," Proceedings of the International Conference on Thai Studies (Canberra: The Australian National University, 3-6 July 1987), Vol. 3, Part 2.
- See Onchan, Tongroj, "Urbanization and Life Environment Protection: The Case of Thailand and Bangkok," paper prepared for presentation at the International Symposium by the APEC Study Center on APEC Cooperation for Sustainable Development: Co-Existence of Environment Protection and Industrial Development, Tokyo, Japan, 18-19 June 1997 and Department of City Planning, MIT Consulting Team and the EC/BMA Project Team, The Bangkok Plan: A Vision for the Bangkok Metropolitan Administration Area 1995-2005. Discussion Draft (Bangkok: Bangkok Metropolitan Administration, January 1996).
- For quantitative data, see Nicro, Somrudee et al, Urban Physical and Cultural Facilities: The Provision of Public Spaces for Livable Cities.
 Submitted to the National Economic and Social Development Board (Bangkok: Thailand Environment Institute, January 1996).
- Douglass, Mike, "Global Interdependence and Urbanization: Planning for the Bangkok Mega-Urban Region" in McGee, T.G. and Robinson, Ira (eds.), The New Southeast Asia: Managing the Mega-urban Regions (Vancouver: University of British Columbia Press, 1995), pp.45-79, Table 2.
- 6. By the end of December 1999, Bangkok's registe-

- red population was 5.7 millions, the BMR, 9.3 millions. Source: Department of Local Administration.
- Joint NESDB/UNDP/TDRI, National Urban Development Policy Framework, Final Report, Vol.
 Report prepared for the 7th National Economic and Social Development Plan, 1992-1997 (Bangkok: no date).
- 8. Douglass, "Global Interdependence and Urbanization"
- 9. Ginsburg, N., Koppel, B. and McGee, T.G. (eds.), The Extended Metropolis: Settlement Transition in Asia (Honolulu: University of Hawaii Press, 1991).
- Dantzig, George B. and Thomas L. Saaty, Compact City: A Plan for a Liveable Urban Environment (San Francisco: W.H. Freeman and Company, 1973).
- 11. Joint NESDB/UNDP/TDRI, National Urban Development Policy Framework and The Bangkok Plan. Transportation. Section 5, Working Paper. The Study of Bangkok Comprehensive Structure Plan and Conceptual Plan for Subcenters of Bangkok Metropolis. A collaborative planning project of the Department of Planning, the MIT Consultant Team, and the EC/BMA Project Team (Bangkok: Bangkok Metropolitan Administration, 1995).
- 12. Joint NESDB/UNDP/TDRI, *National Urban Development Policy Framework.*
- 13. Mumford, Lewis, *The Highway and the City* (London: Secker and Warburg, 1963).
- 14. State Railways of Thailand (SRT), Consulting
 Service for a Feasibility Study of the Bangkok
 Railroad Improvement Project, Draft Final
 Report, Submitted by TEAM Consulting
 Engineering and Management Co., Ltd.,
 Electrowatt Engineering Ltd., L.E.K. Consulting
 Ltd., Asdecon Corporation Ltd., and JMP
 (Thailand) Ltd. (Bangkok: July 2000).
- 15. Express Transit Authority of Thailand, "Solving Traffic Problems in BMA and BMR with Expressways and Mass Transit in the Next Decade," in Chulalongkorn Review, Vol. 6, No. 23 (April-June 1994), pp. 22-32. In Thai.
- 16. Joint NESDB/UNDP/TDRI, *National Urban Development Policy Framework*.
- Nicro, Somrudee, et al, Agenda 21: Toward Sustainable Human Settlements in Thailand. Report submitted to Office of Environmental

- Policy and Planning, Ministry of Science, Technology and Environment by Urbanization and Environment Program, Thailand Environment Institute (Bangkok: May 2000).
- 18. Breheny, Michael and Ralph Rookwood, "Planning the Sustainable City Region" in Andrew Blowers (ed.), Planning for a Sustainable Environment: A Report by the Town and Country Planning Association (London: Earthscan Publications Ltd., 1993), pp. 150-189.
- 19. Dantzig and Saaty, Compact City.
- Nicro, Somrudee, "Financing Sustainable Cities: A Case of Bangkok," paper presented at the APEC Sustainable Cities Workshop, Monterey, California, 26-28 August 1996.
- Public Health Office, Health Department, Ministry of Health, Results of the Healthy City Project under the Support of Public Health Office during 1997-1999 (Bangkok: Sam Charoen Phanit Co Ltd., 1992). In Thai.
- 22. Khunying Dr. Kalaya Sophonpanich.
- 23. The late Mr. Akorn Huntrakun.
- 24. Name of a chain of large-scale stores that belong to Central Group, found even in small towns.
- 25. For examples, see Brown, Lester, " Making Cities Sustainable " in Ismail Serageldin, Michael A. Cohen and K.C. Sivaramakrishnan (eds.), The Human Face of the Urban Environment. Proceedings of the Second Annual World Bank Conference on Environmentally Sustainable Development (Washington, D.C.: The World Bank, September 1994), pp. 24-27; and Hall, Peter, " Can Cities be Sustainable? " in Ismail Serageldin, Michael A. Cohen and K.C. Sivaramakrishnan (eds.), The Human Face of the Urban Environment: Proceedings of the Second Annual World Bank Conference on Environmentally Sustainable Development (Washington, D.C.: The World Bank, September 1994), pp. 32-38.
- 26. See Nicro, Somrudee, "APEC and the Environment: Asking the Right Questions, " paper prepared for the Asia Pacific Economic Cooperation Economic Committee Symposium "The Impact of Expanding Population and Economic Growth on Food, Energy and the Environment, "The Delta Bessborough Saskatoon, Saskatchewan, Canada, 1-4/09/97.

- 27. Blowers, Andrew, "The Time for Change
 "in Andrew Blowers (ed.), Planning for a
 Sustainable Environment: A Report by the Town
 and Country Planning Association (London:
 Earthscan Publications Ltd., 1993), pp. 1-18.
- 28. Evans, Peter (ed.), *Liveable Cities? The Politics of Urban Livelihood and Sustainability* (Berkeley: University of California Press, 2000), forthcoming.
- 29. Nicro, Somrudee, "Urban Environment of Mega-City Bangkok: Viewed from a Participatory Perspective," paper presented at the Workshop on Population-Environment Dynamics and Comparative Resource Management in Southeast Asia, in Nha Trang, Vietnam, 8-10 May 1995.

Strategies across the Public-Private Divide " in

30. Evans, Peter, "Introduction: Development

- Peter Evans (ed.), State-Society Synergy: Government and Social Capital in Development (Berkeley: International and Area Studies, University of California at Berkeley, 1997), pp. 1-11; Nicro, Somrudee, " Toward an Innovative Environmental Governance in Samutprakan, Thailand, "paper presented at the International Workshop on Rural-Urban Linkages, organized by the UNDP, State of Parana and UNCHS/Habitat, in Curitiba, State of Parana, Brazil, 10-13 March 1998; Nicro, Somrudee, "Thinking Environmental Governance: Rethinking Thai Politics, "paper presented at the Seventh International Conference on Thai Studies, Amsterdam, 5 July 1999; and Douglass, Mike, Orathai Ard-Am and Ik Ki Kim, " Urban Poverty and the Environment: Social Capital and State-Community Synergy in Seoul and Bangkok " in Peter Evans (ed.), Liveable Cities?: The Politics of Urban Livelihood
- 31. One US dollar was roughly equivalent to 42 Bahts in October 2000.

and Sustainability.

32. The most recent study on corruption in Thailand has been undertaken jointly by the Thailand Development Research Institute (TDRI) and the Commission of Civil Services (November 2000). See Thailand Development Research Institute (TDRI), Proceedings of TDRI Annual Conference, 18-19 November 2000.