Thailand's Management of Regional and Spatial Development

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I n t r o d u c t i o n :

Thailand is situated in the heart of the Southeast Asian mainland covering an area of 513,115 square kilometers and extends about 1,620 kilometers from north to south, and 775 kilometers from east to west. Thailand borders the Lao PDR and the Union of Myanmar in the North, the Kingdom of Cambodia and the Gulf of Thailand to the East, the Union of Myanmar and the Indian Ocean to the West, and Malaysia to the South. The population in Thailand is approximately 62 million, of which around 6 million live in the capital city, Bangkok. The word "Thai" means "free", therefore "Thailand" means "Land of the Free".

1. Present Situations and Trends on National Development

1.1 Thailand's Economic Situations

(1) The Thai Economic has gradually continuously grown until presently. Thailand is grouped in the medium-level countries in term of income earners and could position herself possessing the important role in international trade in the fierce competition in the world scenario.

From 2002 to 2005, the Thai Economic had expanded continuously at the average of 5.7 percent per annum. In 2003, the Thai economy was ranked twentieth among 192 countries in the world. Her income per capita in 2003 was 109,574 baht per head or approximately 3,320 US$. In real term, the purchasing power of the country was approximately at 8,552 US$, which was ranked No.72nd in the world, and indeed, was higher than those in the same group of medium-level countries in income earners, of which the purchasing power was only approximately at 7,000 US$, but still away from the average rate of world income earners which was at 9,239 US$.

In 2007, the Thai Economy expanded 4.8 percent, which was slightly slower than the previous rate as it was affected from domestic situations which brought down the confidence among private enterprises as well as the people at large. Thus, the expenditures and investments were almost postponed. Another pressure to the Thai Economy derived from the fluctuation among Thailand's financial sector which was

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attacked by distressed debt in the US financial market as well as the pressure from energy prices and very high rate of inflation in the last quarter of the year. In 2008, Thailand still has to face with various factors related with limitations and risks namely, rapid rises in energy prices and consumer product prices as well as the world crisis phenomenon created by the Sub-prime loan crisis in the US market which affected as far as European financial market and also others. This crisis has created the fluctuation in almost important financial markets including Thailand's SET. The other factor affected the confidence among the Thai private enterprises as well as the people has been the political turmoil. Nevertheless, with the Thai government continuing measures and policies to rehabilitate the Thai economy, the Thai Economy has been expanded seamlessly. Together with the results from high growth in export, the overall growth of Thai Economy was at 6.1 percent of which the growth rate in the first and second quarter were at 6.1 and 5.3 percent respectively while the growth rates in the same quarters in 2007 were lower.

Table 1: Important Economic Indicators

	2005	2006	2007					2008	
			Whole Year	Q1	Q2	Q3	Q4	Q1	Q2
1. GDP growth rate (%)	4.5	5.1	4.8	4.2	4.3	4.9	5.7	6.1	5.3
2. Inflation rate (%)	4.5	4.7	2.3	2.4	1.9	1.6	2.9	5.0	7.5
- Based inflation (%)	1.6	2.3	1.1	1.4	0.9	0.8	1.1	1.5	2.8
3. Private sector consumption (%)	4.3	3.2	1.5	1.4	0.9	1.8	1.8	2.6	2.4
4. Private sector investment (%)	10.9	3.7	0.5	-2.3	-0.7	1.1	3.9	6.5	4.3
5. Export growth rate (%, $)	15.0	17.0	17.3	16.2	17.2	11.6	24.0	22.9	26.3
6. Import growth rate (%, $)	25.9	7.9	9.1	5.3	6.9	7.7	16.1	35.1	29.3
7. Import of capital goods volume (2000, %)	21.0	3.8	4.7	-3.7	0.4	5.4	16.9	20.0	8.9
8. Current account balance (Million US$)	-7,852.2	2,174.2	15,764.8	4,682.8	1,165.6	3,237.6	6,678.6	3,068.0	-308.4
9. Exchange rate (average)	40.2	37.9	34.5	35.8	34.6	34.0	33.9	32.37	33.2

Source: Office of the National Economic and Social Development Board (NESDB)
Bank of Thailand
Ministry of Commerce

Recently, the main factor that induced the economic expansion in Thailand was the country's export. Whilst in the more competing circumstance in international trade, Thailand could well maintain its proportion in the world market at 1 to 1.1 percent of the world total trade volume. Nevertheless, the main export markets which used to totally depend on merely three markets namely, the USA, Europe and Japan could expand to the People's Republic of China, while with ASEAN countries, Thailand could maintain the same rate.

(2) Rank of Thailand's Competitiveness in general could be upgraded as reported by the International Institute for Management Development (IMD) and World Economic Forum (WEF).

Comparing with countries in the same region, Thailand's competitiveness has been ranked above Indonesia and the Philippines, but below Malaysia. In 2008, Malaysia has been ranked at No.19th while Thailand at No.27th. Nevertheless, on overall aspect, Thailand's competitiveness could achieve 6 levels better than in 2007 which was ranked at No.33rd. The ranking has been done upon 4 aspects namely, overall economic capability, efficiency of the public sector, efficiency of the private sectors and her infrastructure conditions. Consequently, with clear adjustments in those fields, Thailand's competitiveness could leap forward in great step.

(3) Real government's effort in infrastructure development in Thailand is main factor in increasing her competitiveness as well as constantly upgrading people's quality of lives.

In the past 20 years, Thailand has continuingly invested in infrastructure development, of which 80 percent of total investment has been concentrated on transport sector (averagely at 40 percent) and energy sector (averagely at 40 percent), while the telecommunication and public utility sector has taken around 13 and 7 percent respectively. Nevertheless, Thailand has started to initiate her policies on logistics development since 2003 which resulted in more efficient linkages between land, marine and air transportation or multi-modal services.

By comparing the overall capability of Thailand's infrastructure among 125 countries in the world, the Global Competitiveness Report 2006-2007 reported that the quality of Thailand's infrastructure was ranked at No.30th, while among ASEAN countries Thailand was ranked at No.3rd after Singapore and Malaysia respectively. Thai people could efficiently access, at a certain level, to needed infrastructure namely, transportation, telecommunication, energy and public utilities. Ninety percent of Thailand's road network constructed in hard surface type which could accommodate people and goods transport in all seasons. Moreover, electricity services could be accessed by up to 99.9 percent of Thailand's total population.

Nevertheless, the type of transportation mode constructed in the past resulted in Thailand's inadequately dependence on road transportation which is up to 85 percent of total transportation. Thus, Thailand's logistics cost is 19 percent of her GDP which is vividly a very high rate, affected to inadequate cost of goods transportation and inefficiency in energy utilization. Presently, Thailand has depended on natural gas for up to 70 percent of total energy consumption. Moreover, services on public utilities especially tap water could not be reached by all villages. 14,600 villages could not get access to the services while 15,000 are waiting for proper service repairs.

Presently, the total number of fixed line telephone users in Thailand is at 110 lines per 1,000 people which is quite a low proportion comparing with Malaysia and the Republic of Korea which is at 168 and 492 lines respectively. On access to mobile phone services, Thailand's user rate is up to 430 lines per 1,000 people which is quite a big distance (6.25 times) comparing with fixed lines. The internet user rate in Thailand in 2007 was at 12.86 per 100 persons which was considered a very low rate comparing with other countries equipped with better system in transforming into knowledge-based society. Hi-speed internet services in Thailand are presently in high competition stage both in term of prices and promotions but the provision of such services still concentrate merely for high-end customers.

(4) Poverty Eradication

Thailand continuing measures in bringing about economic equality by means of development and poverty eradication resulted in decreasing in poverty orderly and also periodically better income distribution. The rate of poverty has been continuingly dropped step by step since the time Thailand attacked by world economic crisis. In 2002, the percentage of people in poverty dropped to 14.9 percent which was quite away from 20.98 percent in 2000 and also further dropped to only 8.48 percent in 2007 which was equal to 5.4 million people. In 2007, the number of people in poverty living in the northeastern region of Thailand was 2.8 million or 52.2 percent of total volume of people in poverty. People who were under poverty line almost lived in rural areas, for example, Mae Hong Son Province was the area inhabited by the poor in highest percentage in 2007, and the province was also in the top ten highest ranks of the provinces inhabited by the poor since 2000 until 2007. In 2007, the rate of income distribution was uplifted step by step to better rate at 0.499 comparing with 0.525 and 0.501 in 2000 and 2002 respectively, according to calculation using Gini coefficient methods. Nevertheless, policy and measures to upgrade the rate of income distribution should be recognized as the country top priority, as Thailand still could not perform well in comparison with other countries.

1.2 Thailand's Social Situations

(1) Thailand's human development is among the medium-level countries with future trend to steadily progress.

The state of human development in Thailand comparing with other countries is among the medium-level development, according to Human Development Index (HDI) developed by UNDP which mainly measured on health, education, and living standards of people. In the past two decades, Thailand's human development index has been improved steadily. It has been rising from 0.614 in 1975 to 0.749 and 0.778 in 1995 and 2005 respectively, ranking at No.73rd of the 177 countries, above China (85th), Vietnam (108th), however, lower than some countries in Asia, such as, Japan (11th), the Republic of Korea (18th) and Singapore (25th).

(2) Thailand's population structure is changing towards ageing society, which, in turn, affecting provision of social services in all aspects.

Success in family planning in the past years has resulted in the decline of fertility rate from 6.3 children during 1964-1965 to only 1.82 children during 2000-2005. In addition, success from public health development has also reduced maternal and infant mortality rate. Also, the promotion of health and medical care has supported better health and longer life expectancy of Thai people. These factors altogether have contributed to the change in Thailand's population structure with the trend towards ageing society.

Proportion of young population (0-14 years) has rapidly decreased from 45.12 percent in 1970 to 24.66 percent and 21.99 percent in 2000 and 2007 respectively. Working age population (15-59 years) has increased from 49.99 percent in 1970 to 65.95 percent and 67.19 percent in 2000 and 2007 respectively. However, this proportion is expected to decline from 2010 onwards. Whereas proportion of the elderly (60 years up) has increased steadily from 4.89 percent in 1970 to 9.38 percent and 10.82 percent in 2000 and 2007 respectively. Moreover, it is estimated that in the next 20 years, the elderly will account for 22.73 percent of Thai total population. The change of population structure towards ageing society, in return, has required provision of adequate social security system, social welfare, as well as, economic security for future seniority.

(3) Thai people have higher potential and opportunity for education. However, improvement of education quality and expansion of life-long learning are urgently needed.

(3.1) **The average years of schooling has increased steadily.** The enrolment years have increased from 8.2 years in 2003 to 8.6 years in 2006. However, it is still below the 12 years compulsory education, and less than that of neighboring countries in Asia whose average years of schooling are about 10-12 years. Furthermore, the expansion of education has resulted in the rising ratio of students enrolled in school to the population aged 3-21 years from 75.96 percent in 2002 to 84.61 percent in 2007.

(3.2) **At present, the manpower with medium-skilled and high-skilled levels are lacking both in terms of quality and quantity.** Although, the percentage of Thai labor completing higher than primary school has tended to increase from 35.6 percent in 2002 to 41.64 percent in 2007, it is still considered to be a low level. While the proportion of vocational students to those in ordinary field was 42.89 : 57.11 in 2007, not responding to the 60 percent demand of industrial and service sector for medium-skilled workforce. For the high-level workforce in scientific field, it is highly in shortage. The manpower in scientific and technology fields working in design, research and development is lower than 2 percent. The overall R&D workforce in scientific and technology fields is only 6.7 per 10,000 people. These situations will be obstacles for driving the nation economic development through innovation.

(4) Thai people have longer life expectancy.

The averaged life expectancy had been expanded from 72.4 years in 2001 to 73.2 years in 2006, as a result of better access to healthcare services. In 2007, 98.8 percent of Thai people had health insurances. However, hasty modern lifestyles including risk behaviors, have affected health and caused Thai people to suffer from preventable diseases. The leading ones are heart disorder, high blood pressure, diabetes, and cancer.

2. Thailand's National Economic and Social Development Plan and Spatial Development Planning

2.1 Evolution of National Planning and Spatial Development

Since 1961, Thailand has relied on 10 National Economic and Social Development Plans (from now on refer to as National Plans) to guide national development direction. For 50 years of the National Plans, Thailand has emphasized on economic growth, coupled with decentralization to the regions, as well as, equity. Spatial development has been used as a strategic means to reduce disparities of development. Spatial development planning has evolved and changed according to policies and situations related to each National Plans. The Third National Plan was the first National Plan that pointed out problems of Bangkok's Primacy. As a result, national urban policies at that time aimed to restrain expansion of population and migration of population from rural areas. After that there Regional Cities Development Policy had been initiated aiming to reduce economic and social disparities between Bangkok, the capital, and other cities. These brought about continued policies on spatial development up to the current 10th National Plan. The 10th National Plan emphasized on people participation and integrated spatial development which considers changing paradigms from both within the country and abroad; and also takes into account important conditions and opportunities.

Table 2: National Development Plans and Spatial Development Planning

National Plans	Characteristics of Plans and Development Guidelines	Urban and Spatial Development Guidelines
The 1st Plan 1961 – 1966	• Established economic base of the country as single objective. • Focused on infrastructure-led development; for example, transportation networks, irrigation dams, power supply, and utilities etc.	• Not given priority.
The 2nd Plan 1967 – 1971	• Continued strengthening economic base of the country and began to emphasize on human resources development. • Emphasized on economic and social infrastructure development, including distribution of benefits to the regions especially rural and remote areas. • Launched sector analysis as the frameworks for projects' development.	• Recommended decentralization to expedite rural development in the Northeastern Region.

National Plans	Characteristics of Plans and Development Guidelines	Urban and Spatial Development Guidelines
The 3rd Plan 1972 – 1976	• Still focused on economic growth with more emphasis on monetary stability. • Highlighted social aspects in the National Plan for the first time, mainly in area of population, for example, family planning, reduction of population growth rate. • Emphasized on distribution of income, economic and social services to rural and remote areas. Also recommended improvement of agricultural institutions, agricultural credit, and agricultural product prices.	• Emphasized on measures to control population size and migration from rural area to Bangkok, a Primate City of the country. • Recommended development of New Towns as satellite towns of Bangkok.
The 4th Plan 1977 – 1981	• Because of political uncertainty at that time, the 4th Plan, emphasized on broad policies and measures to tackle development problems. • Focused on economic rehabilitation, especially, expansion of agricultural production, restructuring in manufacturing sector aimed to enhance export earnings. Implemented stimulating measures to counter industrial slowdown, coupled with measures to distribute income and job opportunities to the region. • Recommended natural resource management in the National Plan for the first time, with emphasis on land use management, water resources provision, and energy development in the Gulf of Thailand.	• Developed regional cities as centers for rural-regional decentralization. • Developed Bangkok as the self-contained polycentric metropolis so that the inner zone, the suburbs, and the outer zone could have economic and social centers of their own.

National Plans	Characteristics of Plans and Development Guidelines	Urban and Spatial Development Guidelines
The 5th Plan 1982 – 1986	• Shifted planning approach from project-oriented to program-oriented. • Launched area-based planning approach to be implemented by both public and private sectors, i.e. identified target areas for rural development program, Eastern Seaboard development program, regional cities development program etc. • Emphasized solving poverty in 288 poverty-stricken districts and sub-districts.	• Initiated development of economic area in Eastern Seaboard to diverse economic activities from Bangkok Metropolitan Region : BMR). • Formulated structural plan of Bangkok Metropolitan Region (BMR) and identify specific roles for each community. • Developed 5 regional cities, namely, Chiang Mai, Khon Kaen, Nakhon Ratchasima, Chon Buri, and Songkhla-Hat Yai.
The 6th Plan 1987 – 1991	• Initiated program-based National Plan and reviewed roles of the government in national development administration through state enterprises' development plans. • Emphasized the importance of economic growth and maintaining fiscal and financial stability. • Emphasized the roles of private sectors in development, and increased the roles of local people organizations in conservation and development of natural resources and environment.	• Formulated development policies on urban and specific areas e.g. growth management of Bangkok through fiscal & legal measures, and Regional Cities development program. • Accelerated development in Eastern Seaboard area, and preparation for new economic zones in Upper Southern Region, Songkhla Lake Basin, and Pakpanang Basin.
The 7th Plan 1992 – 1996	• Initiated Sustainable Development by emphasizing balanced development in 3 aspects namely, economic growth, distribution, and development of human resources, quality of life, & environment. • Focused on shaping Thai economy to be the regional economic forefront in terms of economic, trade, financial & tourism.	• Formulated development guidelines for Bangkok Metropolitan Region (BMR) by coordinating infrastructure investments together with land & environmental management. • Continued development in Eastern Seaboard area. • Launched industrial development policy in Upper Central Region with Saraburi province as the center.

National Plans	Characteristics of Plans and Development Guidelines	Urban and Spatial Development Guidelines
The 8th Plan 1997 – 2001	• Shifted development paradigm from emphasizing economic growth to people-centered development. • Emphasized the bottom-up planning approach, and encouraged people in every sector of society to participate in the country's development from the plan formulation process onward. • Emphasized on balanced development between various aspects such as economic, social, natural resources and environmental.	• Continued development in Eastern Seaboard area, Southern Seaboard area, Western Seaboard area and BMR. • Emphasized on economic cooperation with neighboring countries under the framework of IMT-GT, GMS and BIMSTEC (Bay of Bengal Initiative for Multi Sectoral Technical and Economic Cooperation).
The 9th Plan 2002 – 2006	• Launched "Sufficiency Economy Philosophy" as the administration mechanism for the country. • Continued from the 8th National Plan, in emphasizing people-centered development. • Emphasized on reviving economic and building immunity through grass-root economic development and expand social protection. • Shifted from quantity-based development to quality-based development, coupled with enhancing social justice and competitiveness.	• Formulated strategy on restructuring of sustainable rural and urban development through empowering community; developing livable city & community; reducing rural & urban poverty; developing benign urban-rural linkage; and formulating strategy on regional, sub-regional and community development. • Launched provincial cluster development policy.
The 10th Plan 2007 – 2011	• Emphasized the action-oriented implementation of "Sufficiency Economy Philosophy". • Carried on from the 8th & 9th National Plans, in emphasizing people-centered development. • Formulated country-development vision to attain "green & happiness society". • Emphasized on using economic capital, social capital, and environmental capital in country development.	• Emphasized on strategy to empower community as country's foundation. • Focused on participation of all partners in every steps of development, especially in clarifying roles of development partners to be used as guidelines in formulation of action plans. • Continued provincial cluster development policy.

2.2 The 10th National Plan and Current Spatial Development Direction

Vision of the 10th National Development Plan (2007-2011) aimed at “Green and Happy Society” through the “Sufficiency Economy” philosophy together with people-centered holistic integrated development. This is to enable governance and development of Thailand through a middle-path with balanced-dynamism that weave and integrate each and every dimensions of development according to socio-geographical factors of each region and locality. At the same time, this will balance ability to be self-sufficiency of rural sector with ability to compete in global market of urban sector through considering on mobilization of social, economic and natural resource capital. In conjunction with wisdom, ethic and perseverance aspect of development based on principle of sufficiency, rationale, and immunity that are quick to adapt to changes both from within Thailand and Globalization.

Thailand’s development strategies in the 10th National Plan (2007-2011) consisted of developing Thai society toward knowledge and learning society; strengthening community and civil society to be a firm foundation for development; restructuring economic bases toward balanced and resilience economic structure; encouraging sustainable and biodiversity-based development and conserving natural resources and the environment; to reinforce good governance in administration. Implementation of the 10th National Plan including monitoring and evaluation are to be carried out through participation from various partners of development in formulation of all action plans, important investments, including revising and annexing of legislations, knowledge creation, development of monitoring and evaluation system plus development’s achievement indexes, and development of databases and linkages of information network among government agencies at policy level through regional and local level.

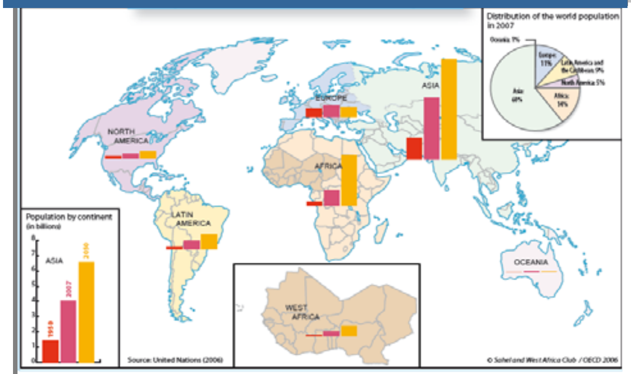
In conclusion, policies on spatial development continuingly present in the National Plans indicates the evolution from Bangkok-oriented policy to regional-based decentralization policy, including expansion of metropolitan development boundary from only Bangkok to cover Bangkok and vicinity provinces and now also cover Eastern Seaboard development area. Apart from that, spatial development policies are also consisted of management issues such as management systems, organizations and mechanisms; legislation and financial measures; encouragement of local people participation in decision making processes and project implementation. The spatial development policy also considered eco-political situations both in regional and global levels. All of them have influenced successfulness of spatial development policies’ implementation detailed in each National Plans.

3. Trends in Urban, Rural and Economic Areas Development in Thailand

3.1 Trends in World Scenario

3.1.1 In the next 20 years, many countries in the world will have more potential to rapidly evolve to term of urbanization. Percentage of people live in urban areas would be more than 50 percent, and especially the countries in Asia would have more potential than others. In Thailand, the percentage of people live in urban areas would be around 47 percent of total population. This trend will effect in every regions of the country. As the volume of population live in rural areas will be dropped, Thailand has to prepare on economic and social infrastructures needed at urban standards as well as the measures to bring about efficient linkages and interrelations between urban and rural areas. That is in order to diminish the inequality and possible confrontation created by competing between those areas in utilization of limited resources. These conflicts could be more intensified according to the expansion of urban areas.

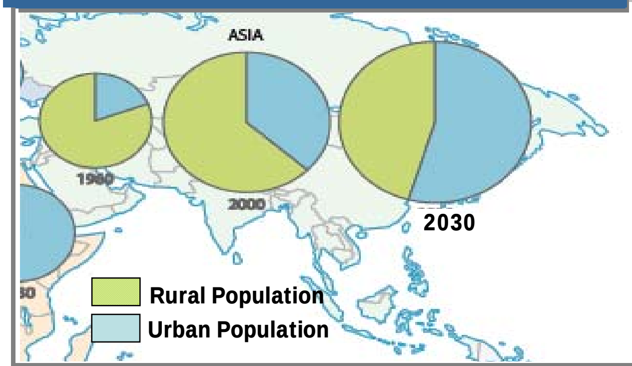
Urban population will increase sharply, especially in Asia, the urban population will increase for 1 billion people by 2030



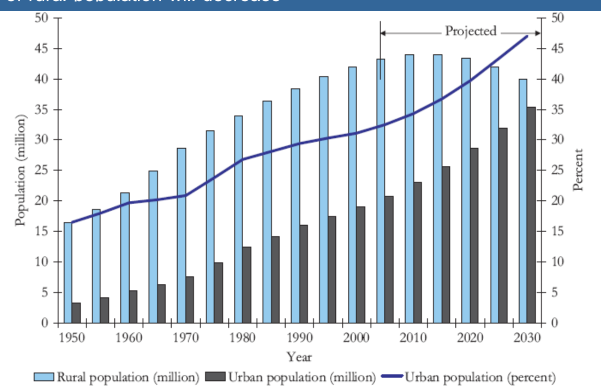
Trend in many countries show that they will be more urbanization, while in Thailand, urban population will increase

	GDP per capita (PPP, \$) 2003	Population (million) 2005	Urban Population (million) 2005	Proportion Urban (%) 1950	(%) 2005	(%) 2030	Estimated Increase in Urban Population (million) 2005–2030	(%) 2005–2030
World		6,453.6	3,172.0	29	49	61	1,772.7	56
Asia		3,917.5	1,562.1	17	40	55	1,102.2	71
Malaysia	9,512	25.3	16.5	20	65	78	10.8	66
Thailand	7,595	64.1	20.8	17	33	47	14.6	70
PRC	5,003	1,322.3	536.0	13	41	61	341.6	64
Philippines	4,321	82.8	51.8	27	63	76	34.8	67
Sri Lanka	3,778	19.4	4.1	14	21	30	2.4	59
Indonesia	3,361	225.3	107.9	12	48	68	80.0	74
India	2,892	1,096.9	315.3	17	29	41	270.8	86
Viet Nam	2,490	83.6	22.3	12	27	43	24.5	110
Pakistan	2,097	161.2	56.1	18	35	50	79.3	141
Cambodia	2,078	14.8	2.9	10	20	37	5.8	197
Bangladesh	1,770	152.6	38.1	4	25	39	48.4	127
Lao PDR	1,759	5.9	1.3	7	22	38	2.3	177

In 2030, more than 50 percent of Asian population will concentrate their inhabiting in capitals, big cities and other



Percentage of urban population in Thailand will increase while that of rural population will decrease



3.1.2 Energy crisis will move Thailand into more important strategic position. With the strategic position of Thailand which situates between countries rich with natural resources namely, Australia, the middle-east countries, and important markets namely, the People's Republic of China, India, Japan and ASEAN countries, Thailand could be the suitable destination for investment in manufacturing businesses as well as to be the base for regional offices. This results in the evolution of the rural system in Thailand from Centre-Periphery, having Bangkok as the core centre of the country, to be Knowledge-based economy, with high expansion in Thai economy. This trend would be closely linked with Globalization and would create greater inequilibrium between Bangkok and other areas, if related policies and measures could not be realized and implemented.

3.1.3 Trends in development of Sub-regions in the next 20 years. Connectivity among Sub-regions in terms of economic activities, transportation, telecommunication as well as energy, will be in more linkages. Member countries in the Sub-regional cooperation will be more interrelated in term of economic. This will result in higher volume of intra-region trade, cross border transportation both in goods and people traffics as well as greater flow of labor and telecommunication. Energy production in the Sub-regions will sharply increased as reported by Asian Development Bank (ADB). In 2025, total demand in electricity of the Sub-regions will reach 54 GW. Thailand, Vietnam and the Province of Kwangsi, China, will be the biggest markets for electricity generated in the Sub-regions. Laos PDR, Myanmar and the Province of Yunnan of China will be the biggest suppliers. The bright trend on energy production will secure the economic opportunities for Thailand in the future.

3.2 Development Trends in Thailand

3.2.1 Situation of Urban Areas in Thailand

(1) Thai urban population by formal definition as those who live in municipal area was 32.2 percent in 2007 or 20.3 million people from total population of 63 million people. Bangkok and five vicinity provinces (BMR) have highest rate of people reside in municipal area at 76.9 percent; following by the Central, the Southern, the Northern and the Northeastern Region at 32.4, 27.7, 22.9 and 17.5 percent respectively.

However, in a wider definition of urban population that covers people in both municipal area and peri-urban area, it is estimated that Thai urban population was about 39.2 percent in 2007 and should be 47.2 percent in 2027.

Many of the people inhabited concentrated in the Central Plain, especially in Bangkok, five vicinity provinces, the Eastern Seaboard and the Western Seaboard area, and the Upper South area; together called "the Growth Corridor along Gulf of Thailand". These areas have been rapidly growing to be the industrial heartland of the country.

These urban concentrations need adequate infrastructure facilities, specifically in the areas of transportation, housing, water management, sanitation, sewage etc. Thus, this also creates necessity for investment in virtually all aspects of urban-related infrastructure, in order to encourage each urban place to develop according to its potential and opportunity.

Table 3: Urban Areas Population Projection 2027

Urban population = Population reside in municipal areas

	1998		2007		2027		
	Urban Population (million)	%	Urban Population (million)	%	Total Population (million)	Urban Population (million)	Non-Urban Population (million)
Whole Country	17.8	29.0	20.3	32.2	70.6	27.7	39.2
Bangkok & 5 Vicinity Provinces	7.3	79.4	7.8	78.1	11.7	8.8	75.1
Central Region	2.9	27.1	3.6	32.4	11.9	5.5	45.9
Northern Region	2.4	19.5	2.7	22.9	12.5	4.0	32.0
North-eastern Region	3.3	15.7	3.7	17.5	24.0	5.3	22.1
Southern Region	1.9	23.4	2.4	27.7	10.5	4.1	39.0

Source: Spatial Development Planning and Strategy Office
Office of National Economic and Social Development Board, 2008

Urban population = Population reside in municipal areas + peri-urban areas

	1998		2007		2027		
	Urban Population (million)	%	Urban Population (million)	%	Total Population (million)	Urban Population (million)	Non-Urban Population (million)
Whole Country	21.6	35.3	24.6	39.0	70.6	33.4	47.2
Bangkok & 5 Vicinity Provinces	8.3	90.1	9.4	94.0	11.7	11.6	99.6
Central Region	3.8	36.4	4.9	44.6	11.9	7.5	63.2
Northern Region	3.1	25.5	3.3	28.1	12.5	4.3	34.5
North-eastern Region	3.9	18.3	4.2	19.9	24.0	5.8	24.0
Southern Region	2.5	30.7	2.6	30.7	10.5	4.1	39.0

Source: Spatial Development Planning and Strategy Office
Office of National Economic and Social Development Board, 2008

(2) Thailand will face more of rural-urban transformation that occurs with urbanization process. Within the next two decades, urban population by wider definition as those who live in municipal and peri-urban areas would increase from 39.2 percent of total population to be 47.2 percent. The phenomenon combines with development of infrastructures, information technology, social services, and the structural transformation from agricultural to industry and service sectors will increase migration from rural areas to urban areas. This bring about agglomeration of population into cities especially in peri-urban areas, and making these areas develop more rapidly into work places, industrial areas and residential areas in response to growing migration from rural areas.

(2.1) Rapid development in peri-urban areas will lead to increasing needs for housing and public services. At the same time, the Central Business District (CBD) in each city also needs good urban management to deal with environmental and congestion problems in order to improve standard of living and livelihood of the people. This requires efficiency and effectiveness of local government's management, whereas Thai local governments usually have limited capacities and lack of necessary technical expertise to support effective governance and service delivery. Therefore, it is necessary to emphasize on building local government capacity, and encouraging more people participation in local development process.

(2.2) The rural-urban transformation will also create needs to redistribute economic activities from big metropolitan city to those of medium-sized cities, in order to support population expansion. Thai urban system has also been highly imbalanced. Bangkok is one of the most dominant primate cities in the world. It is 36 times as large as the second largest city of Nakhon Ratchasima, which is located in the Northeastern Region. Besides, there are only 10 medium-sized cities (100,000-300,000 people) in Thai urban system; most of them located in either five vicinity provinces or regional cities. This is a crucial constraint that hinder Thailand from reaping benefits of rural-urban linkages, especially those related to the cities' role in fostering innovation and their role as 'engines of growth' that "diffuse" growth to the countryside.

(3) **The current trend of rural-urban disparities in Thailand is widening.** This will increase rural migration to big cities. Rural-urban disparity is still strong despite the Government's unceasing and persistent efforts to diffuse growth and regardless of the past economic growth that help improve income of the people. The economic growth in rural areas is much lower than those of urban areas. The ratio of rural poor living below the national poverty line is much higher than those of urban poor. Moreover, the rural-urban disparities also exist in terms of unequal access to education, health services and infrastructures. All these factors lead to increasing migration from rural places to big cities, thus raise number of the urban poor, which needs policy measures to improve their quality of life and also measures that create balanced development among rural and urban places, and increase well-being of both rural and urban people.

(4) **There is increasing demand for economic and social infrastructure.** This resulted from rapidly expansion of urban areas, including those of industry, agricultural and tourism sectors. Such phenomenon induced higher demand for water for domestic, agricultural and industrial use. In order to prevent water conflict from this high demand, Thailand needs to put in place water resources management plan and mechanism. Apart from that 80 percent of Thai urban settlements located along river or coastal zone, which endanger them to higher risks from floods and river or coastal erosion. Thus, it is a necessity to have integrated preventive plans and operations to deal with the problem.

3.2.2 Economic areas in the regions have tendencies to be important economic bases of the country in the next 20 years

(1) **Eastern Seaboard Development Area (ESB)**

The ESB development programme has been commenced since 1981. The main objective is to uplift development level by changing from the agricultural-based country to the industrialized country. The establishment of the new efficient economic and industrial base able to compete in world market, together with the encouragement of the systematic decentralization from BMA is the new strategy for the spatial development of the country. For this new strategy, the integrated plans covering deep sea ports, industrial estates, infrastructures (roads, railways, reservoirs, water pipelines, water supply, electricity and telecommunications) and new communities are developed in paralleling with environmental control measures. The initial target areas are Laem Chabang playing a role of a modern shipping port, and Map Ta Phut, locating for natural gas-based industries.

Target Area: ESB Phase 1 (1981-1995) covers 3 provinces, namely Chonburi, Rayong, Chachoengsao, and **ESB Phase 2 (1995-present)** covers 8 provinces, namely Chonburi, Rayong, Chachoengsao, Trat, Chanthaburi, Nakhon Nayok, Prachin Buri and Sa Kaeo. The total area of ESB is 9 million acres, and ESB has a population of 4.4 millions (7 percent of the country's population) (2006).

(1.1) At present the ESB is the major industrial base of the country. In 1999 – 2006 the average annual economic growth rate of the area was about 8 percent, higher than the average rate of the country, and the annual per capita income was 8,384 US$ [285,068 Baht], 2.4 times as much as the annual per capita income of the country. The government has invested over 5,900 million US$ [200,000 million Baht] in infrastructures in this area, and the area is in a close distance to Suvarnabhumi Airport. Hence, the area has advantage in term of logistics, and is also considered to have the highest availability of infrastructures in Thailand.

Table 4: Overall Development in ESB from 1999-2006

		ESB	**Thailand**	**Ratio of ESB to Thailand (%)**
GDP in 2006 at Current Market Prices (1,000 millions of US$)		37.4	229.9	16.25
GDP Growth Rate (1999-2006) (%)		8.1	5.7	-
Per Capita Income (2006) (US$)		8,384	3,524	238
GDP by Economic Sector in 2006 (millions of US$)	Agriculture	2,072 (5.5%)	24,590 (10.7%)	8.4
	Industry	26,989 (72.2%)	102,589 (44.6%)	26.3
	Service	8,299 (22.3%)	102,716 (44.7%)	8.1
Population (2006) (Millions)		4.5	66.1	6.9

Source: National Accounts Office,
Office of the National Economic and Social Development Board

Calculated by Spatial Development planning and Strategy Office, 2008 (1 US$ = 34 Baht)

However Map Ta Phut in Rayong Province, a base for petrochemical, oil refinery industries, and electricity generating plants, has a trend toward more limitations on environmental carrying capacity. Therefore the area encounters pollution problems impacting on the health of the local people, The problems reduce the local people's confidence and acceptability in industrial development in the area. Thus, it is necessary to mitigate those pollution problems, especially those caused by petrochemical industry and energy related industries.

(1.2) In the next 20 years, it is anticipated that ESB would continue to be a main industrial base of the country. Meanwhile ESB would have more limitations on industrial development, while advantages in competitiveness would decrease. Currently, the expansion of the industrial area has a tendency toward the ESB hinterland and further to the border areas. In the next 20 years operating costs and social costs, especially costs of energy, transportations, and environmental friendly technologies, will increase. Furthermore, the industrial development would face several constraints, such as pollution, availability of infrastructures, conflict of land use, water shortages, and conflict on water demand. Those constraints would lead to conflict of interests among industrial sector, agriculture sector, and local people. Consequently, those constraints and conflict would create negative impacts on the local people's confidence and acceptability in industrial development and then would be barriers to further expansion of the industries. Therefore laws, regularities and measures on land use, pollution control, and water management are required to be enforced strictly and efficiently so that the natural resources and environment could be utilized efficiently.

(2) Southern Seaboard Development Area (SSB)

SSB Conceptual development has been commenced since 1989 as an alternative area for industrial development base, apart from Eastern Seaboard Development Area. The objectives are aiming to increase competitiveness of the area, promote the economic growth of the region, and strengthen energy security of the country. According to the SSB concept, a land-bridge, an inter-modal transportation (deep seaports connecting with roads, railways, and oil pipelines) connecting Andaman Sea Coast with the Gulf of Thailand Coast, is to be developed, as well as economic activities covering natural gas and oil related industrial bases, agro-industries, tourism and services, including urban and other supporting facilities.

(2.1) Infrastructures in the area are presently available for future development. The government has invested constructively in the development of infrastructures, such as 4-laned road networks, 11 airports, electricity generating plants, Thailand-Malaysia power cable, railways, water pipelines, gas pipelines, and gas separation plants. In addition, government agencies have plans to develop more transportations and logistics networks. Hence, the more availability of the infrastructures would be attractive for more investment, and also help in linking economic activities in the Andaman Sea with those in the Gulf of Thailand. Consequently, the Southern Region economy would continue to grow further. In addition, the cooperation schemes between Thailand and neighboring countries namely, JDS (Thailand-Malaysia Committee on Joint Development Strategy for border Areas) and IMT-GT (Indonesia-Malaysia-Thailand Growth Triangle) have also been the main forces to further strengthen the Southern Region economic stability as the programs' areas are covering the southern region and opening more opportunities to cooperate and utilize economic opportunities initiated from neighboring countries. Presently, Malaysia has initiated plans to develop the northern region under Northern Corridor Economic Region development program (NCER), and the east coast region under East Coast Economic Region development program (ECER). The programs would give Thailand opportunities to raise income of the people in the southern region, and to bring back peace and security along the border areas of Thailand and Malaysia.

(2.2) In the near future, the Southern Region would be a new economic base of the country, and also a major gateway to countries in other regions of the world. The region could take advantage of the strategic location as it could access to both the Andaman Sea on the west and the Gulf of Thailand on the east. Hence, the Southern Region could link with Myanmar, Cambodia, India and other countries in South Asia by sea. The increase in volume of imports and exports of the southern region, as well as future traffic congestion in Malacca Straits will give the positive impacts in supporting in the need for development of a sea transportation network of the region. The new initiated network would create the region greater access to countries in other regions of the world. In return, it is therefore possible for the region to be positioned as a new economic gateway of the country in the future.

(3) Border areas

Thailand has been a member of various economic cooperation with its neighboring countries, such as GMS (Greater Mekong Sub-region Economic Cooperation), ACMECS (Ayeyawady-Chao Phraya-Mekong Economic Cooperation Strategy), BIMSTEC (Bay of Bengal Initiative for Multi Sectoral Technical and Economic Cooperation), IMT-GT (Indonesia-Malaysia-Thailand Growth Triangle) and JDS (Thailand-Malaysia Committee on Joint Development Strategy for Border Areas). Therefore, border trades with the neighboring countries have continued to grow steadily. In 2007, the volume of border trades was 10,825 million US$, which was higher than 10,353 million US$ in 2006, The volume of Thailand-Malaysia border trade is about 66 percent of the total border trade of Thailand. In the future, these economic partnerships would create positive economic impacts to border areas, especially border towns, specifically on greater opportunities to develop their trade, investment, and tourism with neighboring countries.

(3.1) Under GMS and ACMECS, the areas that could possibly take these opportunities to develop their economies are 1) the areas along North-South Economic Corridor as these areas can develop linkages with Laos PDR, Myanmar, and the southern provinces of China and 2) the areas along East-West Economic Corridor as these areas can develop linkages with Myanmar, Laos PDR, and Vietnam.

(3.2) Under IMT-GT, the areas that could take this opportunity to develop their economies are the areas along the bordering areas between Thailand and Malaysia, especially Sadao-Padang Besar, and the 3 Southernmost provinces (Narathiwat, Pattani and Yala) as these areas possess more opportunities to create greater linkages with the northern and eastern regions of Malaysia respectively.

4. Strategies for Development in Urban, Rural and Economic Areas

The objective is to promote development in urban, rural and economic areas lead to fair and equitable society. The strategies comprised of 5 main issues as follows;

4.1 Create a benevolent linkage between rural and urban areas that will equally and thoroughly provide economic and social opportunities for every people. This will upgrade standard of living for both rural and urban people; and also foster the efficiency and competitiveness and help strengthening the overall economy. In this respect, rural areas play an important role as agricultural production base whereas urban areas are market and workplace that disperse growth to rural areas.

4.2 Utilize dual-track approach in developing areas and communities

(1) Develop Bangkok and 5 vicinity provinces as Bangkok Urban Region driven by knowledge-based economy. The approach emphasize on various kinds of business services that induced wealth and job creation.

(2) Develop each province and provincial cluster as a self-contained settlement. The provincial cluster approaches makes each province working together as a team, strengthened each other and strengthen their cluster at the same time. The approach is an important tool in regional development that enables regional provinces to compete with Bangkok. It emphasizes self-contained development in accordance with the potential and socio-economic background of each province, working under collaborative effort of every part of the society. In this regards the Government needs to support each provincial cluster in terms of education, research & development, information technology, health services, transportation network and efficient logistics system, as well as institution and funding arrangement.

4.3 Foster the sustainable urban environment management

(1) Emphasize on compact city development. Enhance public transport including rail, electric train, bus, bike lane and footpath. Also promote clean and green technology; increase green areas; practicing the 3 R's: reduce, reuse, and recycle; treat solid waste and waste water using bioorganic treatment. Lowering on utilization of non-renewable resources and reduce risks from "Climate Change" and also support urban farming.

(2) Encourage livable city development through collaborative effort of government officials and other stakeholders from all part of society, in order to create urban sustainability.

4.4 Develop land-use regulation to control land utilization in agriculture, urban, industry and conservation; so that development go according to land potential. This will need collaborative group acting as guardian against waste, loss, or illegal practices in land development. It is also cover measures to control location of factory to locate only in industrial estate and the like, for convenient in waste management.

4.5 Develop new economic areas to increase competitiveness of the country. As a result of the strategic location of Thailand in the region, the need for industrial area in Thailand has steadily increased. It is, therefore, necessary to find new industrial areas with the following measures :

(1) Continue the development of the Eastern Seaboard.

(1.1) Develop clean and environmental friendly industries with modern and international-standard management. Industries should be encouraged to use modern, international-standard management system, especially, clean and high technology to control pollution effectively. Production process of industries should be ensured to cause no adversely impact on environment and people's health.

(1.2) Increase efficiency of infrastructure. In order to facilitate development in the next stage, infrastructure has to be improved. The use of rail system should be encouraged to alleviate traffic problem, reduce energy and transportation cost. Efficiency of Transportation network, multi-modal transport, and logistics network has to be increased.

(1.3) Control land use zoning effectively. Land use planning measures should be strictly implemented.. This is to reduce land use conflict between agricultural and industrial sector and to prevent expansion of communities and industries into fertile agricultural land and upstream area.

(2) Develop new economic area in the Southern Seaboard.

(2.1) Use geographical location of Southern Thailand to develop marine transport linking with neighboring countries and other regions. In order to extend the economic activities of the South and bring Thailand into the international shipping route, deep seaports at Andaman and the Gulf of Thailand, as well as, transportation across Southern Thailand connecting the two ports with economic activities should be developed. Transportation of oil from the middle-east across the Southern Region of Thailand to the Far East should be encouraged. Also, Southern Thailand should be developed as a strategic reserved energy base in the ASEAN.

(2.2) Develop economic partnership with neighboring and international countries. Advantages of each country should be utilized for mutual benefits. Joint investment with countries in other regions should be encouraged, in order that the international projects can happen. Existing international cooperation framework should be used as a basis for strengthening cooperation.

(3) Develop economic border area. Develop cooperation with neighboring countries in the economic border area to attract investment from private sectors both within and outside the region.

(3.1) Create development cooperation network through granting and other forms of financial assistances in development of important infrastructure projects. Development of infrastructure projects in neighboring countries, such as, roads, ports, energy, and power plant should be assisted. This will help to create investment opportunities and upgrade economic development in those countries.

(3.2) Encourage economic border development, especially in the potential economic sector. Development plan with specified role in production process of each country should be collaboratively formulated according to potentials of each country on the basis of benefits sharing among sub-region countries.

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