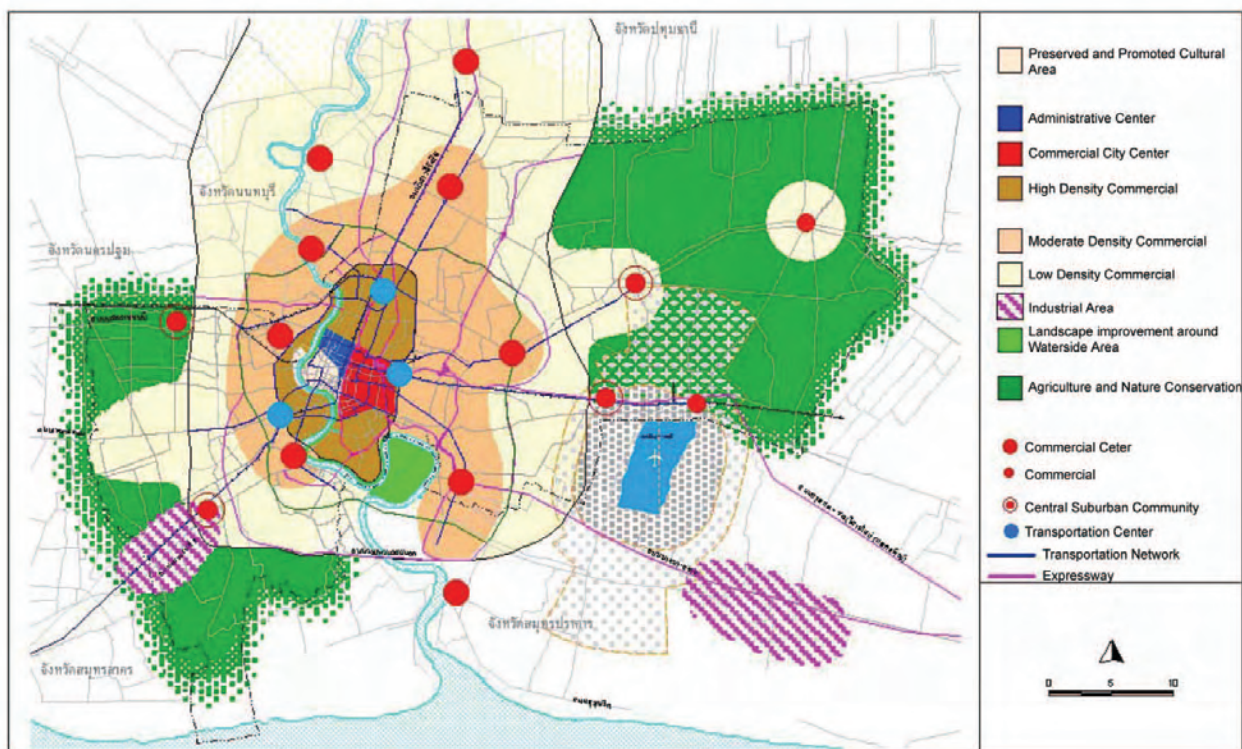


3.1.3 Context of the BMA Policy

(1) Restructuring of the Urban Structure in the BMA Area

The BMA has consistently experienced problems relating to the excessive accumulation of urban and economic activities in the inner city area creating an obstacle against the sound growth of the Bangkok Metropolis. The first outspoken proposal for the transition from a mono-centric to a multi-centric, or poly-centric, urban structure was made in the Bangkok Plan undertaken jointly between the planners of the MIT and the BMA in 1995. This planning issue, of changing the basic urban structure, has been the focus of endeavors to restrain further growth in the inner city, while introducing suburban urban areas of relatively low density residential character with abundant greenery and open spaces.



Source: Bangkok Comprehensive Plan

Figure 3.5: Bangkok Future Plan

(2) Comprehensive Plan

The BMA formulated the Comprehensive Plan of Bangkok Update No. 2 in May 2003. The focus of the plan was concentrated on the following six visions.

Table 3.3: Matrix of Visions, Policies and Targets in the Comprehensive Plan Update 2

Vision	Target	Target	Principal Measures
1. Metropolis predominating in art and culture of unique national quality	To maintain and rehabilitate sites of value in art, architecture, history and archeology	Conservation of Rattana Kosin and Thon Buri with tradition and culture	Conserve historic sites and ruins Improve communities at historic sites Improve landscape Promote control measures Promote economic activities
2. Metropolis providing quality of life for people with environmental conservation and natural resources	To erase congestion by extending development providing quality of life and public infrastructure	Development of residential areas in the inner city and adjoining areas	Improve the slums Rehabilitate rivers, moats, canals, agricultural land and coasts Develop infrastructure Prescribe control measures on land utilization Control development to cope with infrastructure development
3. Metropolis that is the center of economic activities and technology for the nation and Southeast Asia	Develop business areas that can compete with other metropolis' in Southeast Asia	Develop commercial areas in the city center, and sub-centers in the suburbs	Create commercial centers at various levels Promote infrastructure development Prescribe control measures on land utilization Improve landscape
4. Metropolis that is the center of administration, institutions and international organizations	Add elegance to the areas containing social institutions and administration of the country and the BMA	Develop a center for public administration of the country and the BMA	Develop and improve the governmental institutions Prescribe control measures on land utilization and architectural design Improve landscapes
5. Metropolis that is flexible and convenient with communication and transport networks	Promote a mass transit system and an integrated communications network	Increase connections to mass transit system in the city and to/from the SBIA	Balance the distribution of population and employment to reduce trips Connect mass transit system, car transport and public transport Develop connections to the SBIA Control traffic by car in the inner city and historic district Extend social services sufficient to suburban residents

Source: Comprehensive Plan Update 2, Chapter 6

It is clear that the current Comprehensive Plan focuses on the desired characteristics of the Bangkok metropolis hosting the national capital, aiming to be flexible and convenient with modern advanced technology and a high quality of life for the urban residents, while paying due attention to the historical and natural enchantment. It is noteworthy that the BMA vision focuses on Vision 3: Metropolis that is the center of economic activities and technology for the nation and Southeast Asia, in which the creation of sub-centers in the suburbs is envisioned as the target, and Vision 5: Metropolis that is flexible and convenient with communication and transport networks, emphasizing the increased number of connections to the mass transit system in the city and to/from the SBIA.

The structure of urban development is clearly indicated in the overall structure of the comprehensive plan. The inner city, which has been and will be serving the metropolis as the primary city center, will be rehabilitated and improved with public transport and telecommunications networks, while the peri-urban areas (adjoining the city center) will accommodate the increasing population. In the suburbs, more attention is paid to conservation of natural landscapes and agricultural land, while in some selected locations,

such as Lat Krabang, the development of a sub-center will ease the persistent congestion in the inner city. The areas outside of this will be reserved as the Buffer Zones, as newly stipulated in Update 2, to avoid urbanization extending outwards without control.

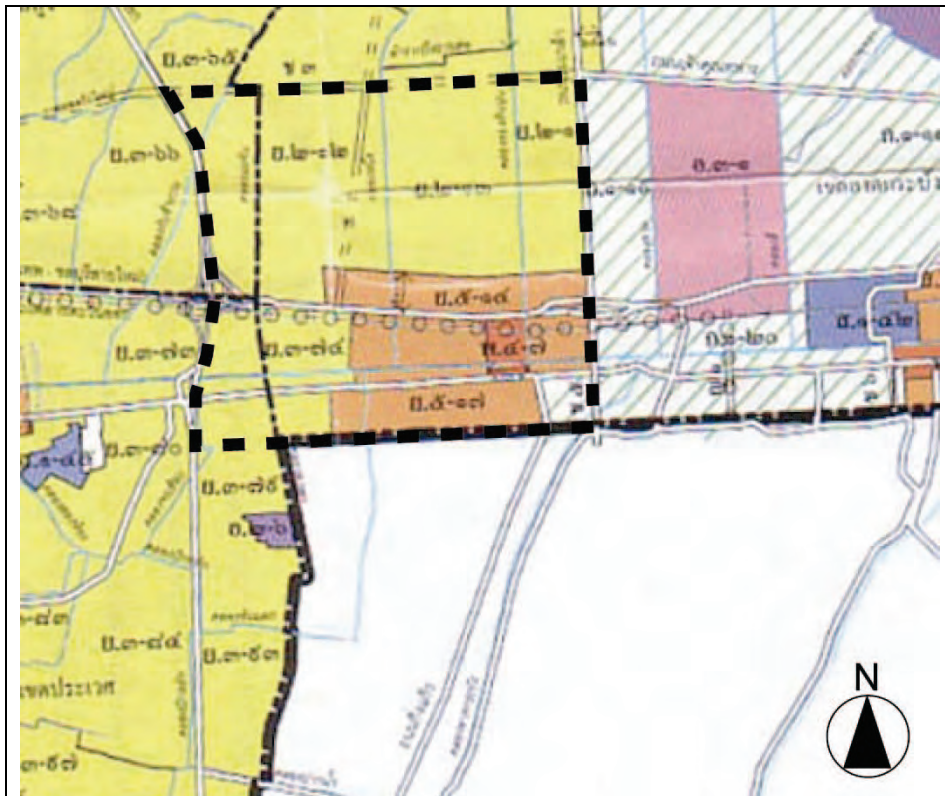
The following is a list of the urban development projects according to the Comprehensive Plan Update 2.

Table 3.4: Projected Urban Development Projects

Area	Name of Project	Type of development	Organization in charge
Inner City east	Phahon Yothin	Urban development	BMA
	Makkasan	Transportation hub	SRT
	Ding Daen	Urban rehabilitation	NHA/BMA
	Rama II 3	New economic zone	BMA
	Hua Lam Phong Station	Transportation hub & urban rehabilitation	BMA
	Ratcha Damnoen	Master plan of development	NESDB
	Rattana Kosin and Thon Buri	Conservation and development	Various sub-projects by various agencies
Adjoining area	Phra Kanon Station area	Urban rehabilitation	BMA
	Chaen Watana Road	Government center	Department of Treasury, Ministry of Finance
Suburban area	Lat Krabang	Sub-center development	BMA
Source: Source: Comprehensive Plan Update 2, Chapter 9			

In the Comprehensive Plan Update No.2, regulations concerning building use and the size of buildings and lots by land use categories are proposed in the land use plan. As shown in the following figure, two thirds of the northern part of the study area is categorized as low-density residential use and the other part along Rom Klao Road and the motorway is categorized for medium-density residential and commercial use. The south-east corner of the study area is a rural and agricultural protection area which limits development activities.

The chart on the following page shows the details of the regulations by land use categories including the permitted land use types, floor area ratio, and open space ratio. As mentioned in the section regarding the regional development plan by the DPT, the following regulations are not consistent with the DPT's regulations and land use plan or with the master plan of the Lat Krabang sub-center, so it is necessary to adjust these plans in order to execute the master plan in an effective manner.



Source: Bangkok Comprehensive Plan

Figure 3.6: Bangkok Comprehensive Plan

Table 3.5: Regulations by Land Use Categories in the Comprehensive Plan Update2

NO	Land Use Type	Low Density Res.				Medium Density Res.			High Density Res.			Commercial					Industrial			Rural and Agricultural		Govern mental		Conserv ation	
		Yellow				Orange			Brown			Red					Purple			Green hatch	Green	Blue			
		R.1	R.2	R.3	R.4	R.5	R.6	R.7	R.8	R.9	R.10	C.1	C.2	C.3	C.4	C.5	L1	L2	L3	A.1	A.2	A.3	A.4	H1	H2
1	Single House																								
2	Twin House	X																		X	X	X			
3	Row House	X	X																X	X	X				
4	Residential Bld.	X	X	1														X	X	X	X	5			
5	Large Bld.Res	X	X	3	1										X	X	X	X	X	X	X	X	X	X	
6	High Bld.Res	X	X	X	X	2									X	X	X	X	X	X	X	X	X	X	
7	Extra L Bld.Res	X	X	X	X	3	3	3							X	X	X	X	X	X	X	X	X	X	
8	Row Bld. Commercial	X	X																X	X	X				
9	Com.Bld>100 sq.m	X	1															X	1	1	1				
10	Com.Bld>200 sq.m	X	2																2	2	2				
11	Com.Bld>300 sq.m	X	X	2											X	X	X	X	X	X	X	X	X	X	
12	Large Bld.Com.	X	X	3	2										X	X	X	X	X	X	X	X	X	X	
13	High Bld.Com.	X	X	X	X	3	3	3	3		2				X	X	X	X	X	X	X	X	X	X	
14	Ex.L.Bld.Com.	X	X	X	X	X	X	X	3	3	3	X	3		X	X	X	X	X	X	X	X	X	X	
15	Office>100 sq.m	5	5																X	X	X				
16	Office>300 sq.m	X	X	2	1	1	1												X	X	X	5			
17	Large Bld.Office	X	X	3	2	2	2	2							5	5	5	X	X	X	X	X	X	X	
18	High Bld.Office	X	X	X	X	3	3	3	3		2				X	X	X	X	X	X	X	X	X	X	
19	Extra.L.Bld.Office	X	X	X	X	3	3	3	3	3	x	3			X	X	X	X	X	X	X	X	X	X	
20	Hotel	X	X	X	X	X									X	X	X	X	X	X	X	X	X	X	
21	Theater	X	X	X	X	2	2	2	2						X	X	X	X	X	X	X	X	X	X	
22	Night Service	X	X	X	X	X	4	4	X	4	X	X	X	X	4	X	X	X	X	X	X	X	X	X	
23	Market	X	2	2	2														2	2	2	2			
24	Convention Hall	X	X	3	3	3	3	3	3	3	3	3			X	X	X	X	X	X	X	3	5	6	
25	Zoo	X	X	3	3	3	3	3	3	3	3	3	3	3	X	X	X	X	X	X	3	3	X	X	
26	Warehouse	X	X	X	X	2	2	2	2	2	2	2	2	2				X	X	2	X	X	X	X	
27	Scrap Material	X	1	1	1	X	X	X	X	X	X	X	X	X				X		X	X	X	X	X	
28	Used Machine	X	X	X	2	2	2	2	X	X	X			X	X	X			X		X	X	X	X	
29	Gas Storage	X	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	X	X	
30	Petral Storage	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	X	X	
31	Ad.Sign	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	X	X	
32	Com.Industry	X	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	X	9	9	9	X	X	
33	Service Ind.	X	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	X	9	9	9	X	X	
34	Package Ind.	X	X	X	X	X	X	X	X	X	9	9	9	X	X	X	X	9	X	X	X	X	X	X	
35	Agro.Ind	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	9	X	9	9	X	X	
36	Pollute.Ind	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	9	9	X	X	X	X	X	
37	Risk Ind	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
38	Garbage Disposal	X	6	6	6	X	X	X	X	X	X	X	X	X	6	6	6	X	X	6	X	X	X	X	
39	Risk Gar.Disposal	X	X	X	X	X	X	X	X	X	X	X	X	X	5	5	X	X	X	5	X	X	X	X	
40	Animal Farm Com.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	X	X	X	
41	Agro.Warehouse	X	X	X	X	X	X	X	X	X	X	X	X	X				X					X	X	
42	Marine Ani.Farm	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	4	4	X	X	X	
43	Slaughterhouse	X				X	X	X	X	X	X	X	X	X	X	X	X	X	X				X	X	
44	Cemetery	X	X					7	7	7	7	7	7	X	X		X	X				7	7		
45	Hospital	8													5	5	8								
46	Education Bld.	8													X	X									
47	Elderly House														X	X	X								
48	Child Nursery																	5	5	5					
49	FAR	1	1.5	2.5	3	4	4.5	5	6	7	8	5	6	7	8	10	2	1.5	1	1	1	2	3	4	
50	OSR	40	20	12.5	10	7.5	6.5	6	5	4.5	4	6	5	4.5	4	3	15	20	40	40	40	15	10	7.5	
51	Front Set Back(m)	2	2																2	2	2	2			
52	Side Set Back(m)	2	1																1	1	1	1			
53	Back Set Back(m)	2	2																2	2	2	2			
54	Min.Land Plot(m2)	100	50																1000	100	100				
55	Max.Height of Bld.(m)	12	12																12	12	12				

Note: X :Prohibited 5 :Related Activities Land Use Categoies within Study Area
 1 :Road Width 10m 6 :BMA Regulation
 2 :Road Width 16m 7 :Reconstruction
 3 :Road Width 30m 8 :Size/Service Level
 4 Locate 9 :Component Table

3.1.4 Development Images held by Local Residents

A survey of the residents in the sub-center area was conducted by the Study Team. The survey had a sample size of 350 households, and involved asking local residents about their image of the future Lat Krabang sub-center.

The results revealed that the images of local residents were primarily of a garden city, followed by images of a central business district. This depicts that the sub-center development concept of the BMA at Lat Krabang is well understood by the local residents. It is noteworthy that there were some responses indicating the image of a historic city, although the percentage was not as large as for the first two images. This is an interesting facet of the study area in that it has the history and tradition that some of the local residents hope to revive in the future.

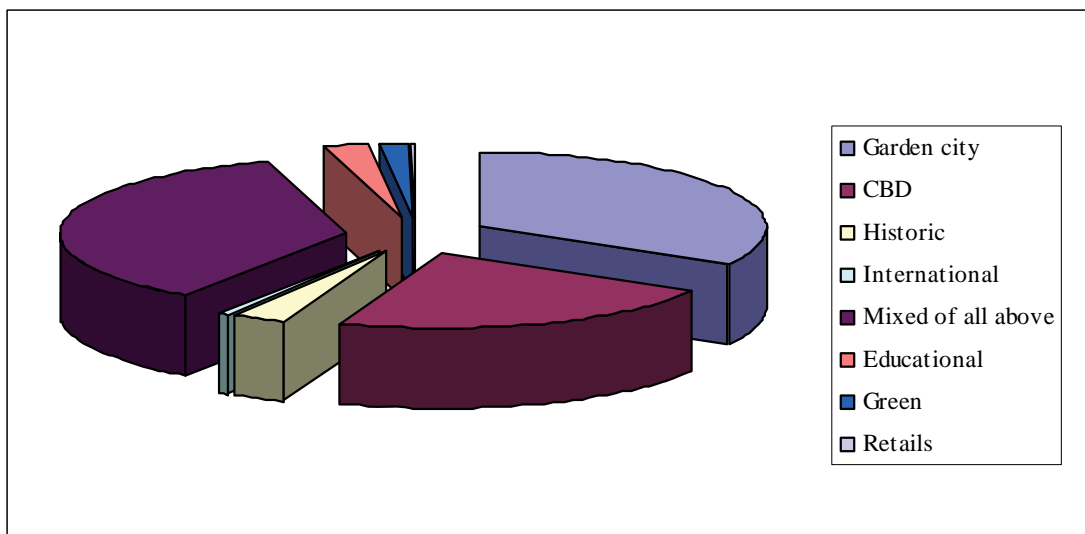


Figure 3.7: Images for Development of the Lat Krabang Sub-center as held by Residents

3.2 DIRECTION OF BASIC DEVELOPMENT

3.2.1 Key Urban Functions to be Introduced

Based on the subsequent conditions, the Lat Krabang Sub-center is comprised of three key zones; the sub-center/Air Gate zone, the Garden Suburb zone and the Culture Town zone.

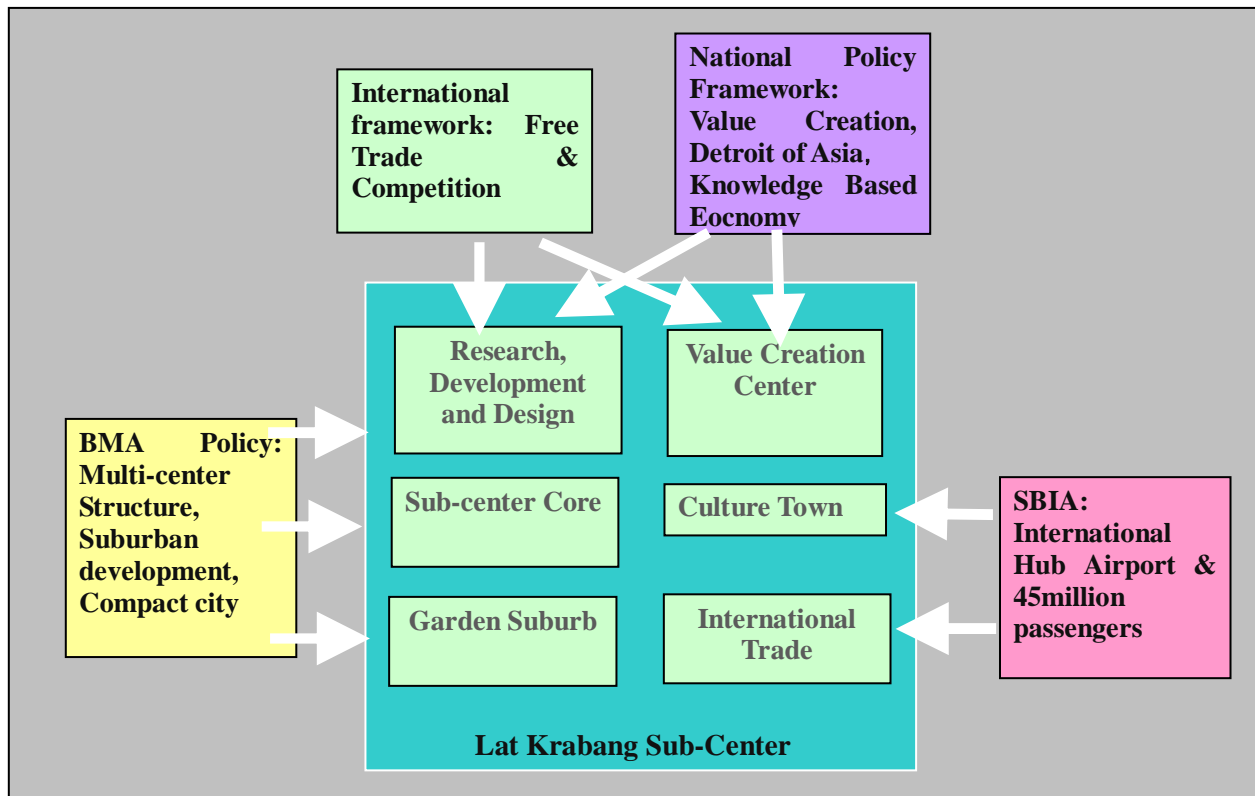


Figure 3.8: Conceptual Diagram for Setting of Functions to be Introduced

(1) Functions of the Enterprise Zone

1) *Research, Development and Design*

As the manufacturing industries in Thailand seek a higher added-value status than at present, which is predominantly the production of parts and components and assembling, it is important to accommodate the upstream functions of research, development and design (RD&D). As the Lat Krabang Sub-center has a location advantage with its proximity to the international hub airport, which will provide superb international connections to major international production bases, and accessibility to the metropolis of Bangkok, which is the center of knowledge-based activities in Thailand, the site will be suitable for research laboratories for the development and design of new products.

2) *Airport Related Business Function*

The new international airport, which will soon be open, will stimulate various airport related businesses, including logistics, international tourism, information technology,

research and ventures. In addition, the projected 45 million annual passengers through the airport in the initial stage will create various business opportunities such as lodging, logistics, day-tourism and shopping. The Lat Krabang Sub-center will be the prime location to serve such functions that are not contained on the airport site itself.

Example of Research, Development and Design Function Development

One of the famous successful examples of research-oriented development in parallel with an international airport is Las Colinas, in the Dallas-Fortworth metropolitan area, Texas, USA. The development comprises 4,855 ha (about 2.4 times Lat Krabang area) of business parks, in which approximately 98,000 people are employed. The enterprises located in Las Colinas include Abbot Laboratories, Microsoft, Citigroup, and Boeing Electronics. There are some headquarters of world famous enterprises such as ExxonMobil, NCH Corporation, Kimberly-Clark and Zale Corporation, and the American area regional headquarters to companies such as Nokia, NEC and Verizon. Las Collinas is located ten minute drive from the Dallas-Fortworth International Airport.

(2) International Trade Function

Suvarnabhumi Airport, which will be one of the largest international airports in Southeast Asia, will create an impact on international trade. The air cargo tonnage projection is given in the following table. Considering that the present level of air cargo is 826,229 tons, the projected increase will be substantial.

Promotion of international trade is an important strategy for the future of Thailand. There are examples of developing an international trade zone in the vicinity of an international hub airport, such as the one depicted below. Accumulating international trade functions will strengthen the cargo flow as well as boost the value-added opportunity for the goods. As seen in the policy advocated for Bangkok Fashion City, the promotion of international trade will enhance the position of Bangkok as a regional and international goods and trade center in the future.

Table 3.6: Projected Air Cargo Tonnage at Suvarnabhumi Airport

Year	2005	2015	2025	2035
Conservative Scenario	1,183,000	1,928,000	3,149,000	4,871,000
Middle Scenario	1,200,000	2,200,000	3,500,000	55,001,000
Asia-Forecast Based Scenario	1,331,000	2,744,000	4,469,000	7,906,000

Source: Aerotropolis Master Plan

Example of Development of the International Trade Function

One of the noteworthy successes in the development an the international trade function was in the Dallas Market Center in the vicinity of the Dallas-Fortworth International Airport (DFW). With an annual passenger handling of 52 million this airport is ranked 4th in the US. The Dallas Market Center (DMC) commands an area of 400 ha, where facilities such as the International Trade Center, World Apparel Mart, International Flower and Gift Center, Trade Mart, International Men’s Wear Mart and Market Hall are located. According to the DMC, there are estimated to be 130,000 annual visitors to the DMC from 84 nations, and the annual turnover is US\$7.5 billion. The DFW is known as the hub airport for American Airways.

(3) Value Creation Center Development

Research laboratories have been known to be located in good environments as well as in areas with access to high quality human resources. The Lat Krabang Sub-center needs to establish itself as a site for such functions by incorporating a magnet institution within itself such as a value creation center for advanced research and human resources development.

Example of Value Creation Function Development

The accumulation of research-oriented institutions and laboratories was the main concept for the Tsukuba Science City development in the north of Tokyo. The Government officially decided to develop the Tsukuba Science City in 1963, and since then the national research and academic institutions were relocated to this area. One of the core institutions is the Tsukuba University, a national university relocated from the city center of Tokyo. Today, the Tsukuba Science city has about 13,000 employees working in national or public institutions (of which 8,500 are researchers), and 4,500 researchers working in private research institutions. For details, refer to Appendix IV of Progress Report 1.

As research, development and design (RD&D) is closely related to the availability of quality human resources in advance technology and science, management and business, The Lat Krabang Sub-center requires the development of a value creation center function. The Value Creation function primarily comprises higher education institutions related to advanced technology and science, such as a graduate school for technical universities, national or municipal research laboratories and branch/campus for international universities. The sub-center may provide a site for a first rate higher education function such as a branch of a university, particularly in the science and technology field. The location of universities and colleges in Bangkok is highly concentrated to the city center area, and locating some of the campuses out into suburban areas will be beneficial in the decentralization of urban functions.

3.2.2 Socio-economic Development Framework

(1) Development Scenarios

The development framework will depend on, amongst other things, the foreseen course of development of the sub-center. Therefore, it is worthwhile to discuss various development scenarios and possible outcomes in order to choose a suitable development scenario. In Chapter 2 of this paper, based on the forecast by the NESDB for the Aerotropolis project, the population and employment levels were given for Lat Krabang and the surrounding districts. As the planning documentation will soon be officially adopted by the Government, the planning for the Lat Krabang Project will follow on from this framework.

The following is a summary of the projected increase in population and employment in Lat Krabang and the surrounding districts by the NESDB.

Table 3.7: Summary of the District-wise Population and Employment Increase 2003-35

District	Population (persons)			Employment (persons)		
	With airport	Without a/p	Difference	With airport	Without a/p	Difference
Lat Krabang	173,000	26,000	147,000	111,000	29,000	82,000
Prawet	88,000	29,000	59,000	59,000	26,000	33,000
Min Buri	50,000	25,000	25,000	39,000	25,000	14,000
Sub-total	311,000	80,000	231,000	209,000	80,000	129,000
3 other districts	89,000	43,000	46,000	27,000	19,000	8,000

Source: JICA Study Team estimates, following the framework established in the Suvnabhumi Aerotropolis Development Plan, Final Report, NESDB, Dec 2003.

It is obvious that a large part of the increasing population and employment is to be accommodated in the Lat Krabang District. This is consistent with the BMA policy to develop a substantial sub-center in Lat Krabang as a regional center.

Development scenarios would accrue from differentiating the share of the projected increase in population and employment to be borne by the Lat Krabang Sub-Center. Three scenarios are formulated, as below.

1) *Low Growth Scenario*

The first scenario is the “Low Growth Scenario”, in which the Lat Krabang Sub-Center is assumed to accommodate about half of the projected increase in population and employment by 2035. This is a modest assumption considering the high potential of the sub-center area with good accessibility to public transportation systems and highway and regional arterial road networks.

Table 3.8: Development Framework for Lat Krabang Sub-center Area (Low Growth Scenario)

Item	Incremental Population (Increase from 2003)				Total Population			
	2003	2015	2025	2035	2003	2015	2025	2035
Population	0	45,000	84,000	173,000	132,000	177,000	216,000	305,000
Sub-Center Area	0	14,000	32,000	85,000	30,000	44,000	62,000	115,000
Non-Sub-Center Area	0	31,000	52,000	88,000	102,000	133,000	154,000	190,000
Employment	0	33,000	57,700	112,000	59,000	92,000	116,700	171,000
Sub-Center Area	0	10,000	23,000	56,000	3,000	13,000	26,000	59,000
Non-Sub-Center Area	0	23,000	34,700	56,000	56,000	79,000	90,700	112,000

Source: JICA Study Team estimates, following the framework established in the Suvnabhumi Aerotropolis Development Plan, Final Report, NESDB, Dec. 2003.

2) Medium Growth Scenario

The second scenario is the “Medium Growth Scenario”, in which the Lat Krabang Sub-Center accommodates about 70% of the projected increase in population and employment by 2035. This is a middle-of-the-road scenario, with good balance between the expansion of the existing Lat Krabang town center area and the new sub-center area.

Table 3.9: Development Framework for Lat Krabang Sub-center Area (Medium Growth Scenario)

Item	Incremental Population (Increase from 2003)				Total Population			
	2003	2015	2025	2035	2003	2015	2025	2035
Population	0	45,000	84,000	173,000	132,000	177,000	216,000	305,000
Sub-Center Area	0	23,000	50,000	121,000	30,000	53,000	80,000	151,000
Non-Sub-Center Area	0	22,000	34,000	52,000	102,000	124,000	136,000	154,000
Employment	0	33,000	57,700	112,000	59,000	92,000	116,700	171,000
Sub-Center Area	0	16,000	35,000	79,000	3,000	19,000	38,000	82,000
Non-Sub-Center Area	0	17,000	22,700	33,000	56,000	73,000	78,700	89,000

Source: JICA Study Team estimates, following the framework established in the Suvnabhumi Aerotropolis Development Plan, Final Report, NESDB, Dec. 2003.

3) Medium-High Growth Scenario

The third scenario is the “Medium-High Growth Scenario”, in which the Lat Krabang Sub-Center accommodates about 90% of the projected increase in population and employment by 2035. This is a relatively aggressive scenario in which the development of the new sub-center is set in the center of the Lat Krabang District, absorbing a large part of the required urban expansion.

Table 3.10: Development Framework for Lat Krabang Sub-center Area (Medium-High Growth Scenario)

Item	Incremental Population (Increase from 2003)				Total Population			
	2003	2015	2025	2035	2003	2015	2025	2035
Population	0	45,000	84,000	173,000	132,000	177,000	216,000	305,000
Sub-Center Area	0	27,000	59,000	138,000	30,000	57,000	89,000	168,000
Non-Sub-Center Area	0	18,000	25,000	35,000	102,000	120,000	127,000	137,000
Employment	0	33,000	57,700	112,000	59,000	92,000	116,700	171,000
Sub-Center Area	0	20,000	47,000	99,000	3,000	23,000	50,000	102,000
Non-Sub-Center Area	0	13,000	10,700	13,000	56,000	69,000	66,700	69,000

Source: JICA Study Team estimates, following the framework established in the Suvnabhumi Aerotropolis Development Plan, Final Report, NESDB, Dec. 2003.

4) *High Growth Scenario*

The fourth and final scenario is the “High Growth Scenario”, in which the Lat Krabang Sub-Center accommodates all the projected increase in population and employment by 2035.

Table 3.11: Development Framework for Lat Krabang Sub-Center Area (High Growth Scenario)

Item	Incremental Population (Increase from 2003)				Total Population			
	2003	2015	2025	2035	2003	2015	2025	2035
Population	0	45,000	84,000	173,000	132,000	177,000	216,000	305,000
<i>Sub-Center Area</i>	<i>0</i>	<i>45,000</i>	<i>84,000</i>	<i>173,000</i>	<i>30,000</i>	<i>75,000</i>	<i>114,000</i>	<i>203,000</i>
Non-Sub-Center Area	0	0	0	0	102,000	102,000	102,000	102,000
Employment	0	33,000	57,700	112,000	59,000	92,000	116,700	171,000
<i>Sub-Center Area</i>	<i>0</i>	<i>33,000</i>	<i>57,700</i>	<i>112,000</i>	<i>3,000</i>	<i>36,000</i>	<i>60,700</i>	<i>115,000</i>
Non-Sub-Center Area	0	0	0	0	56,000	56,000	56,000	56,000

Source: JICA Study Team estimates, following the framework established in the Suvnabhumi Aerotropolis Development Plan, Final Report, NESDB, Dec. 2003.

(2) *Adopted Planning Framework*

The following table gives a summary of the three development scenarios for the Lat Krabang Sub-Center.

1) *Population (Night-Time Population)*

The following table and figure show a summary of the development framework for the population in the Lat Krabang Sub-Center Area (Study Area) from present to the target year of 2035. This population framework indicates the night-time (residence based) population.

Table 3.12: Population Framework for Lat Krabang Sub-Center (Summary)

Development Scenarios	Population			
	2003	2015	2025	2035
Low Growth Scenario	30,000	44,000	62,000	115,000
Medim Growth Scenario	30,000	53,000	80,000	151,000
Medium-High Growth Scenario	30,000	57,000	89,000	168,000
High Growth Scenario	30,000	75,000	114,000	203,000

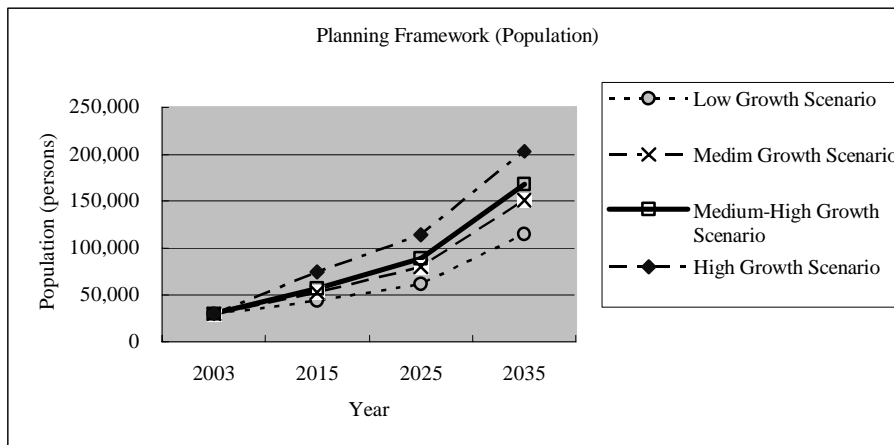


Figure 3.9: Population Framework for Lat Krabang Sub-Center (Summary)

2) *Employment*

The following table gives a summary of the development framework for employment in the Lat Krabang Sub-Center Area (Study Area) from present to the target year of 2035. The employment framework indicates the number of people that will have a workplace in this area.

Table 3.13: Employment Framework for Lat Krabang Sub-Center (Summary)

Development Scenarios	Employment			
	2003	2015	2025	2035
Low Growth Scenario	3,000	13,000	26,000	59,000
Medium Growth Scenario	3,000	19,000	38,000	82,000
Medium-High Growth Scenario	3,000	23,000	50,000	102,000
High Growth Scenario	3,000	36,000	67,000	115,000

Of the four development scenarios presented above, the Medium-High Scenario was adopted. This selection took into consideration the fact that of the sub-center projects for the BMA, the Lat Krabang Sub-center is the leading project and that most of the areas outside of the Lat Krabang Sub-center are either relatively built-up already with no large potential for urban growth or are buffer areas under the comprehensive plan of the BMA.

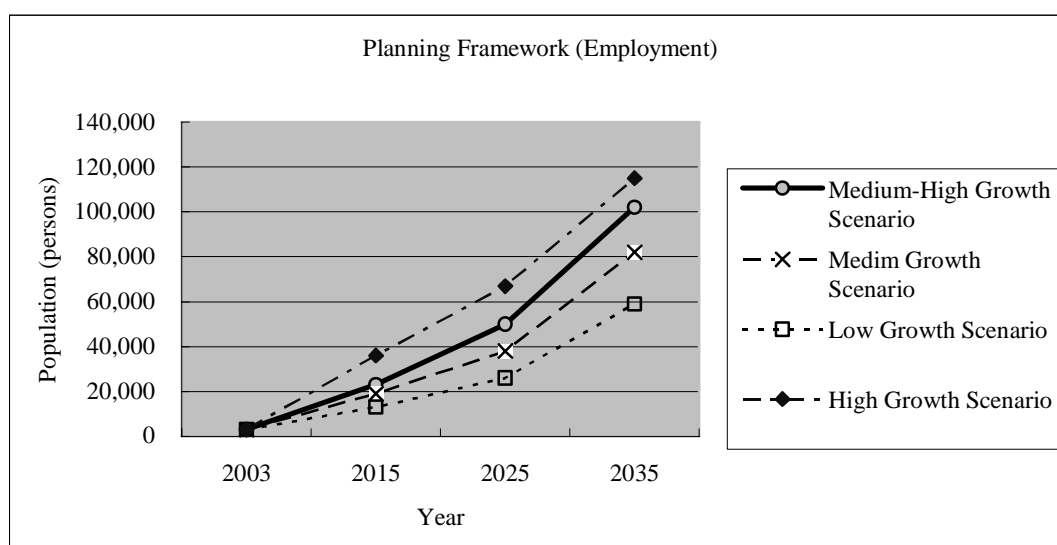


Figure 3.10: Employment Framework for Lat Krabang Sub-Center (Summary)

3.2.3 Landuse Framework

Based on the considerations above, a breakdown of land use by the three zones was roughly estimated as in the following table. This breakdown will be readjusted with more detailed information as the Study proceeds.

Table 3.14: Rough Breakdown of Land Use by Zones

Zone	Sub-Center / Air Gate Zone	Garden Suburb Zone	Culture Town Zone	Total
RESIDENTIAL ZONE	0	300	500	800
COMMERCIAL ZONE	80	10	10	100
ENTERPRISE ZONE	380	0	20	400
PUBLIC ZONE	40	20	20	80
RECREATION ZONE	120	80	120	320
INFRASTRUCTURE - Main trunk road/railway	100	100	50	250
TOTAL	720	510	720	1,950

(1) Core Functions of the Sub-Center

1) Town Center Function

The core function of the sub-center is primarily as a business, commercial and administrative district that serves the essential urban functions of town center and transportation hub to the sub-center area itself, as well as to the “Eastern Bangkok” area, and replaces in part the functions now provided by the Bangkok CBD (Central Business District). This function is necessary in order to restructure the mono-centric urban structure into a multi-centric one, through the provision of regional business districts in the suburban areas of the Bangkok metropolis that will provide both employment opportunities and urban services for the residents.

2) *Transportation Function*

The proximity of the sub-center to the new airport will inevitably improve the transportation conditions, with respect to both road and rail. As have been seen, there are various ongoing projects, including the motorway connection and improvement of arterial roads for airport access and rail links. As Lat Krabang is conveniently located for express and arterial road transport and railway links, it is likely to accommodate the necessary transport functions, particularly the inter-modal connections.

(2) Function of the Garden Suburb

This is the zone where people seeking to live in a decent suburban environment could build their houses.

1) *Suburban Residential Function*

As demonstrated in Chapter 2, the population in suburban areas is growing rapidly. This indicates that the Bangkok metropolis will need to provide residential areas in the suburban areas outside of the existing urbanized areas, particularly to the west and to the east. The Lat Krabang Sub-center area has a high potential for providing a suburban residential zone. The new suburban residential zone needs to incorporate a high quality urban environment and essential urban services in order to accommodate the increasing suburban population.

2) *Neighborhood Commercial Function*

It is important that the residents of the Garden Suburb zone have essential neighborhood commercial facilities, such as supermarkets and retail/service shops, and that good access is provided to these facilities.

(3) Function of the Culture Town

The Culture Town will have the atmosphere of a traditional Thai town with intimacy provided through the water and canal system. The cultural heritage will be utilized to attract visitors that will be using the SBIA for day-tourism.

1) *Function of the Canal Town*

The Lat Krabang area is an area where the canal system has provided a location for water transport, commercial and even religious activities. The two major temples within the Study Area, Wat Sangkracha and Wat Lanboon, both have a small wharf on the canal, and many houses face the canal.

As the SBIA will have 45 million annual passengers in the initial stages, attention needs to be paid to the promotion of “day-tourism”, where tourists would have the option of short-duration tourism activities, such as visiting temples, experiencing water markets, traveling by boat and viewing traditional Thai dances. The zone south of the motorway, denoted as the Culture Town zone, is suitable for accommodating such functions.

2) *Function of the Airport Town*

The SBIA, when complete and in operation, will require staff for passenger and cargo handling, as well as for various related services. The employment opportunities generated at the Suvarnabhumi Airport was estimated in the Aerotropolis Masterplan as in the following table.

Table 3.15: Projected Employment Associated with the Suvarnabhumi Airport

Year	2005	2015	2025	2035
Number of projected employment	210,000	257,000	306,000	343,000

Source: Aerotropolis Master Plan

A substantial number of the new employees, together with their families, will seek housing near the airport. The Lat Krabang Sub-center needs to provide decent housing units at reasonable prices for this working population.

3) *Function of the Neighborhood Commercial Area*

It is important that the residents of the Garden Suburb zone have good access to essential neighborhood commercial facilities, such as supermarkets and retail/service shops.