National Housing Authority (NHA)

DATA COLLECTION SURVEY ON HOUSING SECTOR IN THAILAND
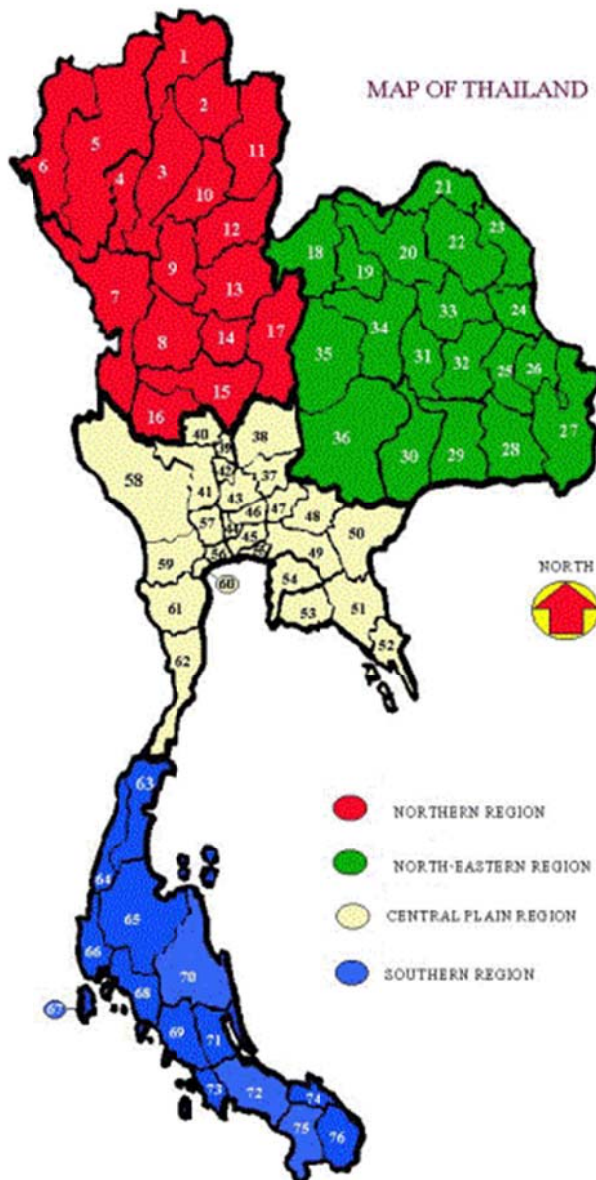
Final Report

May 2013

Japan International Cooperation Agency (JICA)

International Development Center of Japan, Inc.

Pacet Corporation

MAP OF THAILAND

Northern Region
1. Chiang Rai
2. Phayao
3. Lampang
4. Lamphun
5. Chiang Mai
6. Mae Hong Son
7. Tak
8. Kamphaeng Phet
9. Sukhothai
10. Phrae
11. Nan
12. Uttaradit
13. Phitsanulok
14. Phichit
15. Nakhon Sawan
16. Uthai Thani
17. Phetchabun

North-Eastern Region
18. Loei
19. Nong Bua Lam Phu
20. Udon Thani
21. Nong Khai
22. Sakon Nakhon
23. Nakhon Phanom
24. Mukdahan
25. Yasothon
26. Amnat Charoen
27. Ubon Ratchathani
28. Si Sa Ket
29. Surin
30. Buri Ram
31. Maha Sarakham
32. Roi Et
33. Kalasin
34. Khon Kaen
35. Chaiyaphum
36. Nakhon Ratchasima

Central Plain Region
37. Saraburi
38. Lop Buri
39. Sing Buri
40. Chai Nat
41. Suphan Buri
42. Ang Thong
43. Ayutthaya
44. Nonthaburi
45. Bangkok Metropolis
46. Pathum Thani
47. Nakhon Nayok
48. Prachin Buri
49. Chachoengsao
50. Sa Kaeo
51. Chanthaburi
52. Trat
53. Rayong
54. Chon Buri
55. Samut Prakan
56. Samut Sakhon
57. Nakhon Pathom
58. Kanchanaburi
59. Ratchaburi
60. Samut Songkhram
61. Phetchaburi
62. Prachuap Khiri Khan

Southern Region
63. Chumphon
64. Ranong
65. Surat Thani
66. Phangnga
67. Phuket
68. Krabi
69. Trang
70. Nakhon Si Thammarat
71. Phatthalung
72. Songkhla
73. Satun
74. Pattani
75. Yala
76. Narathiwat

NORTH

● NORTHERN REGION

● NORTH-EASTERN REGION

○ CENTRAL PLAIN REGION

● SOUTHERN REGION

Source: http://faorap-apcas.org/thailand/thaimap.htm

Bangkok Metropolitan Region (BMR)

MAP

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ABBREVIATIONS

BEA	Baan Eua-Arthorn Project
BMA	Bangkok Metropolitan Administration
BMK	Baan Mankong Program
BMR	Bangkok Metropolitan Region which includes Bangkok Metropolis, Samut Prakan, Nonthaburi, Pathunthani, Samut Sakhon, Nakhon Pathom
BOI	Board of Investment
BOT	Bank of Thailand
CODI	Community Organizations Development Institute
CPI	Consumer Price Index
DPWTC	Department of Public Works and Town and City Planning, Ministry of Interior
GHB	Government Housing Bank
GHLC	Government Housing Loan Corporation in Japan
Greater Bangkok	Greater Bangkok: includes Bangkok Metropolis, Samut Prakan, Nonthaburi, Pathumthani
GSB	Government Saving Bank
MOF	Ministry of Finance
NESDB	National Economic and Social Development Board
NHA	National Housing Authority
NHPB	National Housing Policy Board
UK	United Kingdom
UR	Urban Renaissance Agency in Japan
USA	The United States of America

DATA COLLECTION SURVEY ON HOUSING SECTOR IN THAILAND

Summary

May 2013

International Development Center of Japan, Inc.
Pacet Corporation

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1. **Recent Socio-Economy**
2. **Housing Situations**
3. **Future Perspectives on Socio-economy and Housing**
4. **Policy Review**
5. **Proposed Housing Strategy**

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1. Recent Socio-Economy

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Population

- *Population concentrated in Bangkok and vicinities.*
- *Urban population increase in every region.*

	1990	2,000	2010	Annual growth rate 1990-2000	Annual growth rate 2000-2010
Population (000)					
Bangkok	5,882	6,355	8,305	0.8%	2.7%
Vicinity	2,708	3,804	6,321	3.5%	5.2%
Central excluding Vicinity	9,369	10,411	11,862	1.1%	1.3%
North	10,584	11,433	11,656	0.8%	0.2%
Northeast	19,039	20,825	18,966	0.9%	-0.9%
South	6,967	8,087	8,871	1.5%	0.9%
Whole Kingdom	54,549	60,916	65,982	1.1%	0.8%
Urban population ratio (%)					
Bangkok	100%	100%	100%		
Vicinity	47%	50%	55%		
Central excluding Vicinity	27%	29%	41%		
North	21%	21%	35%		
Northeast	15%	17%	29%		
South	20%	23%	33%		
Whole Kingdom	29%	31%	44%		

Urban population increased.

Source: population and household census

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	1990	2,000	2010	Annual growth rate 1990-2000	Annual growth rate 2000-2010
Population 60 and over (%)					
Bangkok	6.0	7.9	10.4		
Central	8.6	9.9	10.0		
North	8.4	11.2	14.8		
Northeastern	6.4	8.8	14.8		
South	7.6	9.5	11.9		
Whole Kingdom	7.4	9.4	13.0		
Number of household (000)					
Bangkok	1,334	1,740	2,869	2.7%	5.1%
Vicinity	601	1,095	2,207	6.2%	7.3%
Central excluding Vicinity	2,208	2,812	3,713	2.4%	2.8%
North	2,622	3,181	3,741	2.0%	1.6%
Northeast	4,029	5,051	5,340	2.3%	0.6%
South	1,523	1,998	2,494	2.8%	2.2%
Whole Kingdom	12,318	15,877	20,364	2.6%	2.5%
Household size (person/ HH)					
Bangkok	4.4	3.7	2.7		
Vicinity	4.3	3.5	2.7		
Central excluding Vicinity	4.2	3.7	3.1		
North	4.0	3.6	3.0		
Northeast	4.7	4.1	3.5		
South	4.5	4.0	3.4		
Whole Kingdom	4.4	3.8	3.1		

- *Aged population increased.*
- *HH number increased in BMR*
- *HH size smaller, especially in Bangkok and vicinity (BMR)*

Source: Population & household census

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Thai Economy: growth and disparity

GDP Growth Rate (%)

GDP per capita (baht, current price)

- BANGKOK METROPOLICE
- BMR excluding Bangkok
- CENTRAL excluding BMR
- NORTHERN
- NORTHEASTERN
- SOUTHERN

- *Steady economic growth (with influence of world economy) average 4.6% during 2000-2010*
- *GDP per Capita increased, esp., Bangkok and vicinity*
- *More than 400,000 baht of GDP per Capita in BMA and vicinity*

Source: NSO

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Income Distribution

Whole kingdom

HH share (%) — 35, 30, 25, 20, 15, 10, 5, 0

Monthly HH Income (baht/month/HH, current price)
X-axis: -1,500 / 1,501-3,000 / 3,001-5,000 / 5,001-10,000 / 10,001- / 15,001- / 30,001- / 50,001- / 100,001-

— 2000
-- 2009

- *Medium income groups increased*

Greater Bangkok

HH share (%) — 40, 30, 20, 10, 0

Monthly HH Income (baht/month/HH, current price)
X-axis: -1,500 / 1,501-3,000 / 3,001-5,000 / 5,001-10,000 / 10,001- / 15,001- / 30,001- / 50,001- / 100,000-

— 2000
-- 2009

Source: Household socio-economic survey, 2000, 2009

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Income Distribution (2)

- *Meddle income group expands.*

(current price)

HH Income	Income range (baht/HH/month)	Whole kingdom				Greater Bangkok			
		2000		2009		2000		2009	
		Share (%)	Coverage (%)	Share (%)	Coverage (%)	Share (%)	Coverage (%)	Share (%)	Coverage (%)
Low	- 15,000	78	78	56	56	46	46	27	27
Medium	15,001 - 50,000	19	97	37	93	44	90	54	81
High	50,001 - 100,000	3	100	7	100	10	100	19	100

Source: Household socio-economic survey, 2000, 2009

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2. Housing Situations

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Housing Stocks

- *Housing stock increases nationwide especially in BMR*

	2000	2005	2010	Annual change rate 2000-2010 (%)
Bangkok	1,901,510	2,091,558	2,400,540	2.4%
BMR except BKK	1,396,861	1,678,853	2,051,000	3.9%
Central except BMR	3,097,892	3,642,889	4,244,683	3.2%
North	3,360,657	3,762,770	4,134,288	2.1%
Northeast	4,732,880	5,350,332	5,939,879	2.3%
South	2,070,370	2,484,891	2,911,245	3.5%
Whole Kingdom	16,560,170	19,011,293	21,681,635	2.7%

Source: Ministry of Interior

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Housing Stocks: by Type

Preference of people is diversified:
- *From Traditionally detached house*
- *To Condominium especially in Bangkok*

	Whole kingdom			Bangkok	Central	North	North-east
	Share 2000	Share 2010	Index 2000-10	Share 2010	Share 2010	Share 2010	Share 2010
Total			1.29				
Detached house	79%	73%	1.20	32%	62%	90%	93%
Town house/ row house	16%	18%	1.45	35%	27%	7%	5%
Condomenium/ apartment	3%	8%	3.67	31%	10%	3%	2%

Source: Population & household census

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H.H and Housing Stocks

Balance of H.H and housing stocks are:
- *Tight balance in Bangkok and vicinity.*
- *Sufficient in other region as a macro level point of view*

	2000			2010		
	Housing Unit (A)	Household (B)	(A)-(B)	Housing Unit (A)	Household (B)	(A)-(B)
Bangkok	1,901,510	1,740,024	161,486	2,400,540	2,846,049	-445,509
Vicinity	1,396,861	1,094,783	302,078	2,051,000	2,256,088	-205,088
Central	3,097,892	2,811,747	286,145	4,244,683	3,692,600	552,083
North	3,360,657	3,181,130	179,527	4,134,288	3,733,084	401,204
Northeast	4,732,880	5,051,100	-318,220	5,939,879	5,316,846	623,033
South	2,070,370	1,998,358	72,012	2,911,245	2,483,837	427,408
Whole kingdom	16,560,170	15,877,142	683,028	21,681,635	20,328,504	1,353,131

Source: Housing unit: Ministry of Interior
Household: Pop & HH census

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Housing Supply: BMR

Housing unit

Steady supply of detached house
Fluctuated supply of:
  ✓ *condominium and*
  ✓ *houses by developers*

Condominium

Townhouse, Twin house and commercial buildings

Detached

1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011

Asian Currency Crisis

Lehman's Shock

Condominium

By developer

By owner

1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011

Source: REIC

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Housing Market Structure

Housing Stock (Existing housing unit)	New construction	Potential Stock in Housing Market	Sales (≒Demand)		
	60,000 - 90,000 /year	460,000 - 600,000 /year	150,000 - 190,000 /year		
4,400,000		New house market 160,000 - 200,000 /year	Sold (Transfered) 80,000 - 90,000 /year		Through brokers 18,000 - 30,000 /year
		Second hand house market 300,000 - 400,000 /year	Sold (Transfered) 60,000 - 100,000 /year		Individual transaction 42,000 - 70,000 /year

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Housing Market : Prices in the long run

Price Index (2008=100)

1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010

Single-detached house (including land, 2008=100)

HH income (baht/HH/month, 2008=100)

Condominium (2008=100)

Source: NSO

- *HH income grows*
  ✓ *faster than prices of detached houses in the long run*
- *But, condominium price grow*
  ✓ *faster than HH income grow*
  ✓ *Condominium is one of targets for investment.*

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Housing Market: Prices

Prince Index (Jan. 2009=100)

Mar-2008 Jun-2008 Sep-2008 Dec-2008 Mar-2009 Jun-2009 Sep-2009 Dec-2009 Mar-2010 Jun-2010 Sep-2010 Dec-2010 Mar-2011 Jun-2011 Sep-2011 Dec-2011 Mar-2012 Jun-2012 Sep-2012

Town house (including land)

Single-detached house (including land)

Condominium

Land

Price fluctuation:
- *Condos: ++++*
- *Land: +++*
- *Town house: ++*
- *Detached house: +*

Source: Bank of Thailand

- *Prices of condos. and land largely depends on economic boom.*
- *Prices of detached house is more stable.*

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Income and Affordable House Price in BMR

Surplus

Shortage

Share inf HH income range (2009)

Share in price range of housing market supply (2010)

| < 15 | 15-25 | 25-50 | 50-70 | 70-120 | 120- |
| | < 1.0 | 1.0-2.0 | 2.0-3.0 | 3.0-5.0 | 5.0- |

HH monthly income (1000 baht/month)

Affordable price range (million baht)

- *There in unbalance of housing supply comparing HH income*
  - *Shortage of housing supply for Lower income group.*
  - *Surplus of housing supply for higher income groups*

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Income and Affordable House Price in BMR

HH monthly income (1000 baht/month)	Share (2009)	Affordable price range (million baht)	Market supply (2010)
< 15	27%		
15-25	26%	< 1.0	21%
25-50	27%	1.0-2.0	38%
50-70	8%	2.0-3.0	20%
70-120	8%	3.0-5.0	17%
120-	4%	5.0-	5%

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Flame Work of Public Stakeholders in Housing Sector

Public Stakeholders in Housing Sector

Field	Stakeholder	Business	Target
Housing Supply	NHA	Housing construction	Mid – Upper Low Income Group
	CODI		Lower Low Income Group
	Local Governments		Low Income Group
Housing Demand	GHB	Finance	Mid – Low Income Group
	GSB		High – Low Income Group
	NHA		Mid – Upper Low Income Group
	CODI		Lower Low Income Group
	MOF	Tax incentive	Mid – Low Income Group
	BOI	Investment incentive	Mid – Low Income Group
Living Environ.	NESDB	Policy	National development
	MOI	Regulation	Urban Plan, Building Code
	Local Governments	Permission	Land development, Building construction
	NHA	Community development	Mid – Upper Low Income Group
	CODI		Lower Low Income Group

Flame Work of Private Stakeholders in Housing Sector

Private Stakeholders in Housing Sector

Field	Stakeholder	Business	Target
Housing Supply	Commercial Banks	Finance	Housing Developer
	Private Developer	Construction	High – Low Income Group
	Housing Broker	Brokerage	2nd hand houses High – Low Income Group
Housing Demand	Commercial Banks	Finance	High – Low Income Group
Living Environ.	Real estate management Company	Real estate management	High – Low Income Group

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3. Future Perspectives on Socio-Economy and Housing

Future Population

	2010	2015	2020	2025	2030	
Population ('000)						
Bangkok	8,305	9,179	9,955	10,581	11,031	16%
Vicinity	6,321	7,431	8,419	9,242	9,878	14%
Central excluding BMR	11,862	12,396	12,832	13,141	13,322	19%
North	11,656	11,565	11,415	11,202	10,936	16%
Northeastern	18,966	17,789	16,564	15,369	14,252	21%
South	8,871	9,155	9,392	9,567	9,687	14%
Whole Kingdom	65,982	67,516	68,578	69,103	69,106	100%

Population in 2030
- *69 million in Thailand*
- *20 million in BMR accounting for 30% of total population*

Future Household and its Size

	1990	2000	2010	2015	2020	2025	2030
HH size (person/HH)							
Bangkok	4.4	3.7	2.7	2.4	2.2	2.0	1.9
Vicinity	4.3	3.5	2.7	2.4	2.2	2.1	2.0
Central excluding BMR	4.2	3.7	3.1	2.9	2.7	2.5	2.4
North	4.0	3.6	3.0	2.8	2.6	2.4	2.4
Northeastern	4.7	4.1	3.5	3.3	3.1	3.0	2.9
South	4.6	4.0	3.4	3.2	3.0	2.8	2.7
Whole Kingdom	4.4	3.8	3.2	2.8	2.6	2.5	2.4
Household ('000 HH)							
Bangkok	1,334	1,749	2,869	3,859	4,583	5,227	5,701
Vicinity	601	1,098	2,207	3,092	3,816	4,496	5,027
Central excluding BMR	2,208	2,812	3,713	4,335	4,815	5,211	5,472
North	2,622	3,181	3,741	4,179	4,426	4,590	4,642
Northeastern	4,029	5,051	5,340	5,404	5,345	5,189	4,958
South	1,523	1,998	2,494	2,904	3,181	3,390	3,537
Whole Kingdom	12,318	15,890	20,364	23,772	26,166	28,102	29,336

HH in 2030
- *29 million in Thailand*
- *10 million in BMR*

Family size decreased over time.
- *Nuclear family & single household increased.*

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Future Population Structure

Aged population will increases due to:
- *Lowering of fertility rate*
- *Lowering of death rate*

Share of 60 and over in the population

	2010	2015	2020	2025	2030
Whole Kingdom	13%	15%	19%	23%	27%
Bangkok	10%	11%	14%	17%	20%
Vicinity	10%	11%	14%	17%	20%
Central	13%	15%	18%	21%	25%
North	15%	19%	24%	29%	33%
Northeast	14%	18%	23%	29%	35%
South	12%	13%	16%	19%	22%

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Future Household Income

- *As economy grows steadily, HH income grow.*
  - *Almost 60,000 baht on average in whole kingdom in 2030*
  - *Almost 100,000 baht on average in Greater Bangkok in 2030*

HH income (baht/Month/HH, 2010 constant price)
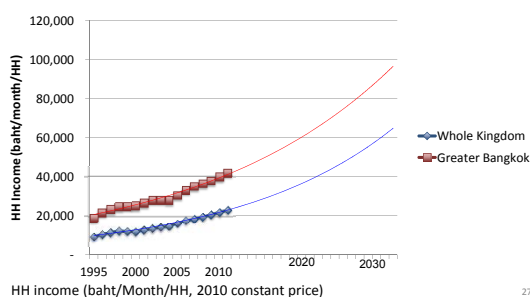
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Future Household Income Distribution
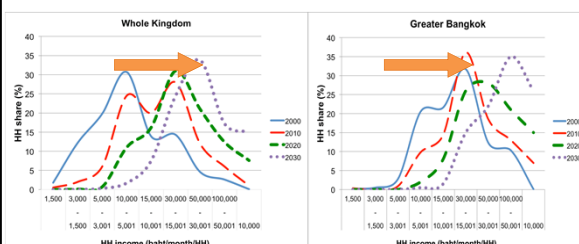
Low income group:
- *The country: 53% (2010)→28% (2030)*
- *Greater Bangkok: 25% (2010)→15% (2030)*

Medium income group:
- *The country: 40% (2010)→55% (2030)*
- *Greater Bangkok: 55% (2010)→56% (2030)*

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Future Composition of Income Group

	2000	2010	2020	2030
Household Share				(%)
Whole Kingdom				
Low	72.3	53.0	45.0	27.7
Medium	23.4	40.0	43.6	54.5
High	4.3	7.0	11.4	17.8
Greater Bangkok				
Low	33.3	25.4	22.0	15.0
Medium	51.7	54.6	55.0	56.0
High	15.0	20.0	23.0	29.0
Ceiling of HH income in income group				
			(Adjusted by CPI, baht/month/HH)	
Low	11,600	15,000	20,426	27,463
Medium	38,666	50,000	68,088	91,542

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Urbanization

	2010	2015	2020	2025	2030
Urban population ratio (%)					
Bangkok	100%	100%	100%	100%	100%
Vicinity	55%	57%	59%	62%	64%
Central excluding Vicinity	41%	45%	50%	55%	60%
North	35%	40%	44%	49%	53%
Northeast	29%	34%	37%	41%	44%
South	33%	39%	43%	47%	51%
Whole Kingdom	44%	49%	53%	58%	61%

Urban population ratio
- *The country: 44% (2010)→61% (2030)*
- *Vicinity: 55 % (2010)→64% (2030)*

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Expansion of Mass Transit Network & Urban Area

Expansion of Infrastructure development in BMR:
- Mass Transit Network
- Road network
- Utilities

Expansion of urban development potential areas
- More variety of location of residential areas

Bangkok: Mass Transit Plan

Bangkok Land Use Plan

Housing Needs

	2010-2020	2020-2030	Total
			(1,000 Housing Unit)
Bangkok	1,713	1,118	2,831
Vicinity	1,609	1,210	2,820
Central excluding BMR	1,102	657	1,759
North	684	216	900
Northeastern	5	0	5
South	687	356	1,043
Whole Kingdom	5,801	3,557	9,359

Housing needs
- *The country:*
  - *5.8 million units during 2010-2020*
  - *3.5 million units during 2020-2030*
- *BMR:*
  - *3.3 million units during 2010-2020*
  - *2.3 million units during 2020-2030*

Housing Needs by Income Group

	2010-2020	2020-2030	Total
			(1,000 Housing Unit)
Whole Kingdom	5,801	3,557	9,359
Low	2,750	1,170	3,920
Medium	2,467	1,822	4,289
High	585	565	1,150
BMR	3,323	2,328	5,651
Low	765	398	1,163
Medium	1,824	1,297	3,120
High	734	633	1,368

Housing needs in Bangkok
- *For low-income group:*
  - *770 thousand units during 2010-2020*
  - *400 thousand units during 2020-2030*
- *For middle income group:*
  - *1.8 million units during 2010-2020*
  - *1.2 million units during 2020-2030*

Future Housing Issues

- Factors Affecting Future Housing Policy
  - Population growth continued.
  - Population concentrated in BMR.
  - Medium income group around urban areas increases.
  - Housing demand around urban area diversified due to increase of young families and aged population
- Issues on Housing Sector
  - To facilitate rapidly expanding medium income group to purchase diversified houses with a certain quality.
  - To provide safety net to socially vulnerable people.
  - To diversify houses and moving house according to life-stage.
  - To strengthen the housing market to ensure private housing businesses
  - To enhance accessibility and living environment of residential areas in BMR

4. Policy Review

Comparison of Housing Policies in Foreign Countries

Target	Policy Option	Japan	USA	UK	Canada	Nether	Mala.	Sin.	Thai.
Housing Environ.	Housing Plan*1	○	○	○	○	○	○	○	
	Regulation*2	○	○	○	○	○	○	○	○
	Ministry*3	○		○			○	○	
Supply Side	Cent. Gov't Sale*4						○	○	○
	Cent. Gov't Rent*4						○	○	○
	Local Gov't Sale	○			○	○	○		○
	Local Gov't Rent	○	○	○	○	○	○	○	○
Demand Side	Rent Subsidy	○	○	○	○	○			
	Tax Incentive	○	○	○	○	○			○
	Finance	○	○	○	○	○	○	○	○
	Loan Guarantee	○	○		○		○		○
	Saving System*5	○						○	
	Reserve Mortgage	○	○	○	○				

Note: *1 - Long Term Plan on Development and Supply of Housing
*2 - Law, Regulation and Code on urban and housing
*3 - Ministry which has departments related to housing and urban in a same organization
*4 - Housing for sale and rent
*5 - Worker's Property Accumulation Residence Savings

Summary of Housing Policies in Foreign Countries (1)

Living Environ.	Laws on Development and Supply of Housing	Available in Japan, U.S.A., UK and Netherland.
	Long Term Plans on Housing Development and Supply	Prepared by the central government in Japan, UK, Netherland, Malaysia and Singapore. Prepared by state (local) governments in USA and Canada.
	Laws/Regulations on Housing and Urban Planning	Laws/regulations on both building and urban have been provided and operated in all 7 countries.

Summary of Housing Policies in Foreign Countries (2)

Living Environ.	Governmental Organization	One ministry manages housing and urban in Japan, UK, Malaysia and Singapore.
Housing Supply	Central Government	Malaysia and Singapore supply housing for sale and rent directly.
	Local Government	other 5 countries supply housing for sale and/or rent.

Summary of Housing Policies in Foreign Countries (3)

Housing Demand by Public Sector	Rent Subsidy	Implemented in Japan, U.S.A., UK, Netherland and Canada.
	Tax Incentive	Same as above
	Public Finance	All 7 countries
	Loan Guarantee	Implemented in Japan, U.S.A., Canada, and Malaysia.
	Saving	Worker's property accumulation residence savings is implemented in Japan and Singapore.
	Reverse Mortgage	Adopted in Japan, U.S.A., UK and Canada.

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5. Proposed Housing Strategy

Basic Direction of Housing Policy

Note:
Number of household and housing demand is for BMR.
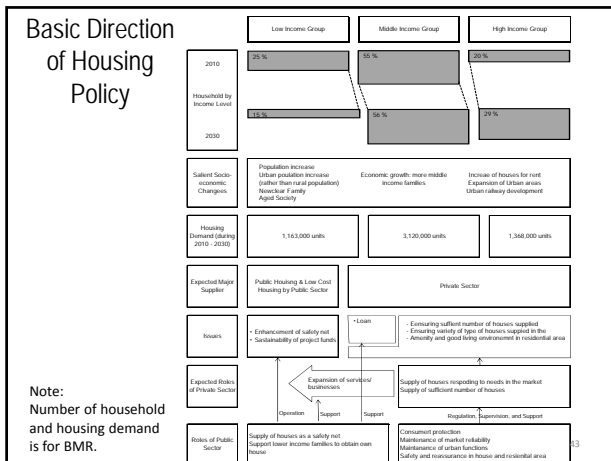
Housing policy framework

Target Group:
  – Middle – low income groups
  – Vulnerable: aged, handicapped, single parent, and others

Scope:
  – Enhancement of safety net
  – Maintenance of sustainability of project for low income group
  – Provision of loan for lower middle income families
  – Ensure supply of adequate number and variety of houses in the market
  – Improve amenity and good living environment in residential area.

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Housing policy framework

Roles of Public Sector:
  – As regulator:
    • Maintenance of fair competition and transparency of housing market to keep/improve reliability of housing market
    • Assist housing businesses to be growing industry
    • Support of private businesses to exploit lower income housing services
    • Guidance to improve quality of houses
  – As operator:
    • Enhancement of safety net for vulnerable groups
    • Necessary development with public interests (less profitability)
    • Project to tackle external diseconomy of housing market (such as traffic congestion, disordered development etc.)

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Goal and Strategy

46
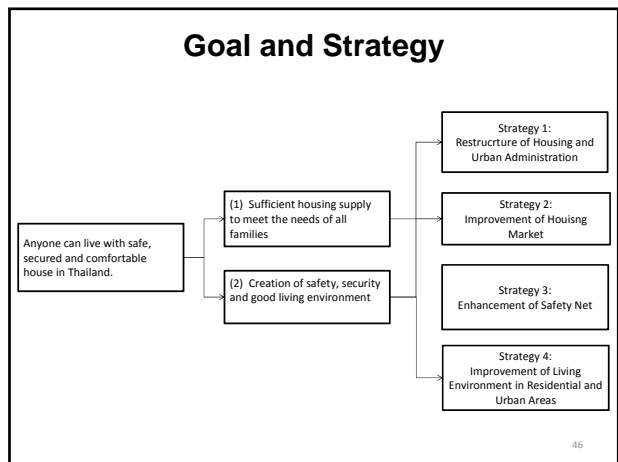
Strategy 1: Restructure of Housing and Urban Administration

• Objectives:
  – To establish a new organization which takes care of overall housing policy, coordination among authorities of housing and urban development administration, and regulation of housing market and businesses.
  – To dedicate NHA as an execution body of housing and urban development.
• Structure of Strategy
  – Establishment of Housing and Urban Development Board (HUDB) (PRO 1-1)
  – Establishment of New Organization responsible for Housing Administration (PRO 1-2)
  – Strengthening of Urban Development Project Management Function of NHA (PRO 1-3)

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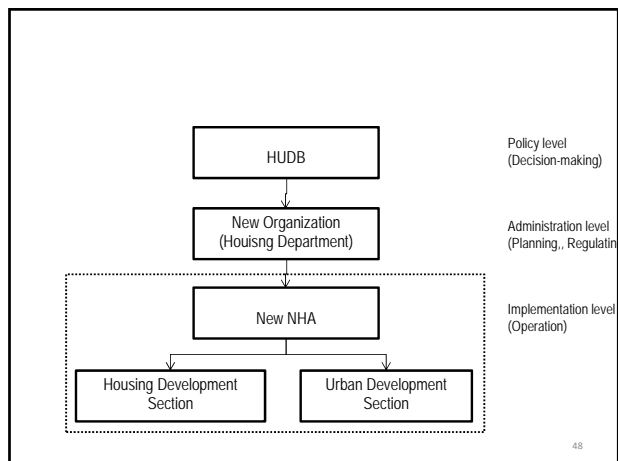
- Program:
  - Establishment of Housing and Urban Development Board (HUDB)(PRO 1-1)
    - Restructuring of existing National Housing Development Committee
    - Establishing HUDB
  - Establishment of New Organization responsible for Housing Administration (PRO 1-2)
    - Restructuring NHA (division of planning and operation functions)
    - Formulating organization in ministry or department level (based on planning function of NHA)
    - Coordination of NHA and other relevant agencies (DPWTCP, DOL, BMA etc.)
  - Strengthening of Urban Development Project Management Function of NHA (PRO 1-3)
    - Establishment of urban development department in NHA
    - Capacity development with experts from other resources (like JICA expert)
    - Joint urban development projects with private sector

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Strategy 2:
Improvement of Housing Market

- Objectives:
  - To improve housing market to be more reliable
  - To activate housing businesses to response to the demands (quality and quantity) from end-users
- Structure of Strategy:
  - Improvement of Housing Trade Information (PRO 2-1)
  - Improvement of Reliability of Housing Market (PRO 2-2)
  - Activation of businesses on 2nd-Hand Houses in Market (PRO 2-3)
  - Promotion of Reconstruction of Condominium and Apartment (PRO 2-4)

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Activation of housing (macro Goal)

Sufficient amounts and variety of houses in the market
Stable and reliable transaction activities in the market (Goal)

(Business) (Stable supply of sufficient quailiy houses n Market)

PRO 2-3 Activation of Businesses on 2nd Hand Houses in Market

PRO 4-3 Improvement of Physical Aspects of Houses for Re-use

PRO 2-4 Promotion of Reconstruction of Condominium and Apartment

PRO 2-1 Improvement of Housing Information

PRO 2-2 Improvement of Reliability of Housing market

(Basement)

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- Program:
  - Improvement of Housing Trade Information (PRO 2-1)
    - Disclosure of housing and real Este information
    - Organizing housing information by private sector
  - Improvement of Reliability of Housing Market (PRO 2-2)
    - Ensuring housing brokers by registration, licensing etc.
    - Standardization of documentation regarding housing/real estate trade
    - Consumers Protection in housing transaction
  - Activation of businesses on 2nd-Hand Houses in Market (PRO 2-3)
    - Ensuring assent assessment/evaluation of 2nd houses
    - Fosterage of Related Business (like reform business)
  - Promotion of Reconstruction of Condominium and Apartment (PRO 2-4)
    - Revision of Condominium Law
    - Revision of related laws and regulations
    - Acceleration of reconstruction of existing NHA's properties

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Strategy 3:
Enhancement of Safety-net

- Objectives:
  - Providing safety net in the field of housing sector.
  - The target should be expanded to various vulnerable groups such single aged people, handicapped people and mother-child family.
  - The public sector shall promote private participation to this filed as much as possible with provision of certain incentives.
- Structure of Strategy:
  - Expansion of Private Housing Business to serve Lower Income Groups (P31)
  - Enhancement of Mortgage Service to Lower-Middle Income Groups (P32)
  - Strengthening of Financial Sustainability for Public Housing and Community Projects (P33)
  - Introduction of Private Collaboration in Safety Net Services (P34)
  - Introduction of Reverse Mortgage (P35)

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- Program:
  - Expansion of Private Housing Business to serve Lower Income Groups (PRO 3-1)
    - Revision (expansion) of BOI scheme
    - Revision (cost down) of low-cost housing project
  - Enhancement of Mortgage Service to Lower-Middle Income Groups (PRO 3-2)
    - Introduction of public credit guarantee corporation
    - Introduction of "Property Accumulation Saving" system
  - Strengthening of Financial Sustainability for Public Housing and Community Projects (PRO 3-3)
    - Expansion of fund in CODI
    - Donation from private sector through public relations
  - Introduction of Private Collaboration in Safety Net Services (PRO 3-4)
    - Collaboration with NGOs
    - Collaboration with private businesses
  - Introduction of Reverse Mortgage (PRO 3-5)
    - Review of Reverse Mortgage system
    - Confirmation of Asset evaluation system
    - Countermeasures on changes of value of house

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Strategy 4:
Improvement of Living Environment in Residential and Urban Areas

- Objectives:
  - To improve quality of house to be sufficient for 2nd hand use
  - To improve living environment at residential area
  - To improve urban structure through improving accessibility of residential areas to the public transport
- Structure of Strategy:
  - Urban Development in Suburban Area (PRO 4-1)
  - Acceleration of Urban Redevelopment in Urbanized Area (PRO 4-2)
  - Improvement of Physical Aspects of Houses for Re-use (PRO 4-3)
  - Improvement of Residential Area Management (PRO 4-4)

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Slide 56

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Slide 57
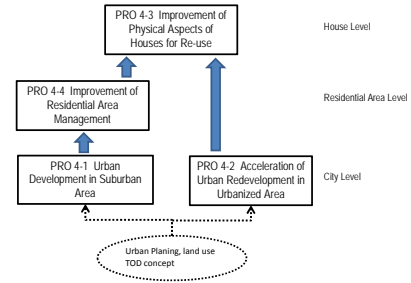
- Program:
  - Urban Development in Suburban Area (PRO 4-1)
    - New town development projects along urban railway lines with MRTA/SRT
    - Deregulation of land use at focal areas
    - Station Plaza development at suburban areas
  - Acceleration of Urban Redevelopment in Urbanized Area (PRO 4-2)
    - Effective use of public lands in urbanized areas
    - Introduction of integrated urban redevelopment scheme
  - Improvement of Physical Aspects of Houses for Re-use (PRO 4-3)
    - Up-grade of housing construction technology and standard
    - Establishment of housing assurance system
    - Research & Development in houses in Easy Renovation
  - Improvement of Residential Area Management (PRO 4-4)
    - Revision in Services and Rules of Asset Management Cooperatives (AMC)
    - Expansion of AMC to residential areas
    - Countermeasures on vacant houses

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Slide 58

Structure of Goal, Strategy and Program

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Slide 59

Implementation Schedule

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- Short-term:
  - PRO 1-1: Establishment of Housing and Urban Development Board (HUDB)
  - PRO 1-2: Establishment of New Organization responsible for Housing Administration
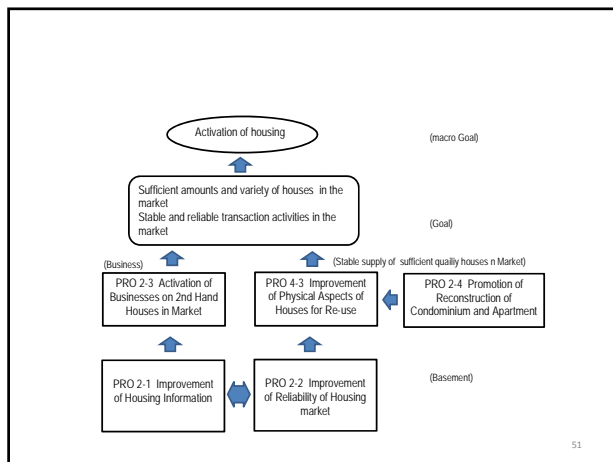 - PRO 1-3: Strengthening of Urban Development Project Management Function of NHA
  - PRO 4-1: Urban Development in Suburban Area

  - PRO 4-2: Acceleration of Urban Redevelopment in Urbanized Area
  - PRO 2-2: Improvement of Reliability of Housing Market
  - PRO 2-3: Activation of businesses on 2nd-Hand Houses in Market
  - PRO 2-4: Promotion of Reconstruction of Condominium and Apartment
  - PRO 3-3:Strengthening of Financial Sustainability for Public Housing and Community Projects

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1. Outline of the Study

1.1 Background of the Study

(1) Current Housing Situations in Thailand

As of 2010, Thailand had a population of 66 million living in more than 20 million households. Between 2000 and 2010, Thailand's population grew by an average of 0.80% per year, slightly slower than the average annual growth rate of 1.1% per year experienced between 1990 and 200. At the same time, the number of households increased by 2.5% per year (2000 to 2010), nearly identical to growth experienced between 1990 and 2000 of 2.5% per year. The average household size in 2010 was 3.1 persons, down from 3.8 in 2000 and 4.4 in 1990.

Thailand's total housing supply in 2010 stood at 21,682,000 units. At present housing supply and housing demand are near equilibrium, with no obvious glut of supply and no pent up demand. Approximately 20% of the nation's housing supply is location in the Bangkok Metropolitan Region (BMR), with the remaining 80% located in other regions. Nationwide, detached houses are the most common housing type, representing approximately 73% of all housing units, followed by Townhouses at 18% of supply and 9% of other types, including Condominiums and Apartments.

Bangkok, the BMR and parts of the Central Region have a larger proportion of urban residents than Thailand as a whole. These urban areas have a different housing mix than relative to the country as a whole, with a lower proportion of detached housing and a higher percentage of Townhouses and Condominiums. Based on the results of the Study Team's analysis, "Own" and "Detached" housing units are, generally speaking, the traditional preference of Thai people. However, this is quickly changing in Bangkok and looks to be on the verge of changing in major provincial centers as private sector developers pursue condominium development both in upcountry locales like Chiang Mai, Khon Kaen, and Nakhon Ratchasima as well as in holiday destinations such as Hua Hin and Pattaya.

In terms of housing supply, the private sector has provided roughly 96% of the total current stock since 1973. Of the nearly 22 million housing units nationwide, only between 670,000 and 760,000 units have been completed by the NHA, CODI, and other public housing providers.

(2) Housing Policy in Thailand

National government initiatives and policies to provide lower- and middle-income groups with affordable housing began in the early 1960s. These early policies had three primary objectives:

1. Improving the living environment for low income families,

2. Supplying houses for middle and lower income families, and

3. Financially supporting increased housing ownership.

At present, the National Housing Authority (NHA) and the Government Housing Bank (GHB) are the main actors that implement housing policies of the Thai Government. The NHA is mainly responsible for supplying houses (for sale and for rent), as referred to above, which now account for about 5% of total housing stock nationwide, supporting objectives #1 and #2.

The GHB is mainly responsible for providing housing loans with relatively generous conditions. According to the Study Team's analysis, approximately 38% of families have used GHB loans to purchase housing units at one time or another since the bank's establishment.

In 2007, the Thai Government formulated a new national housing strategy to strengthen government influence in the housing sector. The strategy aims at improving quality of housing units and improving the quality of life for residents and local communities through cooperation between both the public and private sectors, as well as local people using the following seven strategies:

1. Establishment of National Housing Policy Committee to lead housing policy development,

2. Land development policies to support residential area development by the public sector – including the allocation of additional funds from the national budget to be transferred to local governments,

3. Enhancement of financial and loan systems to support home ownership for all income groups,

4. Capacity improvement of center function of housing development and management,

5. Improvement of knowledge and technology regarding housing,

6. Improvement of quality of housing units and lives of Thai people,

7. Set-up of standards/specifications to ensure high-quality housing development.

Under the new strategy, the Thai Government has established the National Housing Policy Committee along with three technical sub-committees to improve policy implementation in the housing sector. However at present, both the main committee and the technical sub-committees are dysfunctional due to unclear responsibilities with regard to administration and authority.

In recent years, the Thai Government has implemented the "One Million House Project" which aims at providing one million housing units for middle and lower income families. The NHA, CODI and GSB are the primary actors driving the program. These three organizations facilitate new housing construction by setting standards, acquiring land, and hiring local contractors to build housing developments. Through such a public-private partnership (PPP) method, the government is able to provide new housing units by using market mechanisms. Thus far, about 270,000 units of mainly three-to-four storey walk-up apartment buildings have been developed (through 2009).

One unique component of the BEA project is that it serves as a trial for the management of residential areas by the community. Given its scope and methods, the BEA project has many implications for revising and/or drafting new housing policies and residential area management methods.

(3) Requirements on Housing Policy reflecting Change of Socio-economy in Thailand

Thailand has experienced several socio-economic changes in recent decades. One of large change is the success of the national economy. Thailand has experienced continuous economic growth since the 1980s, resulting in its current position as a middle-income developing country. In accordance with economic growth, personal and household income levels (or disposable earnings) are generally higher and poverty levels (or proportion of poor people) are lower. The second change has to do with the changing family structure. Household sizes continue to decrease as birth rates drop, the number of aged persons increases while lifestyle preferences in

urban areas. For example, in the Bangkok Metropolitan Region (BMR), construction of expressways to suburban areas has facilitated large-scale detached home development while investment in mass rapid transit system in central Bangkok has driven demand for condominium units and apartments that are near transit stations.

As most of Thailand's population will be considered "middle income" in the near future as the economy grows, future housing policies should expand the scope to new target groups and carefully consideration potential future socio-economic changes.

Accordingly, the Japan International Cooperation Agency (JICA) has agreed to carry out this housing sector study in Thailand in cooperation with the NHA to support future housing policy development.

1.2 Objective of the Study

(1) Objectives

Recognizing the above circumstances, the Study is to be carried out with the following two objectives:

- Collecting data and carrying out analyses on the current status of the housing sector in Thailand including damages from the severe flooding experienced in late 2011.

- Formulation of housing policies and implementation procedures to respond to the needs of lower-income, socially-vulnerable groups while considering effective utilization of market mechanisms, based on the review of housing policy in foreign countries.

The Study Team will carefully consider how to best utilize the results of the study for application in other ASEAN countries.

(2) Expected Outputs

The Study is expected to produce the following outputs:

- Recommendations for future housing policies, institutions and organizations in Thailand,

- Future policies, institutions and organizations for supplying houses to lower-income groups,

- Identification of key issues and policies, institutions and organizations that can be applied to that Thai case, including private-sector participation in housing development, and the implementation, management schemes and utilization of Japanese house policy experiences.

1.3 Framework of the Study

(1) Target Area

To examine housing situations in Thailand, the Study divides the nation into three study areas of analysis that include: (1) Bangkok and its vicinity, (2) Regional cities, and (3) Rural areas. Rural areas are considered in the housing demand and supply analysis, but housing policy recommendation only target (1) Bangkok and its vicinity and (2) Regional cities.

The Study Team will investigate housing conditions, current problems and issues in Regional cities as well. The Regional cities to be investigated have been selected based on discussions between the Study Team and the NHA.

(2) Target Year

The Study has selected the year 2010 as the base year, and the year 2030 as a target year to carry out its housing demand and supply analysis.

1.4 Study Team

The Study Team consists of three experts, which is shown in the table below.   The Study Team, headed by Mr. Atsushi Saito, is organized by International Development Center of Japan with Pacet Corporation.

Assignment	Name	Firm
Team Leader / Housing Development Planning	Mr. Atsushi Saito	IDCJ
Deputy Team Leader / Housing Demand Supply Analysis	Mr. Hiroshi Yoshimura	IDCJ
Housing Policy and Institutions	Mr. Yasunori Nagase	Pacet

Note: IDCJ = International Development Center of Japan

2. Housing Sector in Thailand

2.1 Current Socio-Economic Conditions in Thailand

Thailand has been experienced rapid economic growth since 1980s, with the national economy growing by more than 5% per year in real terms between 1981 and 2010. As a result of the rapid economic growth, numerous changes have taken place with the nation's population and household structure.

2.1.1 Economy

In accordance with the overall rapid growth experienced since 1980s and despite the economic shocks in the late 1990s and late 2000s, Thailand's economic growth remains robust, growing by approximately 4.6% per year in real terms between 2000 and 2010. Table 2.1 below provides a regional snapshot of economic growth between 2000 and 2010.

Table 2.1: Economic Growth of Thailand

(million baht, 2002 constant price)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Bangkok	1,834,254	1,937,121	2,008,907	2,113,910	2,263,581	2,380,709	2,451,473	2,499,283	2,510,192	2,459,087	2,606,808
Vicinities	773,563	818,863	847,555	908,027	966,657	989,965	1,081,182	1,210,587	1,229,108	1,201,651	1,385,239
Central exclude BKK & Vicinity	1,239,728	1,261,796	1,408,755	1,546,725	1,668,388	1,767,617	1,879,903	2,034,358	2,130,172	2,066,257	2,250,464
Northern	405,471	408,613	445,647	482,505	487,974	510,433	519,423	536,091	538,791	541,649	556,337
Northeastern	490,701	494,757	526,093	569,850	582,463	589,103	620,292	650,198	645,448	682,529	708,665
Southern	499,037	503,999	522,471	551,712	596,479	606,350	641,706	652,812	655,386	659,549	703,788
GDP	**5,242,754**	**5,425,150**	**5,759,428**	**6,172,729**	**6,565,542**	**6,844,178**	**7,193,978**	**7,583,329**	**7,709,096**	**7,610,722**	**8,211,301**
Growth Rate (%)	4.4%	3.5%	6.2%	7.2%	6.4%	4.2%	5.1%	5.4%	1.7%	-1.3%	7.9%
GDP Per capita (Baht)	84,240	86,338	90,815	96,476	101,742	105,135	109,708	114,828	115,958	113,758	121,987
Population (1,000 persons)	62,236	62,836	63,419	63,982	64,531	65,099	65,574	66,041	66,482	66,903	67,313

Source: National Statistical Office Website

Most of Thailand's economic growth, particularly in recent years, has come from the success of its manufacturing and service industries. As most economic activity in these industries is clustered in Bangkok and its surrounding areas, there exist significant regional income disparities as described in Figure 2.1 below.
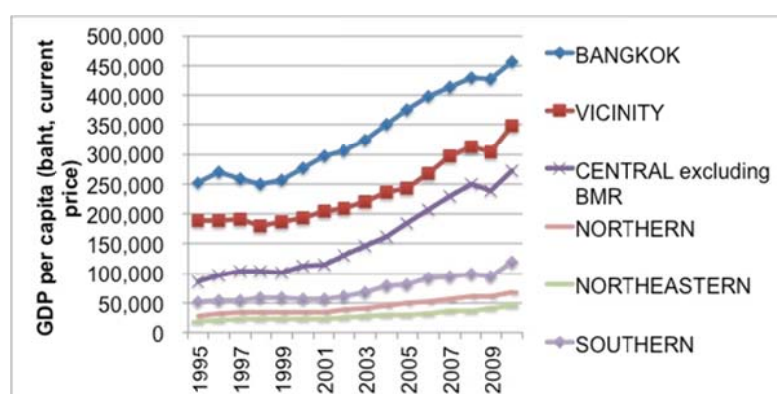
Source: National Statistical Office Website

Figure 2.1: GDP per Capita in Region

2.1.2 Population and Households

Thailand's economic growth has brought about changes in the number, structure and distribution of the country's population and households. Major changes are highlighted below, along with the data presented in Table 2.2:

- **Slowing Population Growth:** The overall population growth rate decreased from 1.1% per year during 1990s to 0.8% between 2000 and 2010;

- **Increasing Concentration of Population and Households in the BMR**: In 2010, the BMR accounted for 22% of the nation's population and 25% of the nation's households, up from 16% and 18% respectively, in 2000;

- **Increasing Urbanization**: In 2010, about 44% of Thailand's population lived in urban areas, up from just 31% in 2000.

- **Increasing Aged Population**: The number of people aged 60 years and over accounted for 13% of the national population in 2010, up from just over 9% in 2000.

- **Decreasing Household Size**: The average household size in 2010 was 3.1 persons, down from an average of 3.8 persons in 2000.

Table 2.2: Population and Household

	1990	2000	2010	1990-2000	2000-2010
Population (000)					
Bangkok	5,882	6,355	8,305	0.8%	2.7%
Vicinity	2,708	3,804	6,321	3.5%	5.2%
Central excluding Vicinity	69,369	10,411	11,862	1.1%	1.3%
North	10,584	11,433	11,656	0.8%	0.2%
Northeast	19,039	20,825	18,966	0.9%	-0.9%
South	6,967	8,087	8,871	1.5%	0.9%
Whole Kingdom	54,549	60,916	65,982	1.1%	0.8%
Urban population ratio (%)					
Bangkok	100%	100%	100%		
Vicinity	47%	50%	55%		
Central excluding Vicinity	27%	29%	41%		
North	21%	21%	35%		
Northeast	15%	17%	29%		
South	20%	23%	33%		
Whole Kingdom	29%	31%	44%		
Population 60 and over (%)					
Bangkok	6.0	7.9	10.4		
Central	8.6	9.9	10.0		
North	8.4	11.2	14.8		

Northeastern	6.4	8.8	14.8	
South	7.6	9.5	11.9	
Whole Kingdom	7.4	9.4	13.0	
Number of household (000)				
Bangkok	1,334	1,740	2,869	2.7%	5.1%
Vicinity	601	1,095	2,207	6.2%	7.3%
Central excluding Vicinity	2,208	2,812	3,713	2.4%	2.8%
North	2,622	3,181	3,741	2.0%	1.6%
Northeast	4,029	5,051	5,340	2.3%	0.6%
South	1,523	1,998	2,494	2.8%	2.2%
Whole Kingdom	12,318	15,877	20,364	2.6%	2.5%
Household size (person/ HH)				
Bangkok	4.4	3.7	2.7	
Vicinity	4.3	3.5	2.7	
Central excluding Vicinity	4.2	3.7	3.1	
North	4.0	3.6	3.0	
Northeast	4.7	4.1	3.5	
South	4.5	4.0	3.4	
Whole Kingdom	4.4	3.8	3.1	

Source: National Statistics Office (NSO): Population and Household Census, 1990, 2000, and 2010

2.1.3 Household Income

Household income, expenditures, and debt have all steadily increased over the last decade in all regions of Thailand, yet the regional disparities remain obvious. Table 2.3 below describes monthly household income and expenditure, and household debt by region.

Table 2.3: Household Income & Expenditure and Debt

	2000	2009	2000	2009
Average Monthly HH Income (baht/month/HH)				
Greater Bangkok	25,242	37,732		
Central Region	13,012	20,952		
Northern Region	8,652	15,727		
Northeastern Region	7,765	15,358		
Southern Region	11,186	22,926		
Whole Kingdom	12,150	20,903		
Average Monthly HH Expenditure (baht/month/HH)			**Expenditure/ Income**	
Greater Bangkok	19,582	27,988	78%	74%
Central Region	10,389	17,107	80%	82%
Northern Region	7,318	12,051	85%	77%
Northeastern Region	6,546	12,260	84%	80%
Southern Region	9,268	17,299	83%	75%
Whole Kingdom	9,848	16,205	81%	78%
Average Debt per HH (baht/HH)			**Debt/ Income**	
Greater Bangkok	126,527	199,698	5.0	5.3
Central Region	69,579	131,902	5.3	6.3
Northern Region	56,199	119,726	6.5	7.6
Northeastern Region	52,494	118,308	6.8	7.7
Southern Region	54,136	127,220	4.8	5.5
Whole Kingdom	68,405	134,699	5.6	6.4

Source: NSO – Annual Socio-Economic Surveys, 2000 and 2009

Table 2.3 suggests that as household income grows, the proportion of expenditure as a percentage of income decreases except in Greater Bangkok. This implies that the households in Greater Bangkok have less surplus money, perhaps owing to higher costs of living. Notably, the ratio of debt to income at the national level has increased from 5.6 times in 2000 to 6.4 times in 2009.

Table 2.4 below describes the average and median household incomes in Greater Bangkok and at the national level. In both cases, median income levels are well below average income levels, suggesting that both in Greater Bangkok and in Thailand, the majority of income and wealth are

concentrated in the upper brackets.

Table 2.4: Household Income: Average and Median

	Average Monthly HH Income (baht/month/HH)		Median of HH Income (baht/month/HH)	
	2000	2009	2000	2009
Whole Kingdom	12,150	20,903	7,500	12,500
Greater Bangkok	25,242	37,732	17,000	23,500

Source: NSO – Annual Socio-Economic Surveys, 2000 and 2009

Supporting this conclusion is the fact that in 2009, Thailand's median household income was 12,500 baht/month/HH, or roughly 60% of average income levels. Despite persistent income inequality, the number of medium income persons and households increased while the proportion of low-income households to all groups decreased.

Specifically, the proportion of the medium income household group to all groups increased from 19 % in 2000 to 37 % in 2009 for Thailand as a while and from 44 % in 2000 to 54 % in 2009 in Greater Bangkok. Figure 2.2 describes the shift in household incomes between 2000 and 2009.
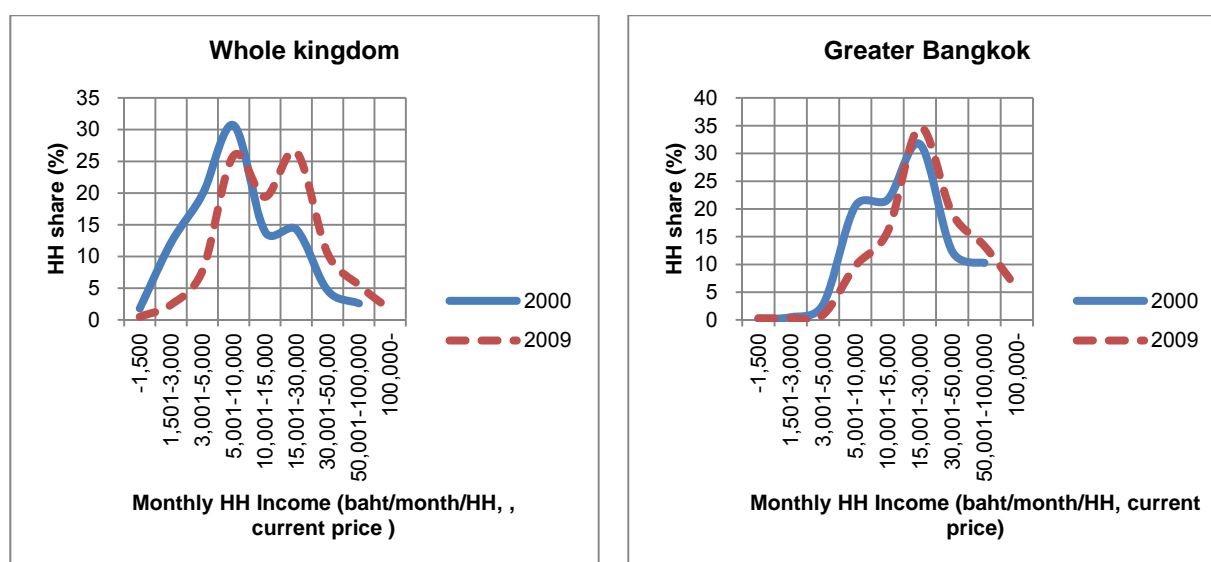
Source: NSO - Household socio-economic survey, 2000, 2009.

Figure 2.2: Monthly Household Income Compared

The end result is that the number of households who can be categorizes as potential home-buyers has increased by a large margin in the last decade. As roughly one-third of the medium income group resides in the Greater Bangkok area, this group could be a target demographic for future housing policies.

Table 2.5: Share of Household by Income Group

(current price)

HH Income	Income range (baht/HH/month)	Whole kingdom				Greater Bangkok			
		2000		2009		2000		2009	
		Share (%)	Coverage (%)	Share (%)	Coverage (%)	Share (%)	Coverage (%)	Share (%)	Coverage (%)
Low	- 15,000	78	78	56	56	46	46	27	27
Medium	15,001 - 50,000	19	97	37	93	44	90	54	81
High	50,001 - 100,000	3	100	7	100	10	100	19	100

Source: NSO - Household socio-economic survey, 2000, 2009

2.2 Housing in Thailand

2.2.1 Housing Unit and Housing Supply

(1) Housing Stock

1) Housing Unit

The number of housing units has increased nationwide in line with growth in the number of households.   At the national level, the number of housing units increased from 16.6 million in 2000 to 21.7 million in 2010. On average, about 500,000 new housing units are built in Thailand every year. The BMR has accounted for roughly 20% of new housing stock, with the fastest growth experienced in suburban Bangkok (see Table 2.6).

Table 2.6: Housing Stock

	2000	2005	2010	Annual change rate 1990-2000 (%)
Bangkok	1,901,510	2,091,558	2,400,540	2.4%
BMR excl. BKK – Suburban BKK	1,396,861	1,678,853	2,051,000	3.9%
Central excluding BMR	3,097,892	3,642,889	4,244,683	3.2%
North	3,360,657	3,762,770	4,134,288	2.1%
Northeast	4,732,880	5,350,332	5,939,879	2.3%
South	2,070,370	2,484,891	2,911,245	3.5%
Whole Kingdom	16,560,170	19,011,293	21,681,635	2.7%

Source: Ministry of Interior by NSO Website

2) Housing Type

Between 2000 and 2010, the housing stock has noticeably diversified. Table 2.7 below describes the types of housing stock in 2000 and 2010 by region.

Table 2.7: Housing Stock by Type

	Whole kingdom					Bangkok		Central		North		Northeast		South	
	2000	Share 2000 (%)	2010	Share 2010 (%)	Index 2000-10 (2000=1)	2000 (%)	2010 (%)	2000 (%)	2010 (%)	2000 (%)	2010 (%)	2000 (%)	2010 (%)	2000 (%)	2010 (%)
Total	15,726,144	100	20,328,504	100	1.29										
Detached house	12,474,864	79	14,934,919	73	1.20	32	32	71	62	92	90	94	93	79	81
Town house/ row house	2,485,689	16	3,592,638	18	1.45	45	35	23	27	6.4	7.3	5.0	4.6	19	18
Condominium / apartment	467,023	3.0	1,714,440	8.4	3.67	16	31	3.7	10	0.5	3.0	0.3	2.0	0.9	1.2

Note: Shop house is classified in Town house/row house.
Source: Population and household census, 2000 and 2010

In 2010, detached housing accounted for 73% of Thailand's housing stock. Yet, since 2000, both Townhouses and Condominiums (and Apartments) have become more popular, as measured by their share of total housing stock. Demand for Condo and Apartment units has grown fastest since 2000, growing three times faster than demand for detached housing and more than twice as fast as demand for Townhouses. The trend towards multi-family housing is readily apartment throughout Bangkok and the Central Region, where the share of Condos and Apartments has increased from 16% to 31% and from 3.7% to 10% respectively.

As Thailand's economy has grown and its population is rapidly moving to urban areas, demand for land for housing development has increased throughout the country. Accordingly, the price of

detached housing has risen, driving many people to chose more economical Condominium or Apartment units, especially in Bangkok and the Central Region.

3) Home Ownership

Table 2.8 below describes home ownership by region in 1990, 2000, and 2010 according to the decennial Census carried out by Thailand's National Statistics Office (NSO). In line with increasing migration to urban areas in Bangkok, its vicinity and the Central Region and higher costs of living in these areas, the rate of home ownership has fallen more rapidly than other parts of Thailand, as many new residents finding that renting is both more economical and preferable to owning.

Table 2.8: Home Ownership by Region

	1990	2000	2010
Households with ownership (%)			
Bangkok	61	56	50
Vicinity	78	63	59
Central excluding Vicinity	87	80	74
North	93	90	88
Northeast	94	93	92
South	87	82	83
Whole Kingdom	87	82	77

Source: NSO - Population and Housing Census, 1990, 2000, 2010

(2) Housing supply

As mentioned above, roughly 500,000 new housing units are added to the national supply each year. The table below describes the total number of housing units by region and those supplied by the public sector. In the whole country, 3.5% of housing units have been supplied by the public sector. Many of these public housing units are located in the BMR.

Table 2.9: Housing Supply by Region and Type of Provision

	Total Housing Unit	Public Housing			
		NHA	CODI	Total	Share (%)
Bangkok & Vicinity	4,451,540	524,267	11,104	535,371	12.0%
Central exclud. BMR	4,244,683	71,300	9,098	80,398	1.9%
North	4,134,288	49,460	2,711	52,171	1.3%
Northeast	5,939,879	50,733	4,609	55,342	0.9%
South	2,911,245	33,288	3,747	37,035	1.3%
Whole Kingdom	21,681,635	729,048	31,269	760,317	3.5%

Note: Housing supplied by CODI is according to CODI.
Source: Ministry of Interior by NSO Website, NHA, CODI

Given its large share of population, households, and contribution to the national economy, the BMR has been the most dynamic area in Thailand's housing sector. Figure 2.3 on the next page illustrates recent trends in new completed and registered housing units in the BMR and is considered to be representative of new supply. Unfortunately, data at this level are only available for the BMR and are not collected nationwide.

In the long run, new housing supply has fluctuated year by year. In 1995, during the height of both Thailand's and the BMR's real estate boom, about 180,000 new housing units were built each year. However, in the wake of the 1997 Asian Financial Crisis, the market underwent a period of inventory adjustment from 1999 to 2002, when an average of only 30,000 new housing units came online each year. Since 2003, the market has steadily recovered, with between 60,000 and 100,000 new housing units being supplied annually. Notably, the results of the Study

Team's analysis suggests that the cycle of new housing supply is one to two years behind the economic cycle. Thus the newly supplied housing is largely affected by the business cycle.
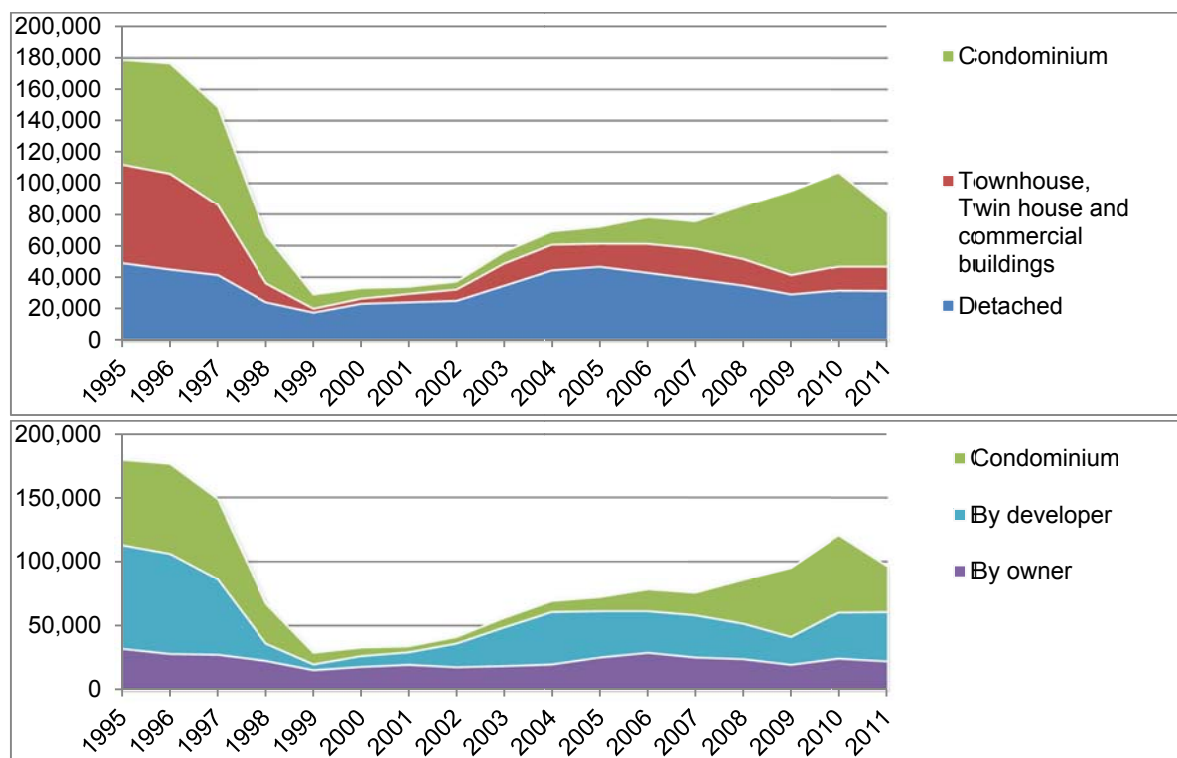
Source: Real Estate Information Center (REIC), 1012

Figure 2.3: Newly Completed and Registered Housing Units in BMR

Taking a closer look at Figure 2.3 suggests that the supply of detached housing is relatively stable regardless of the business cycle. However, it is apparent that the supply of condominiums is more susceptible to changes in the economy. Importantly, the number of housing units built by owner is more stable than those units built by developers regardless of the economy (see bottom of Figure 2.3).

Detached houses, especially built by owners are obviously for living purpose. Those houses for living purpose is supplied steadily. The supply of housing units by developers, especially condominium, is fluctuated affected by business cycle. Those types of housing units are used for not only living purpose but also investment purpose. Those types of housing units attract speculative investment for individuals and businesses.

(3) Housing Balance

Table 2.10 compares the number of housing units and households by region. This comparison shows the housing balance by region, assuming that each household needs one house. At the national level, the number of housing units number exceeded the number of households by 680,000 in 2000. Excess supply nearly doubled to 1.3 million units by 2010. As a result, it is assumed that there is no unmet demand for housing at the aggregate, national level.

However, when examined region by region, it appears that there are some different trends. For example, in the South Region, the number of housing units was not enough to meet household demand in 2000, though by 2010, new supply came online to meet demand. In the BMR, the number of households grew far faster than the number of housing units between 2000 and 2010. As a result, there may yet be unmet demand in the BMR area.

Table 2.10: Housing Unit and Household

	2000			2010		
	Housing Unit (A)	Household (B)	(A)-(B)	Housing Unit (A)	Household (B)	(A)-(B)
Bangkok	1,901,510	1,740,024	161,486	2,400,540	2,846,049	-445,509
BMR excluding BKK	1,396,861	1,094,783	371,544	2,051,000	2,256,088	-205,088
Central	3,097,892	2,811,747	286,145	4,244,683	3,692,600	552,083
North	3,360,657	3,181,130	179,527	4,134,288	3,733,084	401,204
Northeast	4,732,880	5,051,100	-318,220	5,939,879	5,316,846	623,033
South	2,070,370	1,998,358	72,012	2,911,245	2,483,837	427,408
Whole kingdom	16,560,170	15,877,142	683,0284	21,681,635	20,328,504	1,353,131

Source: Housing unit: Ministry of Interior by NSO Website
Household: NSO - Population & Household Census, 2000 and 2010

2.2.2 Housing Market

This section provides an overview of the housing market by describing the housing stock and flow of housing units in the country and capturing the number of housing units by describing a life cycle of housing unit.

(1) Stock and Flow of Housing Units

The stock and flow of housing units in the whole country is shown in Figure 2.4. In 2010, Thailand's total housing stock consisted of roughly 22 million units. Out of the existing stock, 450,000 units have been demolished each year, and one million new units are constructed annually[1]. Thus between 2000 and 2010, the number of new net housing units is roughly 550,000 each year.
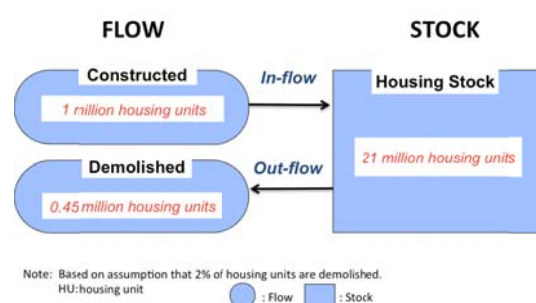
Source: Figure of housing unit: Ministry of Interior by NSO Website

Figure 2.4: Stock and Flow of Housing Unit in the Whole Kingdom

The typical housing unit life cycle is illustrated in Figure 2.5. Every housing unit constructed is registered in the existing system. After being registered, there are two routes. Some houses constructed by owners are utilized by owners; and others constructed by developers are supplied to the housing market for sale. Sold units are transferred to the new owners.

In addition, some of housing units utilized by owners are supplied to the second-hand housing market for sale. Sold housing units are then transferred to the new owner.

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[1] Based on the assumption of 2 % of housing units demolished annually.

In the BMR, an average of 100,000 new housing units were built annually between 2009 and 2011. Each year individuals build about 20,000 units while developers build about 80,000 units. Housing units by developers are sold to the market. About 165,000 units are transferred annually in the BMR. If all newly-built houses are sold in the same year, it is estimated that the second-hand market sees roughly 75,000 transactions annually in the BMR.

(2) Housing Market

Table 2.11 describes the BMR's housing market in terms of housing supply, market supply and sales. The overall housing market consists of a market for newly built housing and another market for second-hand housing. Newly constructed housing units by developers are sold in the newly built housing market. Newly constructed housing units by owners are utilized by owners for the time being and sold in the second hand market.
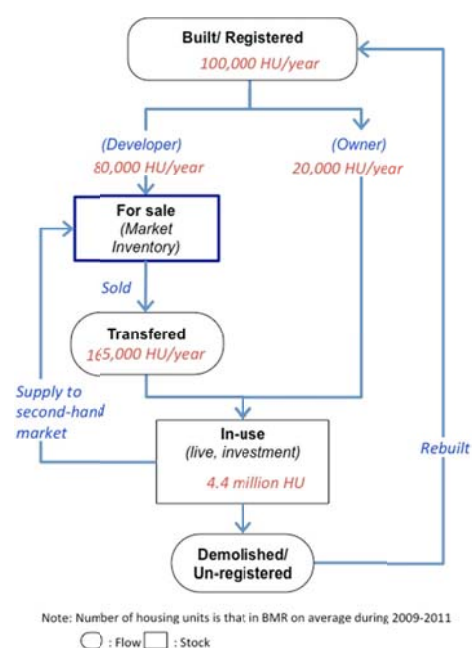
Source: Number of housing unit: REIC, 2012

Figure 2.5: Life Cycle of Housing Unit

Table 2.11: Housing Market in BMR: Newly Constructed, Market Supply and Sales (Units)

	Type	2010	2011	2012	2010-12 Average	Share
Newly completed & registered units	Total	106,893	81,856	111,875	100,208	
By developers ([1])	**Total**	**84,395**	**61,728**	**88,378**	**78,167**	
	Low rise	24,476	26,994	23,662	25,044	
	Condos	59,919	34,734	64,716	53,123	
By owners ([2])	Low rise	22,498	20,128	23497	22,041	
Unsold previous new-constructed houses at the beginning of year [3]	**Total**	**81,779**	**98,861**	**107,000**	**95,880**	
	Low rise	54,028	62,981	62,144	59,718	
	Condos	27,751	35,880	44,856	36,162	
New housing unit supplied in the market ([4]=[1]+[3])	**Total**	**166,174**	**160,589**	**195,378**	**174,047**	
	Low rise	78,504	89,975	85,806	84,762	
	Condos	87,670	70,614	109,572	89,285	
Transferred housing unit						
New house transferred [5]	**Total**	**90,081**	**80,693**	**89,692**	**86,822**	53.0%
	Low rise	43,906	39,136	43,675	42,239	43.5%
	Condos	46,175	41,557	46,017	44,583	66.7%
Second-hand transferred [6]	**Total**	**93,679**	**70,669**	**66,625**	**76,991**	47.0%
	Low rise	66,413	51,935	45,961	54,770	56.5%
	Condos	27,266	18,734	20,664	22,221	33.3%
Transferred total [7]=[5]+[6]	**Total**	**183,760**	**151,362**	**156,317**	**163,813**	100.0%
	Low rise	110,319	91,071	89,636	97,009	100.0%
	Condos	73,441	60,291	66,681	66,804	100.0%
Value of transferred total (million baht)	Total	400,471	320,173	357,148	**359,264**	
	Low rise	235,816	203,160	221,476	220,151	
	Condos	164,655	117,013	135,672	139,113	

Source: REIC, 2013

The housing market in BMR is overviewed as follows.

New housing market:
- The number of newly built units in the BMR is between 60,000 and 100,000 each year,
- Unsold units built in the previous year amount to 80,000 to 110,000 units annually. Thus the total market supply in the newly built housing market is 140,000 to 210,000 units,

- Out of these supplies, 80,000 to 90,000 units are sold and transferred.

Second hand housing market:
- Total market supply in the second hand housing market is between 300,000 and 400,000 units according to different sources obtained by the Study Team.

- Out of this supply, 60,000 to 100,000 housing units are sold and transferred annually. Approximately 30% of second hand housing units are traded through property agents. Notably, the second hand market size is increasing after the flooding experienced in late 2011.

Both housing markets:
- The number of housing units available on both markets in the BMR at any given time is between 450,000 and 600,000,

- Housing demand is revealed as effective demand when houses are sold. Housing sales are a proxy of the housing demand. Between 2009 and 2011, demand totaled some 150,000 to 190,000 units accounting for 360 billion baht in transactions.

- Newly built housing units accounted for about 53% of all sales in the BMR between 2009 and 2011. Newly built housing accounts for 44% of sales in low-rise housing units and 67% in the condominium market.

The overview of the housing market in BMR is shown in the figure below.
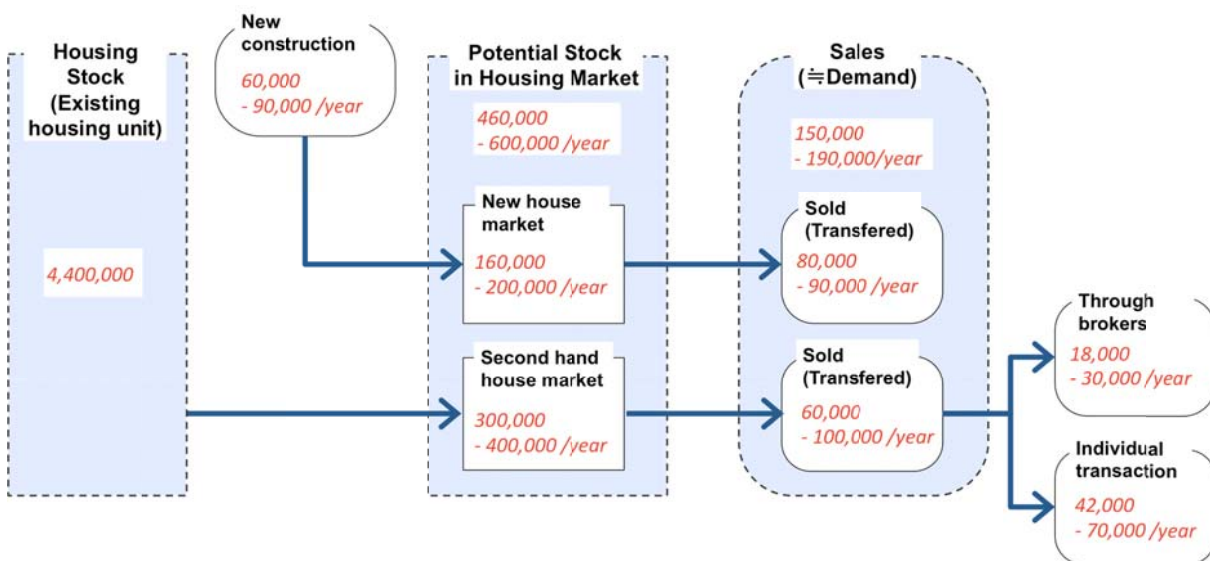
Note: Housing unit umber: housing unit in BMR.
Source: Ministry of Interior by NSO Website; Second hand housing market: based on the interview by JICA Study Team.

Figure 2.6: Overview of Housing Market in BMR

2.3 Housing Development in Bangkok and Vicinity Provinces

2.3.1 Expansion of Urban Area

Urban expansion in the Bangkok Metropolitan Region (BMR) has undergone tremendous growth in the last decade. The construction of new expressways and rising incomes facilitating rapidly increasing rates of vehicle ownership have pushed the scope of the BMR's urban area to as far

as 60 kilometers from the center of Bangkok. Figure 2.7 illustrates this trend through analyzing the amount of visible light during the night-time in 2000 and 2010.
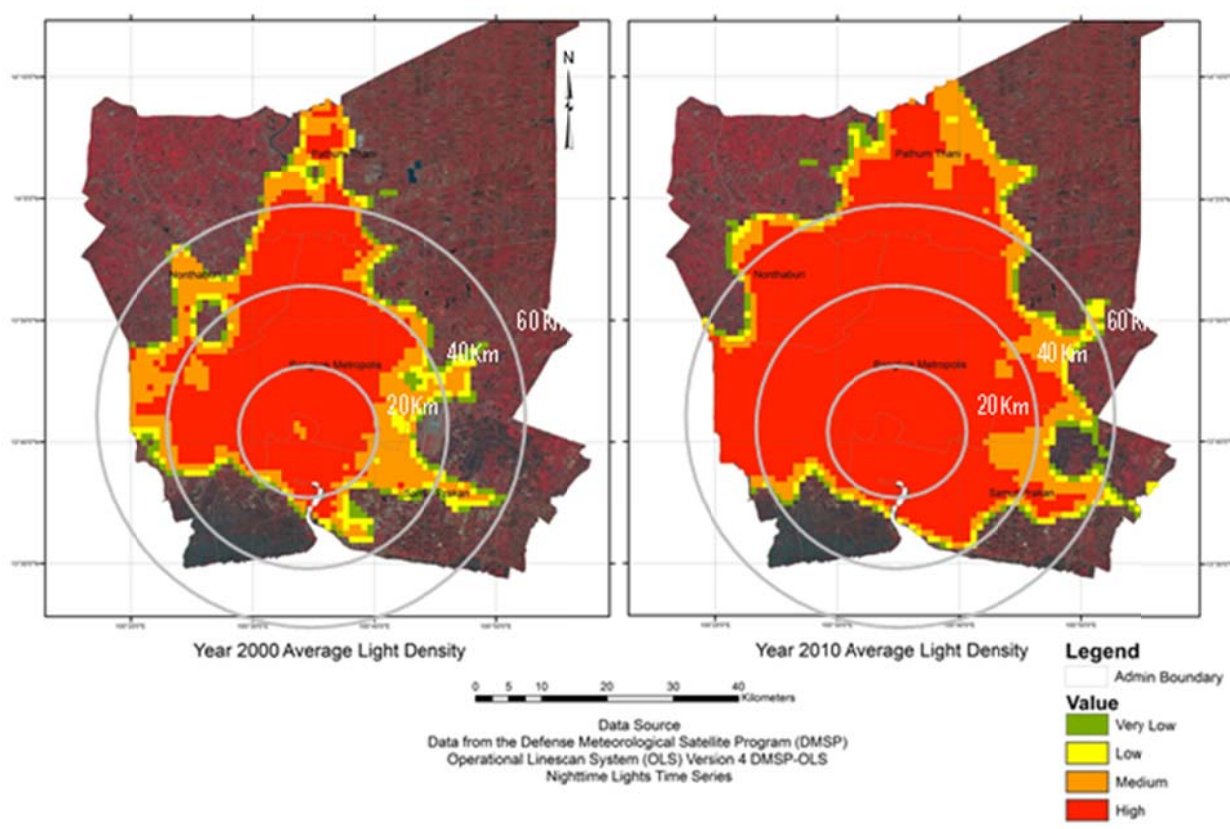
Source: DMSP analysis, JICA Study Team

Figure 2.7: Stable Night Light Area in 2000 and 2010

In 2000, most of the BMR's developed areas lay within a 40-kilometer radius of the center of Bangkok. By 2010, most of the area within a 60-kilometer radius exhibited signs of intense urban development. Notably, urban development now extends north beyond the 60-kilometer boundary owing to the extensive industrial developments and corresponding transport linkages in Ayutthaya, which lies immediately north of the BMR.

Figure 2.8 highlights the trend towards rapid suburbanization of the BMR through a remote sensing analysis of LANDSAT imagery of the region that compares images captured in 1999 and again in 2009. Yellow shading in Figure 2.8 illustrates the areas newly urbanized between 1999 and 2009. It is likely that the BMR's developed, urban area will continue to expand in the future as residents seek more living space in a more peaceful environment, however physical expansion may increase at a slower rate in the next 10-20 years as investments in mass rapid transit in central and inner suburban Bangkok drive demand for Condominium and Apartment development.
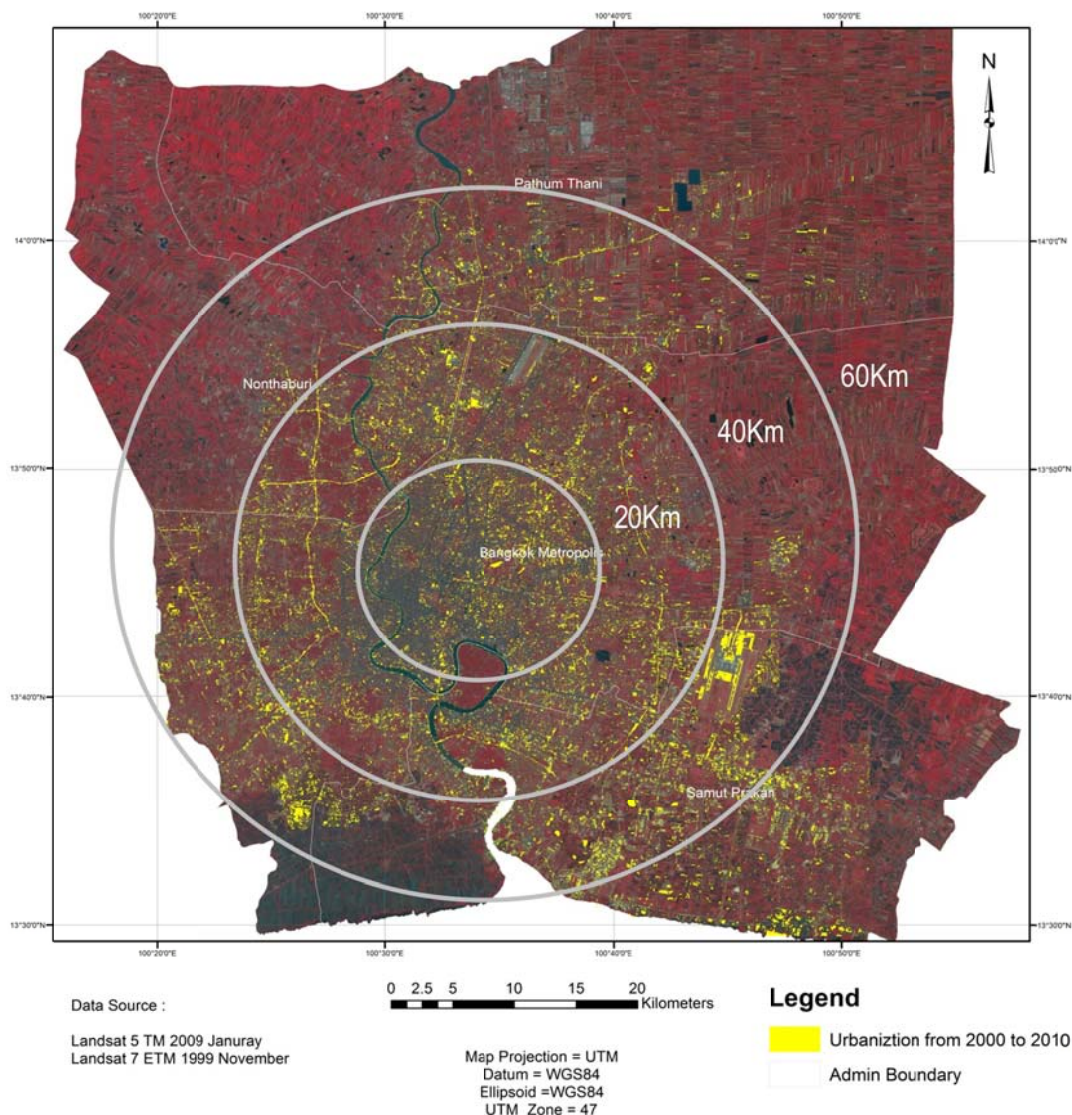
Source: Landsat analysis, JICA Study Team

Figure 2.8: Stable Night Light Area in 2000 and 2010

2.3.2 Land Prices

Land prices are an important factor in the cost of all types of housing units in Bangkok and the surrounding provinces. Table 2.12 describes recent trends in land prices in Bangkok and the surrounding provinces that comprise the BMR (similar data for other provinces are not collected at present). After the financial crisis in 1997, both commercial and residential markets were hit extremely hard throughout the BMR. Yet, between 2000 and 2010 , all provinces except Pathum Thani have experienced average annual growth rates on the order of 2-3%, suggesting a sustained and robust market recovery.

As would be expected in any large metropolitan area, land prices were and are highest in Bangkok, with commercial land prices ranging from 2 to 10 times higher than suburban provinces in 2010 while residential prices range from 1.5 to 4 times higher.

Table 2.12: Typical Land Prices in the BMR

	Price (Baht per Square Wa)					Rate of Change (%)			
	1994	1998	2000	2005	2010	1994-1998	1998-2000	2000-2005	2005-2010
Bangkok									
Commercial	106,311	113,091	87,290	99,505	115,423	1.56%	-12.14%	2.65%	3.01%
Residential	49,672	52,840	42,967	48,439	54,126	1.56%	-9.82%	2.43%	2.25%
Nonthaburi									
Commercial	43,206	46,294	37,259	42,929	49,333	1.74%	-10.29%	2.87%	2.82%
Residential	31,559	33,859	29,171	33,524	38,548	1.77%	-7.18%	2.82%	2.83%
Pathum Thani									
Commercial	19,066	20,526	16,963	17,660	19,300	1.86%	-9.09%	0.81%	1.79%
Residential	14,384	15,345	12,821	13,728	15,064	1.63%	-8.59%	1.38%	1.87%
Samut Prakarn									
Commercial	34,974	37,276	29,984	36,687	40,782	1.61%	-10.31%	4.12%	2.14%
Residential	26,395	28,092	23,316	28,353	31,337	1.57%	-8.90%	3.99%	2.02%
Samut Sakhon									
Commercial	21,800	23,300	18,500	23,500	25,500	1.68%	-10.89%	4.90%	1.65%
Residential	16,400	17,700	15,120	18,300	19,900	1.93%	-7.58%	3.89%	1.69%
Nakon Pathom									
Commercial	12,500	13,167	11,333	13,733	16,000	1.31%	-7.22%	3.92%	3.10%
Residential	10,333	10,833	9,700	11,633	12,167	1.19%	-5.38%	3.70%	0.90%

Source: Agency for Real Estate Affairs (AREA), 2013

2.3.3 Housing Prices

(1) Trends in Housing Prices

The Bank of Thailand (BoT) maintains a price index for the three major types of housing units and raw land. Figure 2.9 describes trends in this price index since the BoT began tracking such data in early 2008 and thus the Index at the end of 2008 is 100.

Generally speaking, the most notable trend is that since 2008, prices across the three housing types and raw land are steadily rising, with no noticeable cyclical variation. While housing prices (of all types) typical follow variations in the price of raw land, there does not exist a close correlation suggesting that land prices are the key determinant in low-rise housing prices, though prices for Condominiums and raw land have increased at roughly the same pace. Notably, the floods in the third and fourth quarter of 2011 appear to have caused rapid spikes in both land and Condominium prices while prices for detached housing and townhouses remained flat.

Looking at the last four years of data, it is clear that prices for raw land and Condominiums have increased far more rapidly than those for detached housing and townhouses. For example, Condominium prices have increased by roughly 60% since 2008, with townhome prices growing by about 20% during the same period.

On the other hand, the price of detached house has grown much more slowly and appears to be less vulnerable to cyclical variations, with major changes only occurring after the 2011 floods. Equally as important, it appears that detached housing prices have increased by about 10% since 2008, or at roughly the same rate as inflation (Consumer Price Index / CPI).
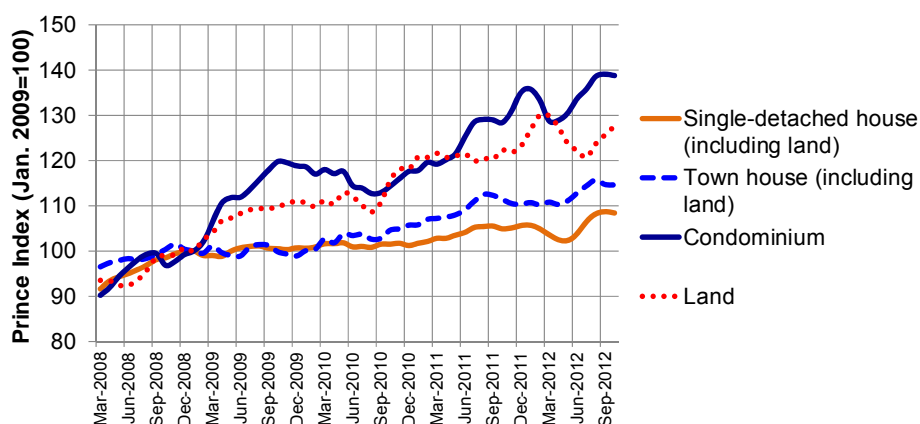
Source: Bank of Thailand, 2012

Figure 2.9: Trend of Price of House

As previously discussed, Thailand's strong economic growth in recent years has been accompanied by rising household incomes throughout the country. Figure 2.10 compares trends in rising household incomes against changes in the prices of detached housing (including land) and Condominiums using 2008 as the index year (2008 = 100).
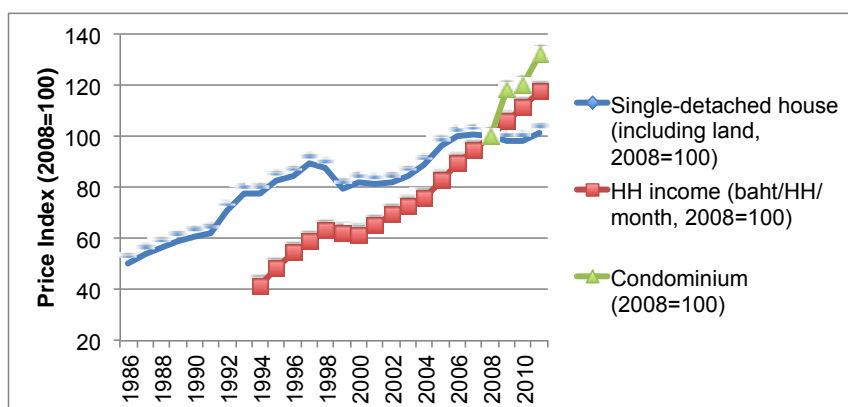
Source: Bank of Thailand, 2012

Figure 2.10: Comparison of Trend between Income and Price of House

Figure 2.10 clearly illustrates that Thailand's strong economic growth has driven rising household incomes, which have in turn lead to increasing demand for housing units of all types, resulting in higher housing prices as a reflection of that demand. Between 2000 and 2010, household incomes increased by about 80% in the country as a whole, compared to a 70% increase in Bangkok and about 55% in the BMR as a whole (including Bangkok). At the same time, detached housing prices have increased by about 20%, or slower than the rate of inflation (CPI), which increased by about 30% between 2000 and 2010.

As household income growth has outpaced inflation and housing prices in the last decade, there is evidence to suggest that Thai people have sufficient income to drive further growth in the housing sector in the future.

(2) Housing Prices by Housing Type

In considering the future of the housing sectors in both the BMR and Thailand, it is critical to understand how demand and pricing for different types of housing has changed over time. In order to determine such changes, the Study Team carried out an analysis of housing prices by dwelling type in the BMR using 1995, 2000, 2005, and 2010 as benchmark years. Results are presented in Table 2.13.

Table 2.13: Housing Prices by Housing Type in the BMR

(Units)

	Range (million baht)	1995	%	2000	%	2005	%	2010	%
Detached	< 1.0	1,552	7	119	4	565	3	25	7
	1.0-2.0	6,439	27	1,193	35	2,154	11	2,538	.27
	2.0-3.0	6,850	29	1,363	40	3,231	17	2,490	29
	3.0-5.0	6,255	26	525	16	7,224	38	5,158	26
	5.0-10.0	2,227	9	156	5	4,303	23	1,146	9
	>10.0	353	1	25	1	1,462	8	27	1
	Total	23,676		3,381		18,939		11,384	
	Average Price	3.2		2.7		5.4		3.5	
	Variance	7.4		4.2		22.0		3.5	
Condominium	< 1.0	55,739	80	142	100	5,690	32	9,818	0.22
	1.0-2.0	8,077	12		0	5,741	33	17,930	40
	2.0-3.0	2,407	3		0	1,754	10	8,014	18
	3.0-5.0	2,256	3		0	1,863	11	6,166	14
	5.0-10.0	1,092	2		0	1,492	8	2,118	5
	>10.0	316	0		0	1,083	6	604	1
	Total	69,887		142		17,623		44,650	
	Average Price	1.2		0.8		3.3		2.4	
	Variance	2.7		0.0		21.9		6.7	
Town House	< 1.0	40,980	65	66	13	5,569	35	6,388	0.36
	1.0-2.0	17,822	28	153	30	6,759	42	7,680	43
	2.0-3.0	2,777	4	209	41	754	5	2,593	14
	3.0-5.0	895	1	69	14	2,419	15	1,153	6
	5.0-10.0	313	0	12	2	597	4	62	0
	>10.0	0	0	0	0	31	0	26	0
	Total	62,787		509		16,129		17,902	
	Average Price	1.1		2.3		1.9		1.6	
	Variance	0.5		1.6		3.0		1.4	
Overall	< 1.0	111,537	59	3,179	38	17,517	28	16,897	21
	1.0-2.0	43,468	23	2,012	24	16,398	26	30,541	38
	2.0-3.0	16,908	9	1,640	20	7,578	12	16,202	20
	3.0-5.0	12,389	7	728	9	12,906	20	13,619	17
	5.0-10.0	5,215	3	768	9	6,604	10	3,448	4
	>10.0	801	0	25	0	2,576	4	657	1
	Total	190,318		8,352		63,579		81,364	
	Average Price	1.6		2.2		3.3		2.4	
	Variance	3.2		4.7		15.9		4.9	

Source: Agency for Real Estate Affairs (AREA) , 2012

In 1995, the average price of all housing units was 1.6 million baht. At that time, the most popular price ranges were under one million baht (59%) and from one million to two million baht (23%). Demand for housing units priced under two million baht accounted for 82% of total demand in 1995.

In 2010, the average price of all housing units increased by 50%, to 2.4 million baht. Inline with growth in average prices, housing priced between one and two million baht was the most popular price range, accounting for 38% of all transactions, followed by those units priced under one million baht, which accounted for 21% of demand. Thus the lower end of the market still accounted for the majority (59%) of demand.

In both 1995 and 2010, detached housing units had the highest average prices, at 3.2 million baht and 3.5 million respectively. Notably, price increases in the detached housing sector were by far the slowest relative to Condominiums and Townhouses. In both years, the most common price ranges for detached housing were one to two million baht and two to three million baht, which when combined, accounted for about 56% of detached housing demand in each year.

In 1995 and again in 2010, Condominiums accounted for the largest share of total housing demand, at 37% and 55% respectively. In both years, as with detached housing, the majority of units sold were priced under two million baht, accounting for 92% of Condominium demand in 1995 and 62% of condo demand in 2010. During the period in question, condo prices increased more rapidly in percentage terms than both detached housing and townhouses, doubling from an average price of 1.2 million baht in 1995 to 2.4 million baht in 2010.

(3) Income and Housing Prices in the BMR

The preceding analysis of housing demand in the BMR suggests that preferences for housing types have changed drastically since 1995, with both detached housing and townhouses becoming much less popular while demand for Condominiums has surged. Changing family structures and rising incomes are two key forces influencing these changing preferences. Based on the Study Team's analysis, at the macro level (BMR), the number of households and housing units are roughly equal. However, in considering future housing policies for the BMR and for Thailand, it is necessary to analyze housing affordability to determine if there are any gaps in supply and demand at different household income levels.

Based on the current cost of living in the BMR, it is assumed that households with an average monthly income of 30,000 baht can afford to purchase a housing unit that is priced around 1.25 million baht (See Figure 2.11). In the BMR, approximately 60% of households currently have an income of 30,000 baht per month or less, yet only 21% of housing units fall into the affordable range. If the threshold is increased to an average household income of 50,000 baht per month, 80% of the households in the BMR fall within this income range, and 59% of housing units are affordable. These figures suggest that new housing prices are generally unaffordable for many households. Supporting this conclusion is the fact that housing units priced at two million baht and above accounted for 42% of total supply in 2010, yet only 20% of households could afford ownership at such prices.
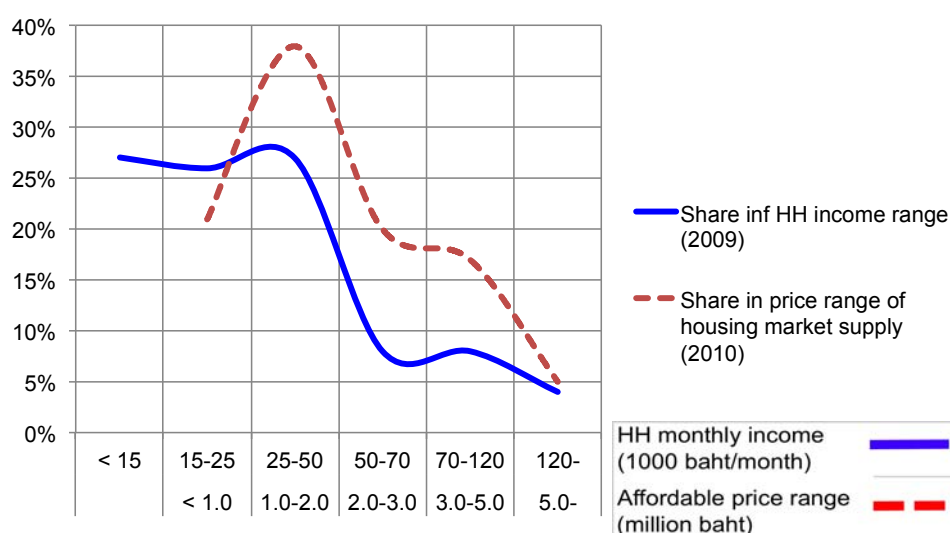
Source: Agency for Real Estate Affairs (AREA), 2012

Figure 2.11: Comparison of HH Income and Price of House

Of more concern is the fact that there exists little to no housing supplied by the private sector targeted at households earning less than 15,000 baht per month. This finding implies that private housing developers only target higher income groups, perhaps due to low profitability in the provision of more affordable housing.

Overall, these findings suggest that there is ample opportunity to meet demand for more affordable housing units, whether by the public sector, private sector, or some partnership between the two.

2.3.4   Variety of Houses supplied

(1) Housing type

Most of the analyses presented in this report classify housing units into three different market segments, namely detached housing, townhouses, and condominiums. In addition to this macro segmentation, it is also useful to dig deeper and widen the scope of the analyses to include all types of property transactions, which are grouped into six segments and described in Table 2.14.

The houses supplied in the BMR have more variety in terms of not only price but also type and location of house.   In 1995, 195,315 houses are supplied in the BMR.   Supplies of houses once declines in 2000 due to Asian currency crisis, then again increases to 81,364 houses in 2010.

Regarding type of houses, 69,776 houses or approx. 36 % of houses are condominiums, followed by 35% of townhouse in 1995.   Detached house and semi-detached (two houses in one structure) house are only 12% and 2% respectively.   While, 55 % of houses supplied is condominium, followed by 22 % of townhouse in 2010.   Although condominiums occupies higher portion than that in 1995, variety of houses becomes rather wider with deceased townhouse and increased the remaining types of houses.

Table 2.14: Type of Housing Supplied in the BMR

(Units)

	1995	%	2000	%	2005	%	2010	%
Detached	23,678	12	3,381	39	18,939	30	11,384	1 4
Semi-detached	3,461	2	209	2	3,269	5	5,634	7
Townhouse	67,787	35	4,694	54	20,129	32	17,902	22
Shophouse	10,636	5	248	3	1,838	3	1,654	2
Condominium	69,776	36	142	2	17,623	28	44,750	55
Land subdivision	19,977	10	74	1	1,781	3	40	0
Total	195,315	100	8,748	100	63,579	100	81,364	100
Average		0.144		0.098		0.108		0.132
Variation		0.018		0.045		0.017		0.035

Source: Agency for Real Estate Affairs (AREA) , 2012

In taking a closer look at the market segmentation of housing supply between 1995 and 2010, overall macro trends persist. However, one notable finding is that demand for land subdivisions (raw land) has substantially decreased. This may suggest that there is very little developable land left within the BMR or that landowners are asking high enough prices to deter investment from private developers.

(2) Housing Prices by Housing Type by Province

Table 2.15 on the next page describes housing prices in the BMR by housing type and by province as of 2010.

In Bangkok, the most popular price range for detached housing is between three million baht and five million baht while the most popular price range for both condominiums and townhouses is between one and two million baht. These price ranges accounted for 50% of detached housing demand and 41% of both condo and townhouse demand, respectively.

In Nonthaburi, the most popular price range for detached housing is also between three million baht and five million baht, while the most popular price ranges for condominiums and townhouses are less than one million baht and between one and two million baht, respectively. These price ranges accounted for 52% of detached housing demand, 64% of condo demand, and 46% of townhouse demand, respectively.

In Samut Prakan, the most popular price range for detached housing is also between three million baht and five million baht, while the most popular price range for both condominiums and townhouses is one million baht and under. These price ranges accounted for 47% of detached housing demand, 63% of condo demand, and 49% of townhome demand.

Table 2.15: Price of House by Province (2010)

(Units)

	Range (million baht)	Bangkok	%	Nontaburi	%	Patum Thani	%	Samut Prakarn	%	Samut Sakon	%	Nakhon Pathom	%
Detached	< 1.0	0	0	0	0	0	0	0	0	0	0	25	3
	1.0-2.0	677	18	698	18	587	40	71	6	156	35	349	45
	2.0-3.0	595	16	626	16	330	23	495	42	285	65	159	21
	3.0-5.0	1,835	50	1,982	52	547	37	554	47	0	0	240	31
	5.0-10.0	574	16	510	13	0	0	62	5	0	0	0	0
	>10.0	3	0	24	1	0	0	0	0	0	0	0	0
	Total	3,684		3,840		1,464		1,182		441		773	
	Average Price (million baht)	3.9		3.9		2.7		3.4		2.1		2.5	
	Variance	3.6		4.7		1.2		1.6		4,363.2		6,738.3	
Condominium	< 1.0	7,522	18	2,271	64	41	100	84	37	0		0	
	1.0-2.0	16,771	41	1,015	29	0	0	144	63	0		0	
	2.0-3.0	7,772	19	242	7	0	0	0	0	0		0	
	3.0-5.0	6,166	15	0	0	0	0	0	0	0		0	
	5.0-10.0	2,118	5	0	0	0	0	0	0	0		0	
	>10.0	604	1	0	0	0	0	0	0	0		0	
	Total	40,953		3,528		41		228		0		0	
	Average Price (million baht)	2.5		1.1		0.8		1.2					
	Variance	7.1		0.3		0.0		0.1					
Town House	< 1.0	2,287	27	707	26	1,835	71	1,442	49	66	12	51	10
	1.0-2.0	3,496	41	1,258	46	732	29	1,245	42	473	88	476	90
	2.0-3.0	1,887	22	474	17	0	0	232	8	0	0	0	0
	3.0-5.0	838	10	275	10	0	0	40	1	0	0	0	0
	5.0-10.0	62	1	0	0	0	0	0	0	0	0	0	0
	>10.0	26	0.00	0	0	0	0	0	0	0	0	0	0
	Total	8,596		2,714		2,567		2,959		539		527	
	Average Price (million baht)	1.8		1.7		1.0		1.2		1.4		1.4	
	Variance	2.1		0.9		0.1		0.4		7,907.3		7,634.1	
Overall	< 1.0	9,809	19	2,978	26	2,088	42	1,880	29	66	3	76	5
	1.0-2.0	21,587	41	3,349	30	1,803	36	1,642	25	1,314	66	846	52
	2.0-3.0	10,973	21	1,988	18	451	9	2,030	31	383	19	377	23
	3.0-5.0	9,051	17	2,467	22	602	12	979	15	228	11	292	18
	5.0-10.0	473	1	510	5	34	1	62	1	0	0	21	1
	>10.0	140	0	24	0	0	0	0	0	0	0	0	0
	Total	52,033		11,316		4,978		6,593		1,991		1,612	
	Average Price (million baht)	2.1		2.3		1.6		2.0		2.0		2.2	
	Variance	2.3		3.3		1.3		1.5		21,471.1		15,363.8	

Source: Agency for Real Estate Affairs (AREA) , 2012

In Pathum Thani, the most popular price range for detached housing is between one million baht and two million baht, while the most popular price range for both condominiums and townhouses is one million baht and under, much like Samut Prakan. These price ranges accounted for 40% of detached housing demand, 100% of condo demand (only 41 units) and 71% of townhouse

demand.

Nearly all demand for condominiums is located in Bangkok, Nonthaburi, and Samut Prakan, owing in part to proximity to mass rapid transit, while the other provinces' housing stock consists almost entirely of detached housing and townhouses.

It is clear that except for the very low end of the income range, housing types and prices generally meet market demand at the provincial level throughout the BMR.

2.3.5 Vacant Houses

As shown in section 2.2.1, number of housing stocks and number of registration of new houses continuously increased year by year in Bangkok as summarized in Table 2.16. Newly registered houses can be categorized into two type of housing; one is housing for private residence and the other is housing for investment.   The housing for investment is usually vacant house, which is accounted for about 8% in condominium and 3 % in low rise houses (including detached house) compared to total number of houses in Bangkok according to the survey done by the NHA.   These vacant houses can cause difficulty in disaster prevention and crime prevention in the area and also an ineffective use of real estate as a social capital.

Table 2.16: Vacant Houses in Bangkok

	Vacant		Occupied		Total
	No.	%	No.	%	
Condominium	74,365	8.2	837,667	91.8	912,032
Low-rise houses (detached and townhuse)	71,816	3.0	2,319,896	97.0	2,391,712
Total	146,181	4.4	3,157,563	95.6	3,303,744

Source: National Housing Authority 2012

2.3.6 Aged House

As seen in the section 2.1.2, aged population increases rapidly in terms of number and percentage in Thai society in accordance with lowering of population increase rate and death ratio. Thai Government accordingly starts to carry out campaign on family planning to increase birth rate and to pay more attention on protecting rights of aged population and enhancing their welfare.

Along this policy, Thai Government established law and regulation on building facilities to cater for disabled and aged peoples. The regulation includes design standards and regulations of 1) signs indicate the facilities 2) ramps 3) lifts 4) stairs 5) parking lots 6) entrance and walkway between buildings 7) doors 8) toilets

Meanwhile, guideline of universal design for aged, disabled, child and pregnant woman are developed in 2009, which indicate policy and direction of urban design, architectural design, interior design and landscape architecture in the future. Based on the guideline, the government is now considering the implementation of universal design concept to both new and existing buildings. The necessary step toward implementation of universal design would be to develop a prototype house with universal design concept.

2.4 Stakeholders in the Housing Sector

2.4.1 Overall of Stakeholders in the Housing Sector

There are a wide variety of public and private actors in both the supply side and the demand side of the housing market. These actors range from national and local government organizations to banks, private developers, and management companies. Table 2.17 and 2.18 below show the various actors in terms of supply and demand of housing, living environment, business and target market. Figures 2.17 and 2.18 on the next page describe the approximate operational frameworks of different actors in the public and private sectors, respectively.

Table 2.17: Public Stakeholders in Housing Sector

Field	Stakeholder	Business	Target Market
Housing Supply	NHA	Housing construction	Mid – Upper Low Income Group
	CODI		Lower Low Income Group
	Local Governments		Low Income Group
Housing Demand	GHB	Finance	Mid – Low Income Group
	GSB		High – Low Income Group
	NHA		Mid – Upper Low Income Group
	CODI		Lower Low Income Group
	MOF	Tax incentive	Mid – Low Income Group
	BOI	Investment incentive	Mid – Low Income Group
Improvement of Living Environment	NESDB	Policy	National development
	MOI	Regulation	Urban Plan, Building Code
	Local Governments	Permission	Land development, Building construction
	NHA	Community development	Mid – Upper Low Income Group
	CODI		Lower Low Income Group

Source: JICA Study Team

Table 2.18: Private Stakeholders in Housing Sector

Field	Stakeholder	Business	Target Market
Housing Supply	Commercial Banks	Finance	Housing Developer
	Private Developer	Construction	High – Low Income Group
	Housing Broker	Brokerage	2nd hand houses High – Low Income Group
Housing Demand	Commercial Banks	Finance	High – Low Income Group
Improvement of Living Environment	Real estate management Company	Real estate management	High – Low Income Group

Source: JICA Study Team
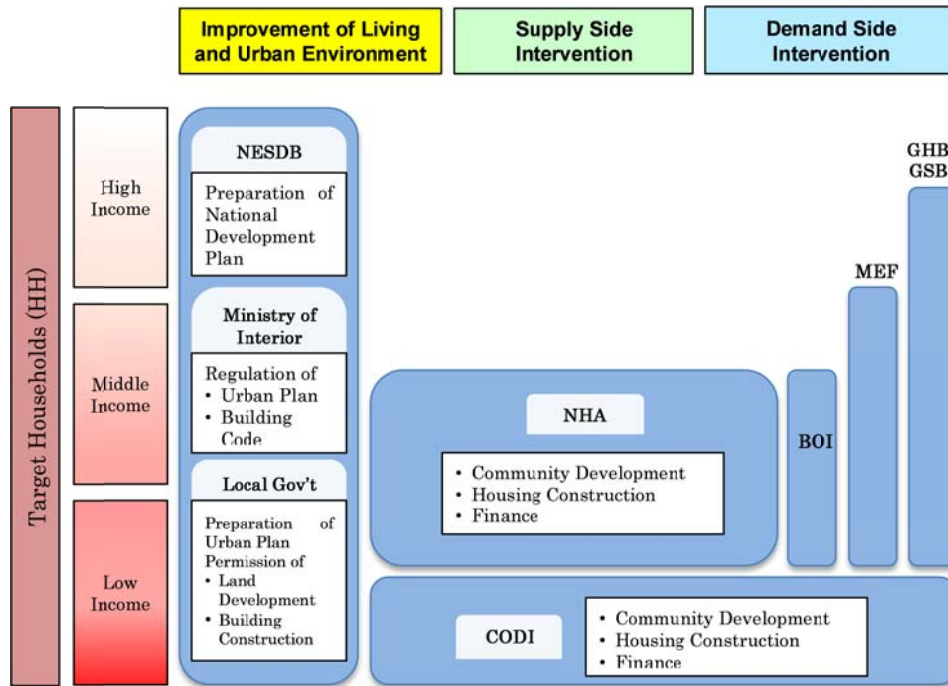
Source: JICA Study Team

Figure 2.12: Framework of Public Stakeholders in the Housing Sector in Thailand
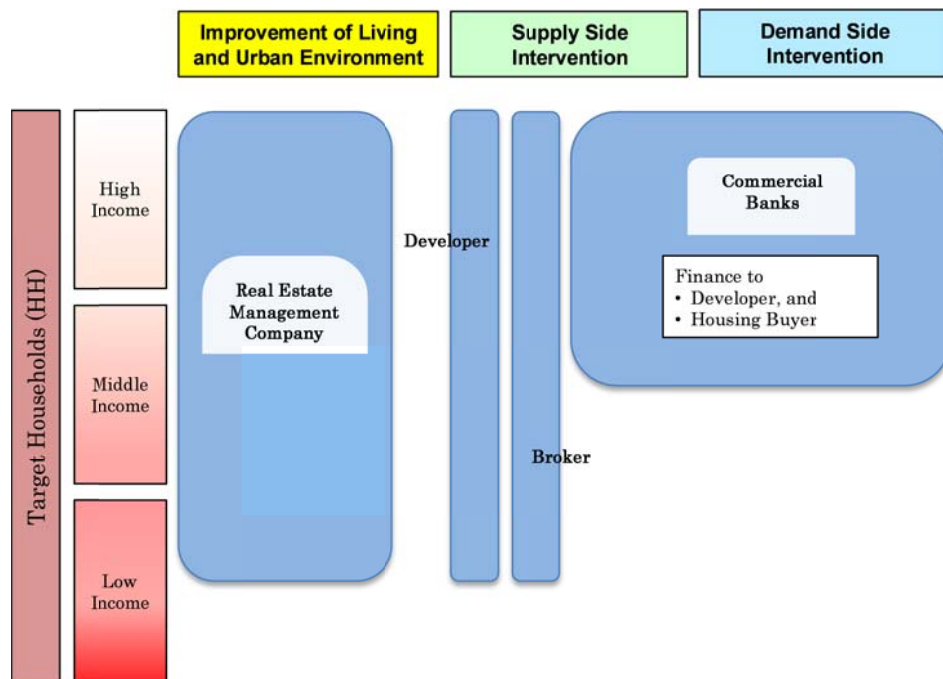
Source: JICA Study Team

Figure 2.13: Framework of Private Stakeholders in the Housing Sector in Thailand

2.4.2 Public Organizations related to the Housing Sector

In Thailand, the National Economic and Social Development Board (NESDB), Ministry of Interior (MOI), Ministry of Social Development and Human Security (MSDHS), Ministry and Finance

(MOF), and local governments are the primary public sector organizations related to housing policy and strategy.

(1) National Economic and Social Development Board (NESDB)

The NESDB, which falls under the responsibility of the Office of the Prime Minister, is responsible for drafting national economic and social development plans and an organization related to formulation of housing policy and strategy.

The NESDB was first established as the National Economic Council (NEC) in 1950. At that time, the NEC's primary mission was to provide the government with informed opinions and recommendations on national economic issues. In 1959, the NEC became the National Economic Development Board (NEDB) with its core mission remaining the same. In 1961, the NEDB launched its first five-year Economic Development Plan to serve as a central framework for Thailand's national development. In this plan, social development was officially recognized as an essential part of the overall development framework. In 1972, the NEDB was officially renamed the National Economic and Social Development Board (NESDB) in recognition of the importance of social development to the nation's growth. Since 1961, the NEDB and later NESDB have enacted a series of five-year national development plans. At present, the 11th Five-Year Plan (2012 – 2016) is currently underway.

1) Primary NESDB Objectives

The NESDB's primary objective is to be the lead agency for planning and formulation of development strategies based on balanced and sustainable development, public participation, and flexibility for meeting the changing environment and needs of the Thai people.

2) Main functions of the NESDB

The primary functions of the NESDB are as follows:
- Formulation of the Five-Year National Economic and Social Development Plan,
- Formulation of strategies for key government policies and major development projects,
- Analysis of budgets proposed by state enterprises and related agencies,
- Creation of an Economic Intelligence Database, especially on GDP data, and
- Creation and maintenance of key development indicators.

3) NESDB and the Housing Sector

In order to understand how the NESDB influences housing policies and the overall housing sector, the Study Team held an interview with a group of NESDB technical staff and management. A summary of the group meeting is provided in the following section.

Feedback on Housing Policies

The 11th Five-Year Plan features six key strategies, one of which encompasses social and environmental development, within which "Housing" is considered to be an important component. Feedback from the NESDB suggests that local, regional, and national housing policies should be harmonized with urban development planning. Such urban planning must also include considerations for transport, industry, and the environment.

With respect to housing policy, NESDB staff rightly pointed out that the Thailand's elderly population, those aged 60 and over, will grow rapidly over the next two decades. For instance, at present about 10% of the national population is age 60 or over, yet in the next ten years, the

proportion is expected to double, meaning that 20% of the total population will by 60 years of age or older. As such, future housing policies must consider the needs of the growing elderly population.

Feedback Regarding the NHA

Feedback from NESDB staff clearly indicates that the existence of the NHA is necessary for Thailand's future development, however it is suggested that the primary role of the NHA should be changed. The main reason given for changing the role of the NHA is because it is felt that private developers are able to offer housing for low-income households without any government subsidies and thus the NHA should not compete with the private sector.

(2)   Ministry of Interior (MOI)

The Ministry of Interior (MOI) is not involved in housing policy development or the provision of housing supplies. There are however a number of departments that are responsible for issues related to housing, such as organizations that manage land and urban development planning, building codes, and electricity and water supply planning and provision. Importantly, departments under the MOI are responsible for registering lands, buildings, people, and households. Given the wide range of responsibilities of the various departments within the MOI (see Table 2.19), any future housing strategy development and/or implementation must be a coordinated effort.

Table 2.19: Departments/Agencies related to Housing in MOI

Ministry	Departments/Agencies	Matters related to Housing
MOI	Department of Public Works and Town and Country Planning	Policy and Standard on Urban Plan, Building Code
	Department of Lands	Assessment of Land Development, Registration of Land
	Department of Community Development	Policy and Standard on Community Development
	Metropolitan Electricity Authority	Planning and Supplying Electricity
	Provincial Electricity Authority	Planning and Supplying Electricity
	Metropolitan Waterworks Authority	Planning and Supplying Drinking Water
	Provincial Waterworks Authority	Planning and Supplying Drinking Water
	Bangkok Metropolitan Authority	Land Use Planning, Zoning, Building Codes / Inspection for Bangkok

Source: Home Page of Thai Government

(3) Ministry of Social Development and Human Security (MSDHS)

The MSDHS has no official role in housing policy or provision,   however it is home to both the NHA and CODI, both of which are responsible for supplying housing to low-income households. The MSDHS allocates the budget for both agencies, but does not influence policy development.

Table 2.20: Departments/Agencies related to Housing in MSDHS

Related Ministry	Departments/Agencies	Matters related to Housing
Ministry of Social Development and Human Security	Department of Social Development and Welfare	Budget related to housing
	NHA	Implementation of housing construction
	CODI	Improvement of slum upgrading

Source: Home Page of Thai Government

(4) Ministry of Finance (MOF)

The Ministry of Finance is responsible for developing and managing national fiscal policy, collecting and managing taxation, overseeing the national treasury and state-owned enterprises, etc. The MOF also manages eight Special Financial Institutions (SFI), utilizing them to implement fiscal policies. The institutions include organizations such as the Government Housing Bank (GHB) and Government Savings Bank (GSB).

Prior to 2011, the Ministry of Finance did not play a role in housing policy development or the provision of housing supply. In line with promises made by the incoming government in July 2011, the MOF drafted and implemented a "First-Home" Policy designed to promote home-ownership and stimulate demand within the housing market and is targeted exclusively at low-income persons (taxpayers) who are first time home buyers. It should be noted that the MOF does not support such incentives for middle- and high-income groups.

The initial length of the policy's program was to run from November 2011 through December 2012. At the request of the GHB, the policy has been extended through the end of June 2013. Table 2.21 shows outline of First-Home Policy.

Table 2.21: Outline of First-Home Policy

Item	Contents
Purpose	To help elevating the living standard of Thai citizens and to provide housings including land for people who do not possess ownership of residence
Eligibility	Taxpayers who purchase a first house for residential purpose of which value is not exceeding 5 million THB, and complete registration of ownership between 21st September 2011 and 31st December 2012.
Benefits	Exemption of income tax as of value that should be paid in each tax year, but not exceeding 10% of the purchase price of the house.
Loan	Loan is for purchase of land and housing, or condominium unit, and for construction or for purchase of land for construction of a house.
Loan Amount	Land and housing's price under 1 million TBH; each does not exceed 1 million TBH Not exceeding 100% of estimated price of land and housing, or housing or condominium unit; and not exceeding 100% of sale/purchase or construction price, by which does not exceed the GHB's normal regulation of security.
Loan Duration	Not exceeding 30 years, and loaner's age combined with loan duration must not exceed 65 years.

Interest Rate	1st year to 3rd year: 0%
	4th year to 7th year: Social security members – charged MRR minus 0.5% per year
	                Other retail customers – charged MRR
	8th year onwards: Social security members – charged MRR minus 1.0% per year
	                Other retail customers – charged MRR minus 0.5% per year

Source: Hearing to MOF and Information collected by the Study Team

(5) Local Government

In 1999, the Thai parliament passed the "Act for Promotion of Decentralization" which requires that local governments must elected their own leadership, including an assembly and mayor.

According to the Act, local governments should now be partially responsible for supplying housing to low-income families. As a result local governments should be considered as stakeholders in housing sector policy development, however as nearly all local governments with the exception of the BMA lack both the funding and the technical capacity to implement affordable housing, no new housing supply has been added by local governments yet.

(6) Others

In addition to the organizations previously mentioned, the National Housing Policy Committee (NHPC), which was established in 2008, is another important public stakeholder. One of the major responsibilities of NHPC is to oversee the formulation of long-term national comprehensive housing policy. The NHPC consists of three sub-committees, namely the policy and planning sub-committee, the regulation sub-committee and the finance sub-committee. The NHPC operated continuously between 2008 and 2011. In 2011, operations were effectively shut down when the new Prime Minister failed to appoint a new governor to oversee NHPC operations. The future of the NHPC is unknown at present.

2.4.3 Public Housing Suppliers

The National Housing Authority (NHA) and the Community Organizations Development Institute (CODI) under the MSDHS are currently the main public agencies responsible for directly supplying houses to low and mid-income groups in Thailand. This section provides a more in depth look at these two important organizations

(1) NHA

1) History of NHA

The NHA was formally established in 1973. Prior to the establishment of the NHA, four separate organizations were responsible for concerns in the housing sector dating back to 1940. Table 2.22 provides a brief look at these organizations and their respective roles.

Table 2.22: Organizations responsible for housing supply before establishment of NHA

Organization	Role
The Housing Division in the Department of Public Welfare under the Ministry of Interior	Establishment in 1940 Construction of housing in the rural area Construction of housing for hire purchase in urban area especially in Bangkok after the World War II (1950)
The Housing Bureau in the Department of Public Welfare	Establishment in 1951 Construction of housing for rent to low-income group
The Government Housing Bank (State Enterprise under MOF)	Establishment in 1953 Provision of financial assistance to housing developers and the general public
The Slum Improvement Office in the Bangkok Municipality	Establishment in 1960 Control, renovation, adjustment, and demolition of the slums

Source: JICA Study Team

Prior to 1973 there was little to no cooperation or coordination between the four organizations owing to the fact that they were all housed in different ministries / parent organizations. To solve these issues, the four organizations were merged into the National Housing Authority (NHA) in accordance with the National Executive Decree No. 316 dated 1972. The NHA is now a state enterprise under the Ministry of Social Development and Human Security (MSDHS). The NHA is operated under the National Housing Authority Act. The NHA is currently responsible for

developing, supporting, and facilitating housing security and urban development.

2) Objectives of NHA

Objectives of the NHA are as follow.
- To provide housing accommodations for lease, sale on hire purchase or sale to the public,
- To provide financial support to those who wish to own housing or to any person whose business is to provide housing accommodation for lease, sale on hire purchase, or sale to the public,
- To engage in the business of housing construction and/or purchase of land,
- To upgrade slums and/or carry out slum clearance, and
- To develop the city for stable and sustainable living quality

3) Major Housing and Urban Development Projects implemented by the NHA

Throughout its history, the NHA has initiated four major housing and urban development programs, which are listed in Table 2.17 below.

Table 2.23: Major Housing and Urban Development Projects implemented by the NHA

Year	Housing and Urban Development
1976	Construction of 5-story rental flats by slum improvement programs at Din Daeng, Huay Kwang, and Bon Gai
1979	Start of the sites and services scheme; Implementation of Bang Plee New Town Project
1992	Implementation of Din Daeng Renewal Project
2002	Start of Baan Eua-Arthon Project

Source: Department of Housing and Development Studies, National Housing Authority

The NHA constructed total about 731,000 housing units between 1976 and 2010 by several schemes and/or projects throughout the country, including, but not limited to those listed in Table 2.23. Table 2.24 describes the number of housing units built through all NHA initiatives during the same period.

Table 2.24: No. of Housing Units constructed by the NHA

	Project Type	No. of Housing Units	%
1	**Community Housing Project**	141,192	19.32
2	Real Estate Crisis Solution Project	258	0.04
3	**Baan Eua Arthorn Project**	239,175	32.72
4	Special Community Services Project	3,980	0.54
5	Government Officials Housing Project	49,766	6.81
6	Assisting Southern Disaster Victims Project	845	0.12
7	Rachapat Project (University)	2,374	0.32
8	**Congested Communities Improvement Project**	293,361	40.13
	Renovated Houses	181,400	(61.84)
	Newly Constructed Houses	52,564	(17.92)
	Environment Improvements	59,397	(20.25)
	Total	**730,951**	**100**

Source: Annual Report 2010, National Housing Authority

Slum improvement projects account for about 40% of housing supply created by the NHA since 1976 while the second most popular program has been the Baan Eua Arthorn Project (33%), through which 239,000 units have been built. Notably, this project has fallen far short of the intended 600,000 unit goal.

Table 2.25: No. of completed Housing Units by Region

Region	No. of Housing Units	%
Bangkok and Vicinities	524,267	71.9
North	49,460	6.8
North-East	50,733	7.0
West	14,241	2.0
East	37,377	5.1
Central	19,682	2.7
South	33,288	4.6
Total of Rural	**204,781**	**28.1**
Total	**729,048**	**100**

Source: Annual Report 2010, National Housing Authority

Table 2.25 provides a look at the number of units provided by the NHA by region. Accounting for more than 70% of total units built, Bangkok and its surrounding areas have long been the NHA's top priority.

4) NHA's Budget

According to information gathered by the Study Team in meetings with MSDHS staff, about half of the NHA's budget for project implementation (discussed above) is provided by the national government. The remaining portion of the NHA's budget largely comes through borrowing funds from the GHB and GSB as well as private commercial banks. Using these funding sources, the NHA operates independently owing to its status as a stated owned enterprise (SOE). Typical housing projects implemented by the NHA utilize funding obtained through the aforementioned bank loan process. These loans are then repaid through sale and rental income of NHA-provided units. Under the current regime, the NHA faces two major issues:

● Large gaps in the amount of time between borrowing loans form banks and the receipt of sale and rental income from housing projects, and

● Lower than expected income from sales and rentals during periods of economic slowdown and/or general periods of weakness in the housing market.

These two issues have repeatedly affected the NHA's operations in a negative fashion. For example, the sluggish housing market that persisted in the early 2000s had a substantial negative impact on the BEA housing initiative.

5) NHA's New Strategic Plan 2012 – 2016 on Housing

According to data obtained by the Study Team, the NHA is now in the process of implementing a new strategic plan for the years 2012 through 2016, which will see the construction of 100,000 new housing units across the country over the next four years. Table 2.26 below describes the planned number of units by type of project.

Table 2.26: No. of Units by Type of Project

Types of Project	Total
I. Social Projects	88,826
1. Low-Income Project	85,734
2. Condominium Project	3,092
II. Commercial Projects	11,174
1. Profitable Project	10,671
2. PPP Project	503
Total	100,000

Source: National Housing Authority

The majority of planned units will come in the form of Social Projects, most of which (85%) will be targeted at low-income households. About 11% of units built by the NHA fall into the Commercial Project category and will be sold (or rented) on for-profit basis. Notably, as the BEA program was discontinued in 2011, no new units will be started, however there are still units already under construction and are scheduled to be completed by 2014. Tables 2.27 and 2.28 describe the Construction and Completion Plans for NHA-funded housing units through 2016 and 2019 respectively.

Table 2.27: Construction Plan of Housing Units by Year

Types of Project	2012	2013	2014	2015	2016	Total
I. Social Projects						
BEA	0	0	0	0	0	0
Housing Development Plan - low-mid income - rented units	20,520 1,161	16,303 314	20,444 617	16,198 500	12,269 500	85,734 3,092
Sub-Total 1	21,681	16,617	21,061	16,698	12,769	88,826
II. Commercial Projects						
- Profitable & PPP Projects	1,514	4,083	1,777	2,300	1,500	11,174
Sub-Total 2	1,514	4,083	1,777	2,300	1,500	11,174
Total	23,195	20,700	22,838	18,998	14,269	100,000

Source: National Housing Authority

Table 2.28: Completion Plan of Housing Units by Year

Type of Project	2012	2013	2014	2015	2016	2017	2018	2019	Total
I. Social Projects									
BEA	11,243	13,450	3,701	-	-	-	-	-	28,394
Housing Development Plan - low-mid income - rented units	0 0	0 0	4,104 232	19,677 992	17,131 375	19,595 593	15,412 500	9,815 400	85,734 3,092
Sub-Total 1	0	0	8,037	20,669	17,506	20,188	15,912	10,215	88,826
II. Commercial Project									
- Profitable Projects	0	0	606	2,542	3,160	1,986	1,980	900	11,174
Sub-Total 2	0	0	606	2,542	3,160	1,986	1,980	900	11,174
Total	11,243	13,450	8,643	23,211	20,666	22,174	17,892	11,115	128,394

Source: National Housing Authority

6) Organization of NHA

Figure 2.14 on the next page illustrates the organizational structure of the NHA as of 2010. Under the Board of Directors, a Governor and a Chief Engineer, six deputy governors preside over each group of departments and/or centers. The NHA consists of a total 27 departments. The most important departments relevant to this study are the Policy & Planning Department and Housing Development Strategy Department, both of which play a key role in housing policy formulation. In addition the Department of Urban Renewal & Urban Development is also important.
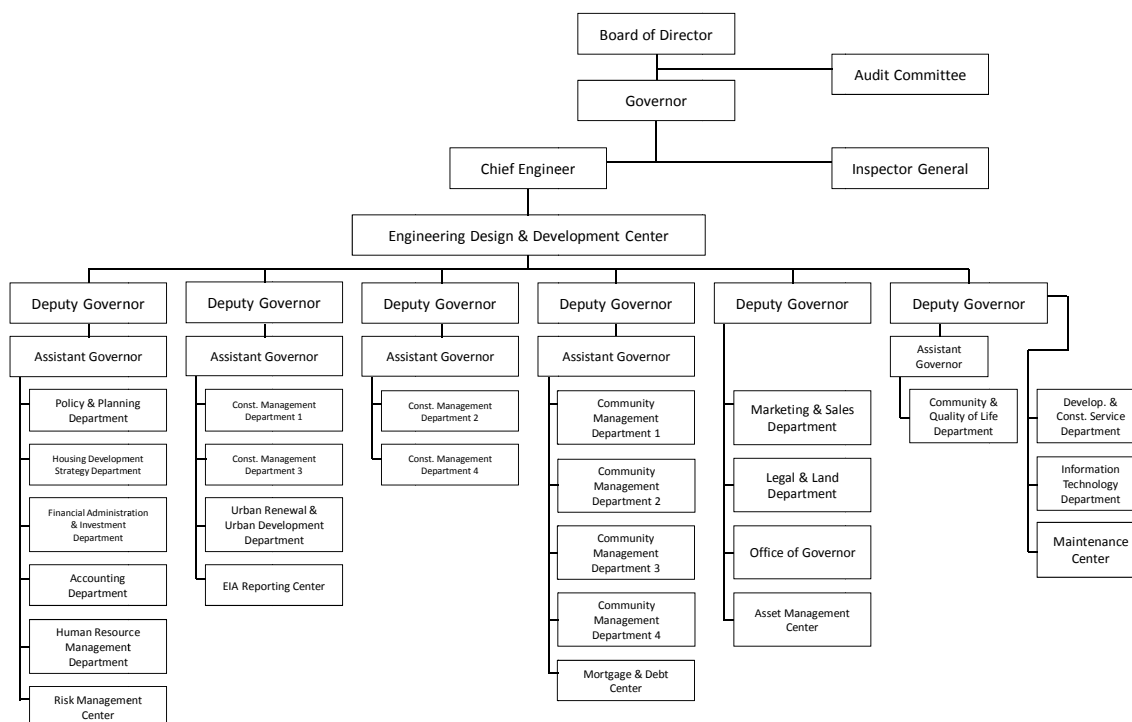
Source: NHA Annual Report 2010

Figure 2.14: Organization Chart of NH (as of 2010)

7) Future Vision of NHA

Table 2.29 states the future vision for the NHA, as described in their 2010 Annual Report. According to the report, the NHA aims to become full government organization instead of just a state-owned enterprise and to be the leader of housing industry promotion in Thailand.

Table 2.29: Future Vision of NHA

Term	Target
Short Term (urgent for 2011)	Develop a framework and guidelines for resolving BEA and Community Housing Projects and debt problems.
Short Term (2011 - 2013)	Change NHA's organizational structure to achieve its business objectives and responsibilities. The new organization will improve operating efficiency and optimize NHA's operating income and investment income.
Middle Term (2013 - 2015)	Extend NHA's role to include redevelopment, revitalization and refurbishment of urban areas.
Long Term (2015 - 2020)	Become the government organization and be a leader in assisting the nation's housing industry.

Source: Annual Report 2010, NHA

(2) CODI

1) History of CODI

In 1992, the Thai Government established the Urban Community Development Office (UCDO) to address the problems of urban low-income people who had missed the wave of high economic expansion in 1980s-1990s. In 2000, the UCDO (Capital Fund: THB 2,156 million) and the Rural Development Fund (a fund managed by the NESDB - Capital Fund: THB 743 million) were merged into a new organization called the Community Organizations Development Institute or CODI (Capital Fund: THB 2,899 million). CODI is a public organization under the supervision of

the Ministry of Social Development and Human Security and is independent from the NHA.

2) Objectives of CODI

The main objectives of CODI are as follows:
- To support community organizations in the improvement of living standards, income generation, and the housing and environmental conditions of their members, and
- To provide financial support to community organizations

3) CODI's Current Development Programs and Activities

The following list describes CODI's current development programs and activities:
- Poverty alleviation,
- Programs and activities to support communities in savings, credits and loans, and community development planning, etc.,
- Community welfare,
- Assisting in setting up of community organization councils throughout the country,
- Slum upgrading, and
- Land tenure security and housings for low-income people (e.g., "Baan Mankong" program)

4) Financial Support

CODI provides financial support by lending its capital funds to community organizations for implementing current development programs and activities. At present, CODI credit facilities are comprised of four types of loans as follows;
- Loans for housing and development,
- Loans for community enterprises/income generation,
- Loans for holistic development, and
- Short-term revolving funds.

CODI has three primary sourcing of funding that support its activities:
- Initial capital funds (THB 2,899 million),
- Profit from operational activities, and
- Annual allocations from the national government budget

5) Organization of CODI

Figure 2.15 illustrates CODI's current organizational structure. CODI is overseen by a 9-member Board (of Directors, with four members coming government organizations (one member from MSDHS, MOI, MOF, and NESDB), two subject-matter experts, and three representatives of member communities. CODI has 11 regional offices throughout Thailand. Each regional office coordinates and supports management of a regional committee for community development together with 30 sub-committee coordinators for community organization development. As of 2012, CODI has a total 280 staff members.
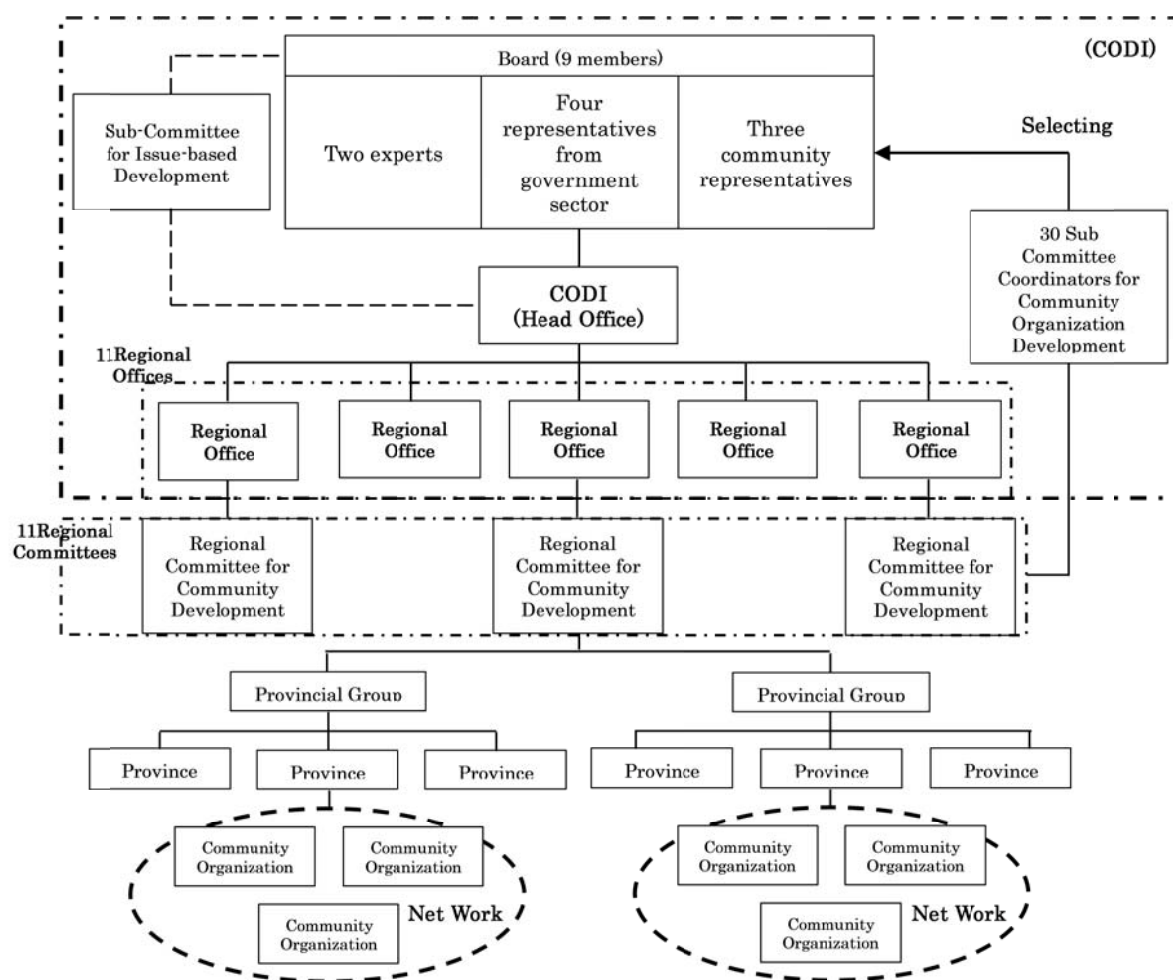
Source: Power point obtained from CODI

Figure 2.15: Organization Chart of CODI

The sub-committee coordinator engages in supportive activities such as setting up of a community organization in each province, coordination with a community organization and public and private authorities, and networking with each community organization in a given province.

The most important thing to take note of is that the central actors in community development activities are the local people themselves. CODI's primary purpose is to facilitate community improvement by supporting these local people's efforts.

6) CODI's Budget

According to hearing to the MSDHS, all of CODI's operating expenses, such as employee salaries, office rents and supplies, etc., are covered by allocations from the national government. CODI activities, such as the Ban Mankong program are covered through both government budget allocations and/or subsidies as well as through CODI's original capital fund of THB 2,899 million.

7) Baan Mankong (BMK) Program

In 2003, a national government mandate led CODI to implement the Baan Mankong (BMK) Program in order to solve problems of informal settlements and human security in low-income communities.   The original target was designed to reach 300,000 households during a five-year

period but was later scaled down to 200,218 units. More details of the BMK program are described in Section 3.3.2.

2.4.4 Governmental Housing Finance

Thailand currently has 17 Thai incorporated commercial banks that are regulated by the Bank of Thailand.   All of the commercial banks are primarily privately owned except Krungthai Bank, in which the government holds a majority stake. Thailand also has eight government-owned Specialized Financial Institutions (SFIs). Notable FSIs include the Government Housing Bank (GHB), the Government Savings Bank (GSB), the SME Development Bank, the Bank of Agriculture and Agricultural Cooperatives and the Islamic Bank of Thailand. These banks deal with housing finance in Thailand. The GHB and GSB play the largest and most important role in housing finance at the national level.

(1) GHB

The GHB's primary mission is to provide a complete range of housing finance-related services in line with relevant government policies, benefiting society and improving everyone's quality of life.

The GHB was founded by the passing of the Government Housing Bank Act of 1953 and opened for business, with its mission being to help secure appropriate housing finance for the general public, as a special-purpose financial institution under supervision of the Ministry of Finance. During its first 20 years, the GHB operated both as a housing finance provider and as a housing project developer. In 1973, the Government established the National Housing Authority (NHA) to take over housing project development for the general public. At this time, all GHB assets, liabilities and rights associated with land and building rents were transferred to the NHA. Since then, the GHB has remained in the business of extending short and long-term loans to both housing project developers and long-term financing to the general public who wish to build, buy or secure their own homes.

The GHB began offering various deposit account services similar to other commercial banks in 1974.   These deposit accounts served as an important source of funds mobilization, and allowed the GHB to became a full-scale bank, offering both deposit and loan services.

During the global economic slowdown between 1979-1981, the GHB restructured its operations by dividing its credit section into general credit and housing project credit. At the same time, credit extension procedures were improved to be more flexible. At the same time, the GHB also established a credit center that reviewed housing project loan applications.

Since 1986, the GHB has expanded from the Bangkok region into the provinces. At present, the CHB has 30 branches in Bangkok and its surrounding provinces as well as 44 branches in other parts of the country, having a total of 74 branches.

More recently, the GHB has supported Low-income Housing Development initiatives by cooperating with the NHA and CODI to provide affordable home-ownership to lower-income individuals, as well as providing continued support towards the development of Baan Eua-Athorn and Baan Mankong projects.

(2) GSB

In 1913, the "Savings Office" was established with a fund of 100,000 baht through royal initiative under the Royal Treasury. The main purpose of this institution was to promote saving amongst the general public while providing them with a secure place to save their money. The Government Savings Bank Act was enacted to serve the growth of the Savings Office in 1946 and renamed as the Government Savings Bank (GSB) under the Ministry of Finance in 1947.

The bank's core business operations are deposit services, sales and purchases of government bonds, profit-oriented investments as allowed by the Ministry of Finance, and any other banking activities.

The GSB presently functions as a commercial bank. Businesses related to housing such as mortgages for individuals and funding for housing developers are not among the GSB's primary concerns. Of customers using GSB for housing purposes, about 70% of mortgage customers are from low-income (less than THB 15,000/month/household) and medium-income (between THB 15,000 and 30,000/month/household) groups such as public employees and retailers.

(3) Balance of Housing Loan

Among financial institutions in Thailand, the GHB is the biggest housing loan balance holding bank. The GHB's loan holdings (balance) typically increase every year, with the total amount standing at THB 689,000 billion in 2012. This figure represents 32.5% of total housing loan balances in Thailand. The GSB is ranked fifth in terms of loan balance, with its share accounting for 8.52% of the national total. Collectively, the GHB and GSB have more than 40% of total housing loan market share.

Table 2.30: Balance and Market Share of GHB and GSB

Bank	Balance (MB)				Market Share (%)			
	2009	2010	2011	2012	2009	2010	2011	2012
GHB	**647,336**	**659,233**	**683,762**	**689,088**	**37.44%**	**34.94%**	**33.50%**	**32.54%**
SCB	251,869	280,557	321,784	350,312	14.57%	14.87%	15.76%	16.54%
KTB	161,722	175,610	191,860	206,726	9.35%	9.31%	9.40%	9.76%
KBANK	131,801	166,859	194,037	203,150	7.62%	8.84%	9.51%	9.59%
GSB	**128,030**	**143,264**	**162,369**	**180,452**	**7.41%**	**7.59%**	**7.95%**	**8.52%**
BBL	118,870	130,095	138,258	141,215	6.88%	6.90%	6.77%	6.67%
BAY	81,536	86,797	94,043	99,191	4.72%	4.60%	4.61%	4.68%
TMB	59,111	58,212	53,962	55,085	3.42%	3.09%	2.64%	2.60%
CIMB	11,707	16,420	19,297	21,795	0.68%	0.87%	0.95%	1.03%
Others	136,803	169,738	181,825	170,831	7.91%	9.00%	8.91%	8.07%
Total	1,728,785	1,886,785	2,041,197	2,117,845	100%	100%	100%	100%

Source: Statistics released by the Institute of Mortgage Finance as of 10 Oct. 2012 (obtained from GSB)

2.4.5 Companies related to Housing

Approximately 2,400 companies related to housing exist in Thailand.

Table 2.31: Companies related to Housing in Thailand

Category	Number
(1) House Suppliers	1,579
- House Maker/Home Builder	844
- Condominium Maker	288
- Developer (Residential Area)	447
(2) Real Estate Broker* (registered with the Real Estate Broker Association)	115
(3) Home Renovation	314
(4) Building Material, Housing Equipment Maker	366
- Kitchen Maker	45
- Sash Maker (dealer and maker)	200
- Toilet and bath Maker	96
- Solar Panel Maker (import)	25
Total	2,374

Source: JICA Study Team developed based on yellow page.

These companies can be divided into four categories – housing suppliers, real estate brokers, home renovation, and building material and housing equipment makers. The number of companies belonging to housing suppliers, real estate brokers, home renovation, and building material and housing equipment makers are 1,579, 115, 314 and 366 respectively.

2.4.6 Housing Project Promotion

The Board of Investment (BOI) is a national organization charged with encouraging investments in Thailand and overseas countries. The BOI's leadership committee consists of the prime minister as a chairman and the Industry Minister as a vice chairman, while senior government officials and private sector leaders make up the rest.

The BOI aims to help investors in three key ways as follow:
- To reduce the risks associated with investment,

- To reduce initial investment costs,

- To improve the overall rate of return on investment, and

- To provide support services at all times.

BOI's Mission on Housing Development

(Privileges)
BOI will grant the following privileges depending on the specifics of the investment plan, and the exemption from corporate income tax is concerned with the housing development for low-income group by private sectors.
- Exemption from rules restricting foreign ownership of companies

- Exemption from corporate income tax for up to 8 years

- Exemption of import duties on machinery and raw materials

- Exemption from rules restricting foreign ownership of land

- Exemption from work permits and visa rules

- Exemption from rules restricting overseas remittances.

(Priority Activities)
The BOI prioritizes five types of projects, including those concerning "Public Utilities and Infrastructure", within which housing for low-income communities is included.

(Investment Zones)
The BOI divides Thailand into three distinct Investment Zones, based on a variety of criteria:

Zone	Requirement	Location
1	High Income and Infrastructure	Bangkok, Samut Prakan, Samut Sakhon, Pathum Thani, Nonthaburi and Nakhon Pathom
2	Moderate Income and Infrastructure	Samut Songkhram, Ratchaburi, Kanchanaburi, Suphanburi, Ang Thong, Ayutthaya, Saraburi, Nakhon Nayok, Chachoengsao, Chon Buri, Rayong and Phuket
3	Low Income and Infrastructure	All other Thailand provinces not mentioned above

Source: BOI

(Conditions for Exemption)

Following conditions for obtaining exemption in housing development for low or middle income people are required by the BOI.

Table 2.32: Condition and Incentive by Investment Zone

	Conditions		Incentives
	Condominium	**Townhouse, Detached Houses**	**Incentives**
Minimum Size	50 residential units		
Zone 1	Not less than 28m2 Not proceeding 1 million THB	Not less than 70m2 Not proceeding 1.2 million THB	Exemption of corporate tax for 5 years
Zone 2	Not less than 31m2 Not proceeding 600 thousands THB		Exemption of corporate tax for 8 years
Zone 3			

Source: BOI (hearing)

(Current Situation)

During the last twelve years, nearly 200,000 housing units have been built under BOI incentives. According to a Thai newspaper dated 28th Nov. 2012, about 130,000 housing units for low and medium income people were built by private investors utilizing BOI incentives between 2007 and 2012. The Director General of the BOI was quoted as saying that investment incentives for housing construction for low and middle income peoples are no longer necessary because of oversupply.

Table 2.33: Number of Units constructed using Incentive of BOI

Year	2000 ~ 2008	2009 ~ 2012
No. of Projects	185	170
No. of Units	135,834	47,693

Source: BOI (hearing)

2.4.7 Housing Management

According to an interview with the Property Management Association of Thailand, the present situation of housing management is as follows:

(1) Laws on Housing Management

The Thailand Condominium Act, enacted in 1982, regulates the management collective housing such as condominiums. This act is applied to housing units for sale, but not for rent. A housing or building owner manages a building and its surrounding area properly according to the act.

Management of high-rise collective housing for sale is conducted by following methods:

- Owners of units in a collective housing building formulate a condominium association and manage the housing by themselves, or

- A condominium association formulated by owners of units in the housing contracts with a housing management company and the company manages the housing.

Daily management of common spaces in and around a collective housing building is covered by monthly maintenance costs collected from the owners. Repair costs for the housing are covered by a reserve fund known as the "sinking fund" using money collected in lump-sum form from unit

owners at the time of purchase. Penalties such as fines and/or power outages are levied against owners not paying management fees.

To repair or renovate common spaces, a certain number of approvals from unit owners are necessary before proceeding. In addition, a condominium association can buy back units at appropriates price from owners against repair and/or renovation of the housing.

In terms of public housing, such as those developed under the BEA program, the condominium association contracts with a private housing management company and outsources the job of housing management.

In the case of a collective housing for rent, an owner of the housing manages the housing using a part of collected rental fee of units. Renovations are also implemented by the owner using a part of collected rental fees and/or at the owner's own expense.

In terms of public housing, using the NHA's 40-year old Din Daeng residential flats which are rapidly deteriorating as an example, the responsibility for renovating buildings lies with the NHA, who must receive approval from residents before proceeding.

(2) Housing Management Companies

The Property Management Association of Thailand was established by a number of private real estate management companies in order support their efforts and operations. At present, 40 companies belong to this association. There also exist numerous other real estate management companies outside of the association, however no data exist on the number of firms or their operations.

These real estate management companies contract with condominium associations organized by owners of units in a collective housing development, and implement daily maintenance of joint ownership space in and around a development.

2.4.8 Housing Brokerage Businesses

According to an interview with the Real Estate Broker Association, the present situation of housing brokerage businesses is as follows.

Housing brokers are primarily responsible for the sale of second-hand houses after receiving an order to sell from a housing owner. Brokers are responsible for listing houses for sale, providing advice on the final sales price based on other housing of the same type or in the same area, and for providing documents necessary for buying and selling housing. The homeowner or seller determines the sale price and the broker collects a commission of 3-5% based on the final sale price as is prescribed in Commercial Law.

Traditionally, second-hand housing has not been popular in Thailand, with most people preferring to buy new units. However, in the wake of the flooding experienced in 2011, both demand for second- hand housing and for brokerage services are increasing in and around Bangkok as well as near major tourist and amenity locations throughout Thailand. Pricing for second-hand housing is estimated to be approximately 80-85% of the price for a new unit of similar size, location, and amenity.

It is estimated that about 300,000 to 400,000 second-hand houses are on the market at any given time. Figures suggest that about 20% of these units (60,000 ~ 80,000 houses) are sold each year, of which about 30% (18,000～24,000 houses) are mediated by housing brokers. The

remaining second-hand housing sales are mediated by banks or are traded directly between sellers and buyers.

The Real Estate Broker Association has 120 member firms in Bangkok at present. It is estimated that about one million brokers exist in Thailand, though few belong to the association. The large number of brokers is due in part to the fact that no certification is required to become a real estate broker (as is required in other countries), nor are there any laws or regulations pertaining to Building and Building Lot transactions. Therefore, anyone can become a real estate broker and can register a real estate transaction company with the government. Such lax regulation sometimes causes problems with transactions in the second-hand market when brokers do not meet the obligations of their clients.

In order to increase transparency and reliability and to protect consumers, it is necessary for a reliable organization to establish a system for real estate certification that regulates property transactions, such that consumers will have faith in the system it utilize it more frequently.

2.4.9   Consumer Protection in Housing Sector

Consumer protection for housing sector is covered by Consumer Protection Act which is established in 1979.   The organization responsible for the consumer protection is the Office of Consumer Protection Board (OCPB) under Prime Minister Office.   This office takes actions to ensure the rights of consumers are protected in 5 main categories which are 1) right to receive correct and sufficient information and description regading the quality of goods, 2) right to enjoy freedom in the choice of goods or services, 3) right to expect safety in use of goods or services,4) right to receive a fair contract, and 5) right to have the injury considered and compensated in accordance with the laws on such matters or with the provision of this Act.   In practice, the OCPB receives claims from consumers to take necessary action for consumer protection.

Table 2.34 shows number of clams received by the OCPB in respective years.   The number of claims increases year by year, which implies rise of consumer awareness in recent years.   In particular, the claims regarding housing sector is a major filed of claims received by the OCPB, which represent more than 20% of total claims in every year.   Among the claim on the housing sector, claims on housing development (detached house) and condominium represent majority of the claims.   However, in the recent years, claims on apartment, Dormitory/rental rooms and lease land/ sub-lease gradually increased. As for contents of the claims, the problems regarding defect of house and contract of trading are among the majority of claims, also in the resent years, claims regarding rights of rent and lease of house/ land are increasing.

Table 2.34: Number of Claims relevant with Housing Sector

Cliam	2008		2009		2010		2011		2012	
	No.	%	No.	%	No.	%	No.	%	No.	%
Total	2,708		6,368		7,204		8,547		9,221	
Houisng	658	24.3	1,601	25.1	1,791	24.9	2,020	23.6	1,952	21.2
(target of claims)										
Houisng development	317	48.2	591	36.9	705	39.4	744	36.8	586	30.0
Condominium	185	28.1	617	38.5	627	35.0	641	31.7	615	31.5
Apaprtment/Domitory/ Renteld Room	68	10.3	130	8.1	143	8.0	208	10.3	223	11.4
Lease Land/Sub-lease	30	4.6	129	8.1	109	6.1	169	8.4	262	13.4
Constrruction	-	0.0	33	0.0	79	0.0	123	0.0	106	0.0
Townhouse	12	1.8	42	2.6	40	2.2	78	3.9	118	6.0
Land	26	4.0	59	3.7	88	4.9	57	2.8	42	2.2

Note: Annual data is from October in previous year to September in the year.
Source: Office of Consumer Protection Board, 2013

Based on the Consumer Protection Act, Thai Government enact Product Liability Act (PL Act) in 2009. This PL Act applies the philosophy of "strict liability, which gives all responsibility of losses to the producer regardless of the intention to cause the losses. This PL Act, therefore, affirms rule of "responsibility for negligence", however the plaintiff side should prove that their losses caused by the products.

2.5 Damages and Countermeasures of Flood in 2011

The Flood in 2011 caused devastation to Thai society in such a degree that is become the worst flood disaster in recent history. The number of Victims is up to one fourth of the nation population or about 14 million person, which is about 5 million household. The damages are mainly concentrated in the central and northern regions.

Table 2.35: Damages from 2011 Flood

	Area Encountered danger				Victims	
	Changwat	**Amphoe**	**Tambon**	**Muban**	**Person**	**Household**
North	16	180	1,248	10,714	2,413,521	875,382
Northeast	20	311	2,332	24,335	5,870,276	1,554,715
Central	15	151	1,068	7,945	5,783,770	2,542,880
East	8	59	447	3,784	586,334	186,328
South	6	33	147	911	206,845	56,252
Total	65	734	5,242	47,689	14,860,746	5,215,557

Source: Department of Disaster Prevention and Mitigation

After the flood, Thai Government implements several civil engineering measures such as dredging klongs, raise of dikes, and flood warning system. On the other hand, Thai Government provides consolation payment of 5,000 baht for every affected family, tax deduction, as well as other supports for the housing sector through mainly GHB. The support provided through GHB includesMitigation of loan repayment for Existing borrowers (an additional six months for severely affected borrowers.)

- Suspension of loan repayment for existing borrowers (an additional six months for severely affected borrowers.)

- Reduction of loan interest to 0.01 %/year throughout the remaining term for existing borrowers who become permanently disabled or died

- If houses became uninhabitable, loans will be reduced to land-values only.

- Existing and new borrowers' with damaged homes - the Bank offered 5 year 2 % fixed rate loans for construction or repairs (after 5 years - floating interest rates). Loan limit - not more than Bt1 million (100 % of construction or repair appraisal prices). Housing repair loans – interest at 4 % fixed rate for 5 years (less than 100 % of repaired appraisal price). Credit limit of not more than Bt100,000

However, the JICA Study Team can't confirm actual practice of the measurements above.
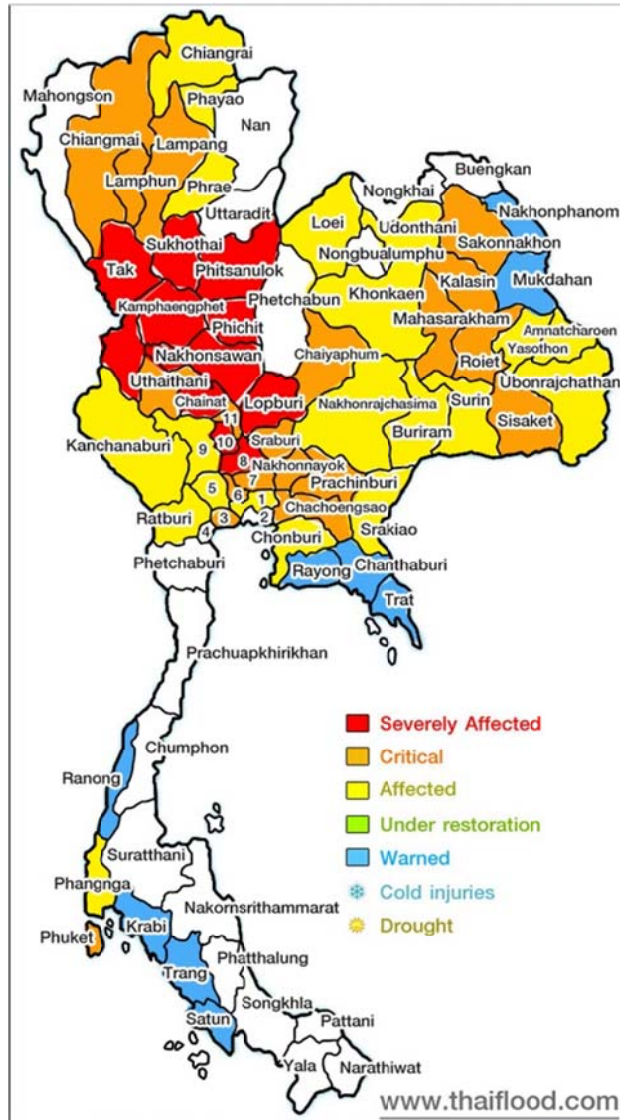
Figure 2.16 Area affected by 2011 Flood

3. Review of Past Housing Policy, Strategy and Projects in Thailand

3.1 Housing Development by Socio-Economic Development Plan

The NESDB is responsible for drafting national economic and social development plans (National Plans). The first five-year National Plan was formulated in 1961. Since then, the NESDB has drafted eleven National Plans to guide national development direction.

The main goal of the present 10th National Plan which runs through the end of 2012, is "Sustainability" (the 11th Plan will commence in 2013 and run through 2016. To measure sustainability and other efforts, "A Green and Happiness Index" is employed in the 10th Plan. This index measures health, family warmth and love, community empowerment, economic strength and equality, environment and ecological development, democratic values and good governance development.

In terms of housing development for low-income households, the NHA and CODI are following past National Plans by promoting empowerment and community strengthening in their projects and follow the practices of sustainability and sufficiency of the current 10th Plan.

3.2 Past NHA Housing Policies and Projects

Thailand has no comprehensive national housing policy or plan. Despite the lack of a comprehensive framework, three main government organizations, the Government Housing Bank (GHB), the National Housing Authority (NHA), and the Community Organizations Development Institute (CODI) are responsible for supplying houses for low and middle-income households.

Thai government intervention in housing development began after World War II. Prior to this time, housing was considered as an individual effort rather than a government responsibility. In 1953, the Royal Thai Government established the GHB as housing developer and housing finance institution.   In 1973, the government created the NHA as a state enterprise under the Ministry of Interior. In 2003, when government restructured many ministries, departments and agencies, the NHA came under a newly created ministry, the Ministry of Social Development and Human Security (MSDHS). The NHA became the principal organization to ensure available shelter for all residents of Thailand in particular to assist households with low and middle incomes living in urban areas (in form of hire purchase and rent).

As a state enterprise, the NHA operates in a semi-official capacity allowing it to conduct business with greater flexibility than as a government department under a national ministry. In its current form, the NHA is also expected to be self-supporting. The NHA has some advantages operating as a state enterprise, however ultimately it is accountable to the MSDHS. From its beginning, the NHA has always had to reconcile these two goals: provide housing for low-income groups, while striving to be financially self-sufficient. Achieving these goals simultaneously has proven difficult.

A result of these seemingly contradictory goals is the fact that the NHA has been charged with solving "the housing problem," a concept that has continuously evolved over time. In attempting to solve this "problem," the NHA has expended considerable resources developing many different plans, strategies, programs, solutions, and projects over the last four decades. Some ideas like eliminating the housing shortage periodically appear as government policy.

The Government of M.R. Kukrit Pramoj declared for the first time in Thai history that eliminating the housing shortage was a primary goal. This administration resolved to eliminate the housing shortage by building 120,000 units from 1976 to 1980. This program required very large government subsidies.

In 1975, in consultation with the World Bank, the NHA reconsidered housing policy alternatives and decided to utilize different approaches, such as, community improvement (slum upgrading), and "site and service" projects, the latter of which was in style at the time. At the same time, the NHA also utilized a mixed approach by building apartments, residential subdivisions, and special projects such as government employee housing.

Slum upgrading accounted for a significant part of NHA annual budgets until 1997. In 1997, the activities were transferred to local administration organizations. At least a million people were served in some way by these comprehensive, nationwide plan programs for individuals, households, and communities and coordinated existing government services for these areas: a comprehensive approach seldom seen in social and economic programs targeting lower income individuals.

This program also initiated a small business loan program in 1976 that was the first micro-financing program ever.

In 1992, the government established the Urban Community Development Organization (UCDO) under the NHA. At that time, the view was that there was a need to address urban poverty by developing some participatory models of support for low-income groups through community-based savings and credit groups. Housing for low-income individuals could be improved by working with the low-income communities and developing a community network.

In 2000, the UCDO merged with the Rural Development Fund, to become a new public autonomous organization called the Community Organizations Development Institute (CODI). CODI continues to support the UCDO programs to reduce poverty both in urban and rural areas.

The government also encourages the private sector to build housing for lower middle-income groups. Since 1993, the Board of Investment (BOI) has offered privileges for private housing projects, at a price not more than THB 600,000, in specific industrial zones, as discussed earlier in this report.

Recently, Prime Minister Abhisit Vejjajiva (who left office in 2011) agreed to adjust certain conditions of these BOI promoted housing projects and lift the price ceiling to 1.2 million baht in some zones as an economic stimulus package.

Currently, the NHA continues to be a major housing provider for low and middle-income households.   In late 2003, Prime Minister Thaksin Shinawatra launched a "One Million House Program" (2003-2008). Under this program, the government instructed the NHA to build 600,000 units (BEA Program) and CODI to upgrade another 300,000 units in the existing communities (Baan Mankong or BMK Program). Another 100,000 units were assigned to GHB to finance. The objectives of this policy were to stimulate the economy, increase job opportunities, and provide home ownership.

Without a comprehensive national housing policy or unified governmental approach towards housing, problems may continue to persist, especially pertaining to NHA's role.

The NHA was under pressure to achieve 600,000 units. The scope of this program was also beyond the NHA's organizational capacities and as a result, its financial viability is now in question.

In 2007, the NHA collaborated with other stakeholders, public and private professionals,

interested citizens and with the Government of the Netherlands to prepare a roadmap for a National Housing Strategy, which was in turn proposed to the Cabinet for approval. The Cabinet approved the National Housing Strategy along with establishing a National Housing Policy

To implement the strategy, the National Housing Promotion Board (NHPB) as prescribed in the Royal Gazette dated 29 May 2008, was formulated. One of the major responsibilities of NHPB is to oversee the formulation of long term national comprehensive housing policy rather than relying on individual government's policies. The new comprehensive housing policy development approach is to:

- Make housing policy a key element in the national development agenda;

- Promote land and infrastructure initiatives conducive to housing development;

- Ensure housing finance is available for people at all income levels;

- Strengthen the capability and participation of all stakeholders in the development and management of housing;

- Provide housing information to all citizens;

- Improve housing quality and the livelihood of Thai citizens; and

- Institute appropriate housing standards.

3.3 Projects for Lower Income Families

In 2003, then-Prime Minister Thaksin's large-scale "One Million House Program", targeted at low -income people kicked off. The main objectives of this program were to stimulate the economy, increase job opportunities, and provide home ownership. To support this program, the following initiatives were undertaken:

- NHA: Develop 600,000 units (Baan Eua Arthorn Project)

- CODI: Develop 300,000 units (Baan Mankong Project) in 1,826 communities in 200 cities

- GSB or GHB: Providing affordable financing for 100,000 units

3.3.1 Baan Eau Arthorn (BEA) Project

In 2003, Prime Minister Thaksin Shinawatra's Government initiated the BEA program to provide housing access to lower-income segments of the population nationwide. The Government assigned the Ministry of Social Development and Human Security and the Ministry of Finance to formulate the program and the NHA to implement the program.

The BEA is a community housing program designed to enable lower-income households to have access to homeownership in new communities with social and personal security. Although this program aims at helping stimulate economic activity, the program also provides land tenure and affordable homes in a community with new infrastructure. The program was designed to reduce and/or prevent the development of informal squatter / slum communities. The NHA's responsibility extends to supervising and managing the communities at least for the first five years after completion, at which time such services can be outsourced.

Affordability in the BEA program is fostered by requiring no down payments and no upfront fees, both of which are major barriers to lower-income households buying homes. Site-serving infrastructure is subsidized and households will have land tenure. Furthermore, the NHA is able to maintain high standards of dwelling design and construction in a decent environment for these lower income households.

At first, the BEA program targeted households with monthly incomes of THB 15,000 or less at.

However, monthly income limitations were raised almost every year to increase the number of households that the program could serve. By 2009, the monthly income limitation of targeted groups was raised to THB 40,000 (or less).

Table 3.1: Change of Monthly Income Limitation

Year	Monthly Incomes of Targeted Group
2003	Less than THB 15,000 per month
2005	Less than THB 17,500 per month
2006	Less than THB 22,000 per month
2008	Less than THB 30,000 per month
2009	Less than THB 40,000 per month

Source: National Housing Authority

Early on, the NHA used its own land in developing the BEA projects while contracting out the construction. Projects close to urban and industrial centers are very popular, especially those built on land parcels from NHA's land bank. However, after the first year of the BEA program, project implementation was changed to a "turn-key" system. The NHA provides construction supervision for these projects.

All BEA projects employ some level of new technology in their construction from standardized building design to large-scale cast-in-place molded structures. Furthermore, the result of implementing these new technologies has resulted in widened use domestically and overseas in private-sector developments.

The NHA is currently completing the BEA program. Its original goal of 600,000 homes was scaled down to 281,525. Approximately, 239,200 units have been built and the remaining units are currently under construction.

Table 3.2: Original Schedule of Housing Construction of BEA Program

Area	2003	2004	2005	2006	2007	2008	Total
BMA/BMR	7,172	70,364	70,000	112,000	112,000	47,500	419,036
Regional Cities	4,555	30,155	30,000	48,000	48,000	20,254	180,964
Total	11,727	100,519	100,000	160,000	160,000	67,754	600,000

Source: National Housing Authority

Table 3.3: No. of Housing Units provided by BEA Program

Item	No. of Units
Construction	
Total between 2003 and 2010	239,175
Under construction in 2010	41,994
Seeking a contractor	356
Total of Construction	**281,525**
Agreements	
Total of sold between 2003 and 2010	226,385
Rental by the Royal Thai Military	311
Awaiting completion of agreement	54,473
Total of Agreement	**281,169**
Finance	
Paid in full (Cash)	4,431
Rental to purchase agreement with NHA	33,682
Bank financing	128,794
Credit Union Cooperative financing	4,491
Total of Finance	**171,398**

Source: Annual Report 2010, National Housing Authority

The Government subsidizes THB 80,000 of the total cost of THB 470,000. This subsidy pays for onsite infrastructure and is deducted from the costs resulting in a THB 390,000 selling price. A buyer borrows the remaining fund from a bank for construction. No down payment is required and the buyer may apply for housing loan with GHB or GSB. The NHA will guarantee the loan repayment for the first five years. The NHA provides buyers whose applications were not approved by banks because of no credit history with hire purchase programs.

5 Story Walk-up Condominium   2 Story Detached House

Photo – Housing Units constructed by BEA Program
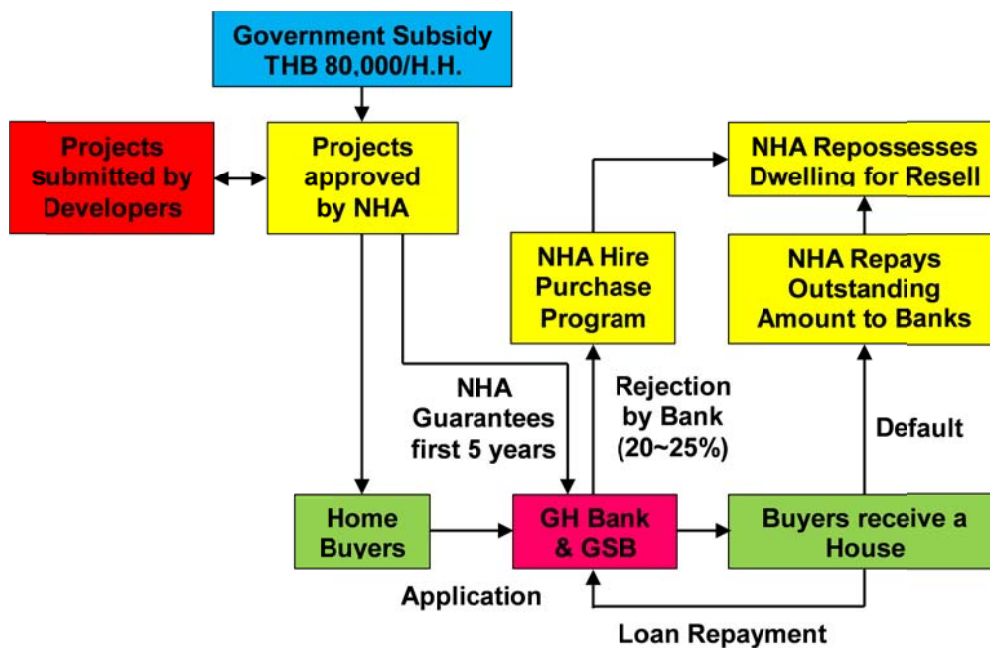
Source: NHA

Figure 3.1: Finding System for BEA Program by NHA

3.3.2 Baan Mankong (BMK) Project

The BMK project was started in 2003 to solve settlement and tenure security problems for low-income communities countrywide. The concept of BMK is not to tackle each slum's problem individually but rather to look at collective problems on a city-wide scale.

The BMK project not only focuses on building housing for low-income people but also considers social aspects of the community such as welfare and living environments. The BMK concept allows low-income communities to study their settlement's physical problems and develop their own resolution and implementation plans.
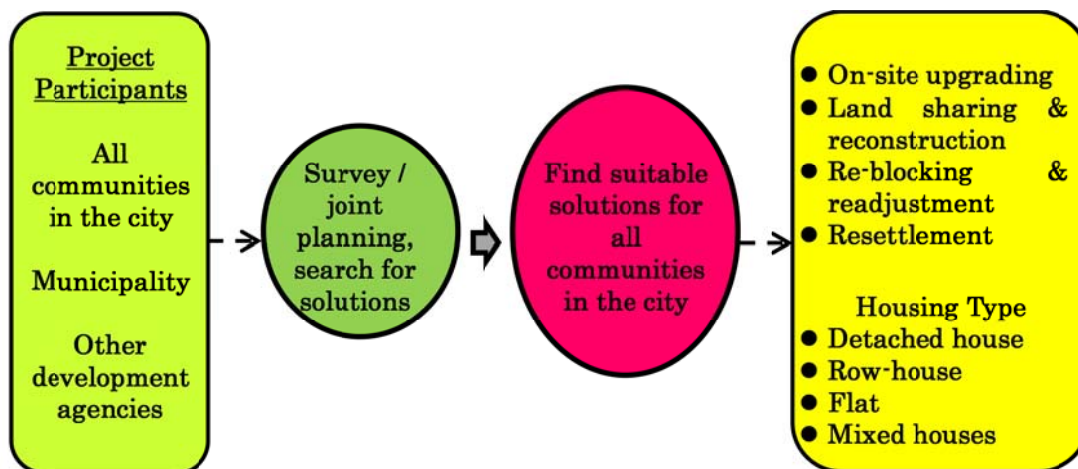
Source: JICA Study Team

Figure 3.2: Finding System of Problems and Solution

In the initial stages, low-income communities work closely with their local governments, professionals, government agencies, universities and NGOs to survey all the communities in their individual cities and then plan an upgrading process which attempts to improve all the city's low-income communities.

Organizing of Meeting of Stakeholders
Establishment of Committee
Survey of all Communities in the City (for identification of problems, and for creation of holistic plan)
Development of Plans (Housing, Land tenure, Policy) for whole City
Formulation of Savings Groups
Setting up of Community Working Team
Collection of Information (Land, Housing, Infrastructure, Income, Employment, Problems, Existing Development Plans)
Conceptualization of Housing and Development Goals (Land Tenure, Upgrading Scheme, Involvement of Local Authorities, NGOs)
Formulation of Financial Plan for Community Development
Provision of Detailed Design on Housing and Infrastructure with Architecture and Engineer
Submission of Detailed Plan to BMK Committee

Source: CODI

Figure 3.3: Process of BMK Project

Once these city-wide plans are finalized and upgrading projects are selected, CODI disburses infrastructure subsidies and housing loans to the communities through legally established cooperatives or savings groups.
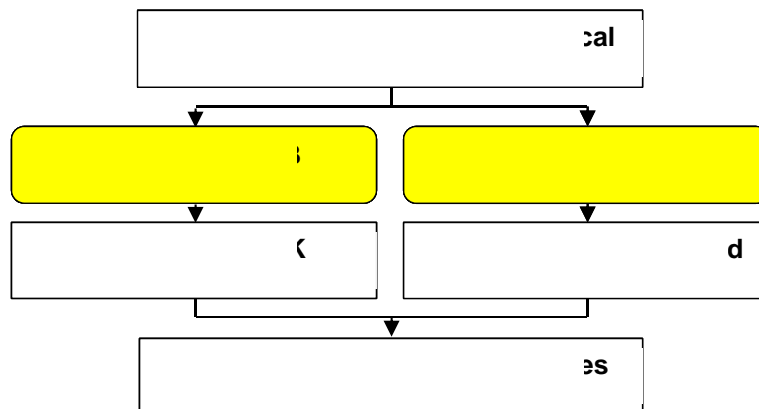
Source: CODI

Figure 3.4: Financing System for BMK Project by CODI

There are three main components in financing of each BMK housing projects: 1) subsidy from the government equaling THB 80,000 per family; 2) community's own savings, and 3) long-term loans extended by CODI.

(Government Subsidy)

The subsidy is disbursed through CODI to the community organizations that own the project and the community can decide how to utilize this subsidy. A small amount of subsidy is also set aside for administrative expenses of the community. Usually, most of the subsidy is used to improve infrastructure such as electricity, water supply, walkways, and sewerage. In some cases, subsidies may be allocated directly to households.

(Community Savings)

Prior to obtaining CODI loans, CODI staff have to ensure that the recipient community is capable of funding and managing the upgrading project. The key element is community-based savings. The savings program should be operational for at least six months and have accumulated an amount not less than 10% of project cost. If necessary, CODI staff would assist in applying accurate and reliable accounting systems for the organization. This savings requirement determines the loan amount for each household. A member who fails to save up as committed may have to reduce loan amount and revise their housing plan.

(Long-Term Loan from CODI)

For any BMK project that requires financing either for land purchase or housing construction or both, a community organization may obtain a loan from CODI up to 90% of the total project cost. The table below shows loan conditions of BMK projects.

Table 3.4: Loan Conditions of Baan Mankong Project

Item	Condition
CODI to the Community	
Loan Maturity	Up to 15 years
Interest Rate to the Community	Fixed Rate of 4%/year
Max. Loan Amount	Not exceeding THB 300,000/household
Loan Portion	90% of the Project Cost
The Community to Members (Re-lending Terms)	
Tenor	15 years, Payable monthly
Interest Rate to Members	Plus a Margin of 2~3% (6~7%)to the Interest Rate of the Community (for loan administration, community welfare, cushion for non-payment by member)

Source: CODI

At the beginning of the BMK program, 300,000 new units were planned. However, target numbers were revised down to 200,218 units. As of 2010, 91,805 units were improved.

Table 3.5: Progress of Baan Mankong Program (2003 to June 2012)

Item	Condition
No. of units originally assigned	300,000
No. of targeted units	200,218
No. of Applied Projects	874
No. of Cities where applied projects locate	293
No. of Communities	1,637
No. of Units completed	**91,805**
Government Subsidy	THB 4,861 million
Housing Loans	THB 5,448 million

Source: CODI

3.4 Current Overall Housing Measures

Housing is positioned as one of the important elements of social welfare policy. Housing policy is roughly categorized into three aspects, including (1) improvement of living environment, (2)

supply-side intervention, and (3) demand-side intervention. Measurement regarding the improvement of living environment aims at improving quality and performance of houses as a means for living.   Measurement regarding the supply-side intervention aims at encouraging new housing supply. Lastly, measurement regarding the demand-side intervention aims at supporting people's to access appropriate housing.

The Thai Government has prepared several measurement indicators regarding housing. Looking into it based on the recognition above, regulations regarding development of land and buildings, such as the Town and Country Planning Act, the Land Development Act, Building Codes and Construction Permissions, guide physical specifications of houses as the measurement regarding the improvement of living environment. As the measurement regarding the supply-side intervention, public housing projects by the NHA and CODI are pointed out such as Baan Eua-Arthorn project (NHA) and Baan Mankong project (CODI). In addition, BOI incentives for lower and middle-income housing projects are also categorized as a measurement under the supply-side intervention, which encourages housing supply for lower and middle income groups by providing tax incentives.

Source: JICA Study Team
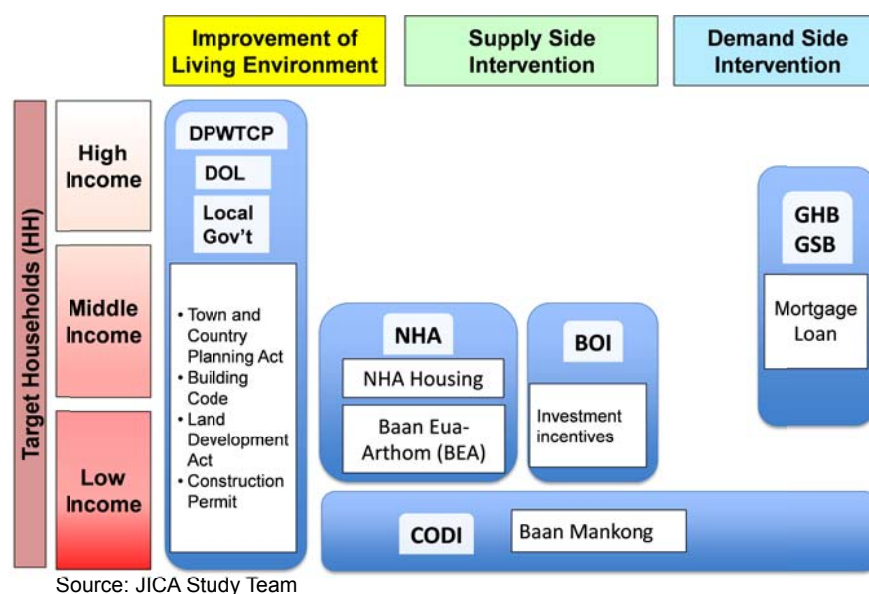
Figure 3.5: Structure of Public Measures regarding Housing in Thailand

On the other hand, as the measurement regarding the demand-side intervention, GHB and GSB provide mortgage loans, but only target middle and upper-income groups due to credit-worthiness.

Historically speaking, housing policies in Thailand have largely focused on lower-income housing as a social welfare policy, accordingly measurements of public housing like Baan Mankong or NHA houses have been well functioning. Since the focus of the housing policy has been social welfare, there are few measurements to supervise/guide private housing businesses or the wider housing market, even though more than 90% of houses are currently provided by the private sector.

In addition, there are several agencies and organizations that are in some way related to the housing sector such as the Department of Public Works and Town and Country Planning (DPWTCP), the Department of Land (DOL), and local government administrations. However, there is no authority (department or ministry committee etc.) to coordinate among them under single housing policy or strategy as the NHPB is currently not operational.

3.5 International Cooperation in Housing Sector

The NHA received technological and financial support from the World Bank for technical development on low-income housing in 1974. This was the beginning of the international cooperation in the housing sector. Since then, the NHA received the international cooperation from various donors such as WB, ADB and JICA. The table shows the history of international cooperation in Thailand's housing sector.

Table 3.6: International Cooperation in Housing Sector in Thailand

Year	International Agency	Project Contents
1974	WB (IBRD)	Technical and financial support. Training of NHA staff by experts sent
1977	WB (IBRD)	Technical assistance
	UNDP	Technical assistance for development of housing policy formulation
	USAID	Technical assistance through housing investment guarantee loans (study of the income distribution and feasibility study for project formulation
1982	ADB	Preparation of experts and study trips for HNA staff to foreign countries for getting skills in financial analysis and comprehensive urban development
	WB (IBRD)	Second IBRD Loan for establishment of the housing database and setting up of housing information system and Housing Information Center in NHA
	Netherland Government	Establishment of Training Center for Low Income Housing Development with technical assistance
1986	ADB	Second ADB Loan for setting up financial and audit system for NHA and its projects, and for supporting planning and experts to research the Bangkok Land Management Project
	Norwegian Government	Technical assistance to NHA by setting up and developing of database system on policy, planning and functions
1987	UN Habitat	Implementation of a pilot project with NHA to collect information on homeless persons and to provide alternatives
	JICA	Technical assistance on land readjustment and urban renewal projects from 1987 to 2006
1991	JICA	Assistance for development of an industrialize prefabrication construction system for housing
1996 ~ 1998	JICA	Various projects on the job training for NHA staff
2001		Shift of role of NHA from technical assistance receiver to donor to neighboring countries
2007	JICA	Technical assistance on capacity development of NHA for promoting low-income housing development

Source: An Overview of Three Decades of Low-Income Housing Development in Thailand in 2009, and the Study Team

4. Future Socio-economic changes and Housing Policy Framework

This chapter tries to identify policy issues in the future based on the future socio-economic prospects.

4.1 Socio-Economic Perspective

4.1.1 Population

(1) Population Growth

The Study Team has estimated population forecasts utilizing the available information from the results of the 2010 Population and Housing Census[2]. The projection is undertaken by cohort method in line with the method utilized by NESDB. Based on the population structure of the base year, the population of the target year takes into account fertility rates, mortality rates and migration. The forecast methodology is as follows:

a) The whole kingdom is divided into 6 regions: Bangkok, Vicinity (Samut Prakan, Nonthaburi, Pathum Thani, Samut Sakhon, and Nakhon Pathom), Central excluding BMR (Bangkok and Vicinity), North, Northeast, and South

b) Natural change: Based on the 2000 census, closed population by cohort by sex in each region for the next 10 years is calculated utilizing age-specific fertility rate, mortality rate by age and sex.   Age-specific fertility rate and mortality rate by age and sex is shown in the Appendix.

c) Social change: Comparing the 2010 census and the result of b) above, inter-regional migration is calculated.

Inter-regional migration is projected based on the comparison between the projection and results in the period 2000-2010.

Comparing the NESDB 2003 projection and results, the volume of immigration to Bangkok and vicinity and Central Region and emigration from Northeast is far beyond of the projection as follows.

- Immigration to Bangkok was 10 times larger than the projection: 1.2 million persons as compared with 120,000 persons projected

- Immigration to Vicinity was about 2 times less than the projection: 1.1 million persons as compared with 2.1 million persons projected Immigration to Central was more than 3 times larger than the projection: 220,000 persons as compared with 700,000 persons projected

- Immigration to Central was more than 3 times larger than the projection: 220,000 persons as compared with 700,000 persons projected

- Emigration from Northeast was more than 3 times larger than the projection: 1.1

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[2] Office of National Economic and Social Development Board undertakes population projection up to 2030 for the whole country and 2025 for the regions.   It is under updating process based on the results of population and housing census 2010.

million persons as compared with 3.6 million persons projected

Table 4.1: Inter-Regional Migration 2000-2010: Projection and Results Compared

	Net Inter-Regional Migration Projection by NESDB (2003)				Net-Inter-Regional Migration 2000-2010: Projection & Result Compared	
	2000-2005	**2005-2010**	**2010-2015**	**2015-2020**	**NESDB Projection in 2003**	**Result**
						(1000 person)
Net Inter-Regional Migration 2000-2020 (NESDB)						
Bangkok	53	65	71	72	118	1,269
Vicinity	550	568	585	604	1,118	2,124
Central	112	112	112	110	224	703
North	-178	-185	-197	-205	-363	-511
Northeast	-547	-567	-577	-585	-1,114	-3,659
South	9	7	5	4	17	53

Source: NESDB, Population Projection 2003, 2010 Population and Housing Census

Based on the inter-regional migration between 2000 and 2010, future migration trend is projected on the assumption that migration trend is weakened, as shown in the table below.

Table 4.2: Net Inter-Regional Migration Assumed

		Projection			
	2000-2010	**2010-2015**	**2015-2020**	**2020-2025**	**2025-2030**
					(1,000 person)
Bangkok	1,269	507	444	381	317
Vicinity	2,124	850	743	637	531
Central	703	281	246	211	176
North	-511	-204	-179	-153	-128
Northeast	-3,659	-1,463	-1,281	-1,098	-915
South	53	21	19	16	13

Note: Vicinity icludes Samut Prakan, Nonthaburi, Pathun Thani, Samut Sakhon and Nakhon Pathom. BMR includes Bangkok and Vicinity. Central excludes BMR.
Source: JICA Study Team

d) Repeating the a) to c) process above, the population in 2030 by cohort is calculated.

Population is projected based on 2010 Population and Housing Census referring to NESDB population projection. Population Projection by NESDB (2003) estimated the population at 72 million in the whole country in 2025. NESDB is currently revising the projection based on the result of 2010 Population and Housing Census. According to the NESDB, the population projection is revised downward to 66 million in 2030.

Table 4.3: Population Projection by NESDB

	2000	2010	2015	2020	2025	2030
						(1,000 person)
Population Projection by NESDB in 2003 (based on 2000 population census)						
Bangkok	6,488	7,078	7,298	7,465		
Vicinity	3,866	5,312	6,067	6,850		
Central	10,636	11,448	11,809	12,130		
North	11,676	11,562	11,395	11,266		
Northeast	21,282	22,334	22,614	22,768		
South	8,265	9,307	9,833	10,343		
Whole Kingdom	62,213	67,041	69,016	70,822	72,286	
Population Projection by NESDB in 2012 (Preliminary result based on 2010 census)						
Whole Kingdom		63,789	65,104	65,006	66,370	66,174

Source: NESDB, Population Projection 2003; Population Projection in 2012: NESDB document 2012

The result of the population projection is shown in the tables below. Population growth will be slowed down in next 20 years, as fertility rate decreased. The total population in the country is 69 million persons. Out of this, 20 million people reside in BMR.

Table 4.4: Population Projection

	1990	2000	2010	2015	2020	2025	2030	
Population (1,000 person)								
Bangkok	5,882	6,355	8,305	9,179	9,955	10,581	11,031	16%
Vicinity	2,708	3,804	6,321	7,431	8,419	9,242	9,878	14%
Central excluding BMR	9,369	10,411	11,862	12,396	12,832	13,141	13,322	19%
North	10,584	11,433	11,656	11,565	11,415	11,202	10,936	16%
Northeastern	19,039	20,825	18,966	17,789	16,564	15,369	14,252	21%
South	6,967	8,088	8,871	9,155	9,392	9,567	9,687	14%
Whole Kingdom	54,549	60,916	65,982	67,516	68,578	69,103	69,106	100%

Note: Vicinity icludes Samut Prakan, Nonthaburi, Pathun Thani, Samut Sakhon and Nakhon Pathom. BMR includes Bangkok and Vicinity. Central excludes BMR.
Source: JICA Study Team

(2) Household

This section provides a look at forecasts for the number of households by region through 2030. Important social factors affecting household formation are marriage, divorce and splitting households. Notably, the average household size has decreased quickly in recent years. The effect of these social changes is revealed as the number of household members (household size). Household size by region is estimated by the trend of household size as shown in the figure in the right. Number of household members will decrease over time.
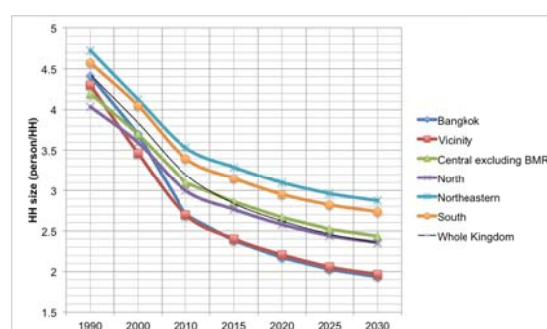
Source: JICA Study Team

Figure 4.1: Household Size by Region: Trend and Projection

Table 4.5 also describes household forecasts by region. In 2030, the total number of households nationwide will be about 29 million. Of these, roughly one-third, some 10.7 million households, will be located in Bangkok and Vicinity (BMR).

Table 4.5: Household Number: Trend and Projection

	1990	2000	2010	2015	2020	2025	2030	Annual Growth Rate (%)					
								1990-2000	2000-2010	2000-15	2015-20	2020-25	2025-30
HH size													
Bangkok	4.4	3.7	2.7	2.4	2.2	2.0	1.9	-1.7%	-3.1%	-2.5%	-1.8%	-1.4%	-0.9%
Vicinity	4.3	3.5	2.7	2.4	2.2	2.1	2.0	-2.1%	-2.5%	-2.3%	-1.7%	-1.4%	-0.9%
Central excl. BMR	4.2	3.7	3.1	2.9	2.7	2.5	2.4	-1.3%	-1.8%	-1.6%	-1.4%	-1.1%	-0.7%
North	4.0	3.6	3.0	2.8	2.6	2.4	2.4	-1.2%	-1.8%	-1.6%	-1.4%	-1.1%	-0.7%
Northeastern	4.7	4.1	3.5	3.3	3.1	3.0	2.9	-1.4%	-1.5%	-1.4%	-1.2%	-0.9%	-0.6%
South	4.6	4.0	3.4	3.2	3.0	2.8	2.7	-1.2%	-1.7%	-1.5%	-1.3%	-0.9%	-0.6%
Whole Kingdom	4.4	3.8	3.2	2.8	2.6	2.5	2.4	-1.4%	-1.8%	-2.4%	-1.6%	-1.3%	-0.9%
Household ('000 HH)													
Bangkok	1,334	1,749	2,869	3,859	4,583	5,227	5,701						
Vicinity	601	1,098	2,207	3,092	3,816	4,496	5,027						
Central excl. BMR	2,208	2,812	3,713	4,335	4,815	5,211	5,472						
North	2,622	3,181	3,741	4,179	4,426	4,590	4,642						
Northeastern	4,029	5,051	5,340	5,404	5,345	5,189	4,958						
South	1,523	1,998	2,494	2,904	3,181	3,390	3,537						
Whole Kingdom	12,318	15,890	20,364	23,772	26,166	28,102	29,336						

Note: Vicinity includes Samut Prakan, Nonthaburi, Pathun Thani, Samut Sakhon and Nakhon Pathom. BMR includes Bangkok and Vicinity. Central excludes BMR.
Source: JICA Study Team

(3) Aging

As with many other Asian countries such as Japan, Thailand's population will grow much older through 2030, with the proportion of national population over age 60 doubling from 13% in 2010 to 27% in 2030. In the BMR, the elderly population will also double from the current share of 10% to 20% in 2030.

Table 4.6: Ratio of Population 60 and Over

	2010	2015	2020	2025	2030
Thailand	13%	15%	19%	23%	27%
Bangkok	10%	11%	14%	17%	20%
Vicinity	10%	11%	14%	17%	20%
Central	13%	15%	18%	21%	25%
North	15%	19%	24%	29%	33%
Northeastern	14%	18%	23%	29%	35%
South	12%	13%	16%	19%	22%

Note: Vicinity icludes Samut Prakan, Nonthaburi, Pathun Thani, Samut Sakhon and Nakhon Pathom. BMR includes Bangkok and Vicinity.   Central excludes BMR.
Source: JICA Study Team

4.1.2 Economic Growth

(1) Household Income Growth

It is expected that household income will grow in line with national economic growth. At the national level, average monthly household incomes will triple from the current 20,000 baht per month to more than 60,000 baht per month in 2030. In the BMR, average monthly household incomes will increase by about 1.5 times, from 40,000 baht per month at present to nearly 100,000 baht per month by 2030.
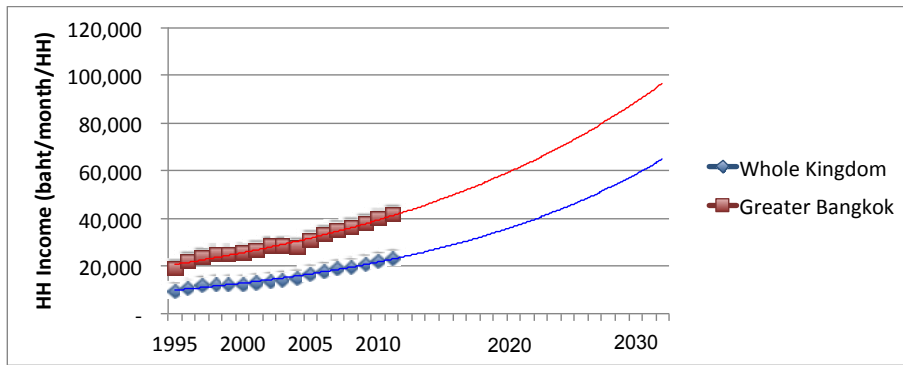
Figure 4.2: Household Income Projection

(2) Middle-Income Group

As a result of the aforementioned income growth, the number of households in middle- and high-income groups will increase, increasing the range of affordable housing options. In the coming 20 years, the share of households with monthly incomes of 15,000 baht or less shrinks from 53% to 28%. It will decrease from 25% to 15% in BMR. These data are presented in Figure 4.3 and Table 4.7 on the next page.
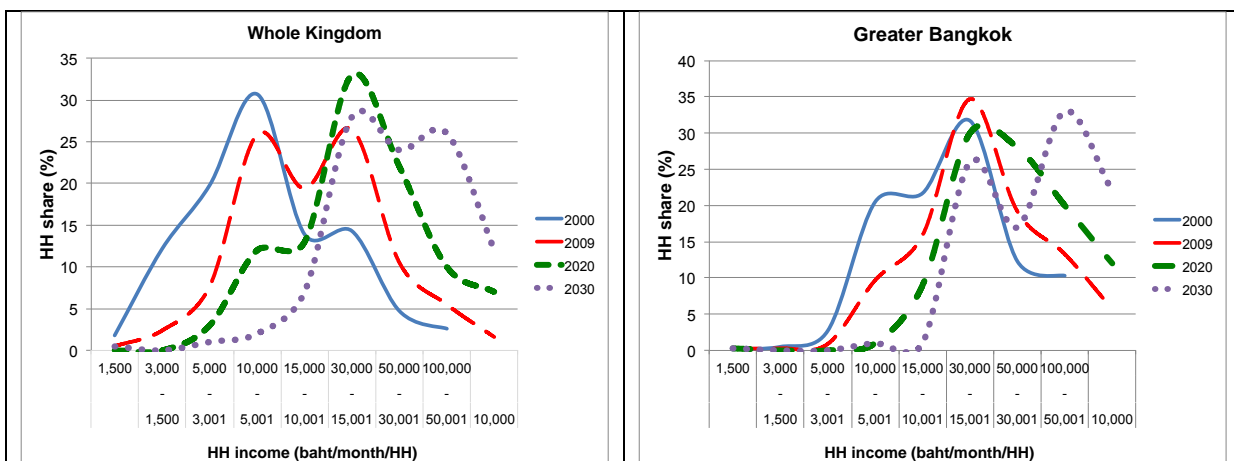
Figure 4.3: Income Group

The previously mentioned thresholds of 15,000 baht / month and 50,000 baht / month (based on 2010 current prices) serve as the breakpoints for household income categories, with under 15,000 baht / month being low-income, between 15,000 baht / month and 50,000 baht / month being middle-income, and above 50,000 baht / month being high-income. This income distribution as adjusted by inflation (CPI) is shown in the table below. The share of low-income households decreases from 53% to 28% in the country, and from 25% to 15% in BMR. On the other hand, the share of middle-income households increases from 40% to 55% in the country, and from 55% to 56% in BMR.

Table 4.7: Household Number and Share by Income Group

	2000	2010	2020	2030
Household Number				(1,000 HH)
Whole Kingdom	15,890	20,364	26,166	29,336
Low	11,488	10,793	11,802	8,891
Medium	3,718	8,146	11,435	17,493
High	683	1,426	2,990	5,713
Greater Bangkok	2,847	5,076	8,399	10,727
Low	948	1,289	1,874	1,847
Medium	1,472	2,772	4,684	6,895
High	427	1,015	1,959	3,571
Household Share				(%)
Whole Kingdom				
Low	72.3	53.0	45.0	27.7
Medium	23.4	40.0	43.6	54.5
High	4.3	7.0	11.4	17.8
Greater Bangkok				
Low	33.3	25.4	22.0	15.0
Medium	51.7	54.6	55.0	56.0
High	15.0	20.0	23.0	29.0
HH income in income group				
			(Adjusted by CPI, baht/month/HH)	
Low	- 11,600	- 15,000	- 20,426	- 27,463
Medium	11,601-38,666	15,001-50,000	20,427-68,088	27,464-91,542
High	38,667 -	50,000 -	68,089 -	91,543 -

Note: Vicinity icludes Samut Prakan, Nonthaburi, Pathun Thani, Samut Sakhon and Nakhon Pathom. BMR includes Bangkok and Vicinity.
*1) Data for Greater Bangkok（Bangkok, Samut Prakan, Nothaburi, Pathun Thani）is used as a proxy of that for that of BMR.
Source: JICA

4.1.3 Urbanization

(1) Population Mobility

It is expected that access to economic opportunity will continue to drive urban population growth in the BMR and that the BMR's share of national population will increase from 23% in 2010 to 30% in 2030. At the same time that migrants relocate to the BMR, it is expected that the home-ownership rate will continue to decrease in Bangkok, its Vicinities and the Central Region as newcomers seek out more affordable housing options in the rental market.

(2) Urbanization

In line with recent national level trends, it is expected that 61% of Thailand's population will live in urban areas by 2030, up from 44% in 2010. Table 4.8 describes projected urbanization trends.

Table 4.8: Ratio of Urban Population to Total Population

	1990	2000	2010	2015	2020	2025	2030
Urban population ratio (%)							
Bangkok	100%	100%	100%	100%	100%	100%	100%
Vicinity	47%	50%	55%	57%	59%	62%	64%
Central excluding Vicinity	27%	29%	41%	45%	50%	55%	60%
North	21%	21%	35%	40%	44%	49%	53%
Northeast	15%	17%	29%	34%	37%	41%	44%
South	20%	23%	33%	39%	43%	47%	51%
Whole Kingdom	29%	31%	44%	49%	53%	58%	61%

Note: Vicinity includes Samut Prakan, Nonthaburi, Pathum Thani, Samut Sakhon and Nakhon Pathom. BMR includes Bangkok and Vicinity. Central excludes BMR.
Source: JICA Study Team

4.1.4 Expansion of Urban Area

Figure 4.4 and 4.5 illustrate the latest official mass rapid transit (urban rail) master plan (2009) for Bangkok from the Office of Traffic and Transport Policy (OTP) and the BMA's Comprehensive Land Use Plan (2006).

At present, the BTS Skytrain, Mass Rapid Transit (MRT) subway, and Airport Rail Link (ARL), which connects central areas of Bangkok and Suvarnibhumi International Airport provide mass rapid transit services to Bangkok's residents. The BTS and MRT system primary operate in central areas with high densities and mixed uses, primarily commercial and residential. The ARL serves as a commuter rail line for Bangkok's eastern suburbs and as a convenient connection to the airport from the center of the city.

In the future, the OTP 2009 Master Plan calls for the completion of 12 new lines and/or extensions to the existing network by 2029. A number of these new lines and extensions will reach into the provinces surrounding Bangkok, including Nonthaburi, Samut Prakan, and Pathum Thani. Building these lines will create numerous opportunities to expand urban growth in an efficient fashion.

The BMA's current land use plan (2006) is not directly aligned with planned urban railway development in the OTP Master Plan. The current land use plan allows for Floor Area Ratio (FAR) bonuses for high-density development near transit stations, but it does not provide specific land use or development guidelines in these areas. It is expected that the 2013 Comprehensive Land Use Plan currently being finalized will provide additional guidelines that promote transit-oriented development (TOD), including partially re-zoning some areas presently zoned for low density to be able to legally accommodate higher densities in places where new transit routes are planned or already under construction.

One of the major challenges facing planners seeking to promote an efficient urban structure, including affordable and accessible housing, is the lack of coordination between key stakeholders. For example, there is very little communication between OTP (transit planning), the BMA (urban planning), the NHA (affordable housing provision), the MRTA (transit implementation), and other relevant organizations. Furthermore, as the rapid transit lines are extended into the surrounding provinces, those provincial governments, as well as the Department of Public Works and Town and Country Planning are involved. In order to promote a truly efficient and affordable urban structure, this challenge must be overcome and all stakeholders must sit down at the table to draft a coordinated, comprehensive plan for rail-based urban development.

Source: OTP

Figure 4.4**: OTP Master Plan (2009)**
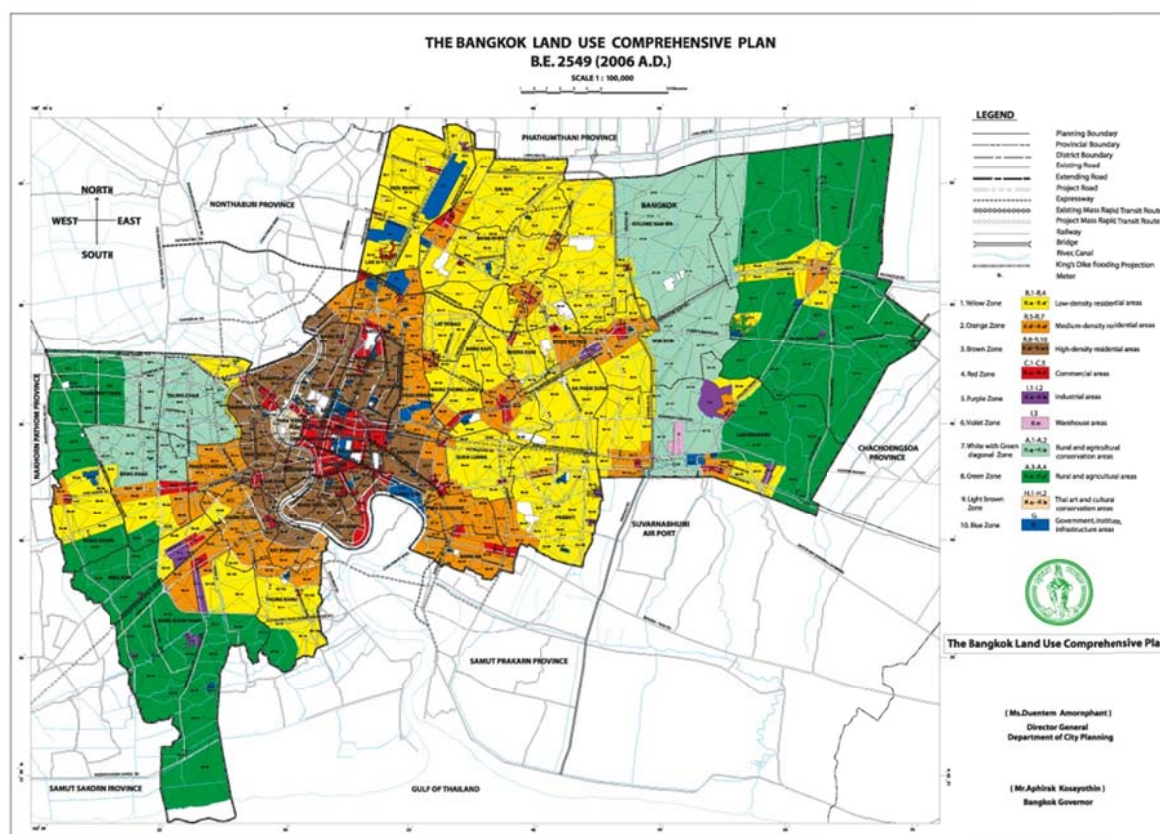
Source: BMA

Figure 4.5: BMA Comprehensive Land Use Plan (2006)

4.2 Housing Needs

4.2.1 Housing Need Projection

Securing adequate housing is one a basic need; providing adequate housing for all citizens is a key part of the Thai government's overall social development policy. For the purposes of this study, projected housing needs are based on estimates for future demand for housing unit purchases for living purposes and does not include possible additional demand generated by demand for second homes and/or investment properties.[3] The forecasted future "housing needs" are necessary to design appropriate public policies to support future demand.

Future housing need / demand projections are calculated based on expected population changes, household composition changes, and household income changes as previously discussed.

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[3] It should be noted that this Study is targeted at public sector policymakers. The Study Team recognizes that second homes and investment properties are an important part of the housing sector as far as the private sector is concerned.
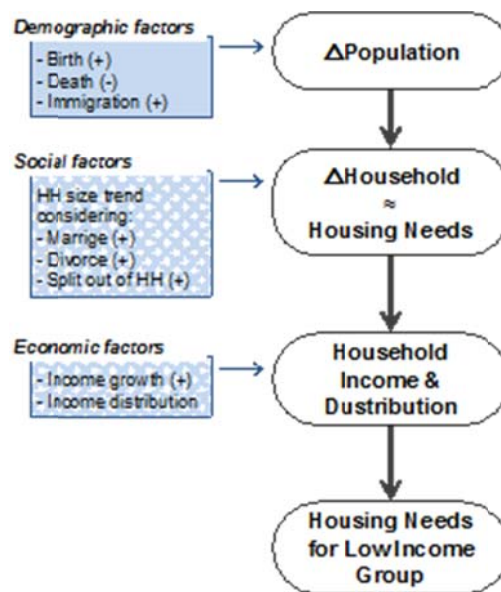
Source: JICA Study Team

Figure 4.6: Flow of Housing Needs Projection

4.2.2. Projection of Housing Needs in the Future

Utilizing socio-economic forecasts discussed earlier in the report, this section describes forecasted housing needs through the year 2030. Figure 4.7 compares forecast housing demand in the BMR against the current trends in housing supply, effectively showing a large possible gap between future supply and demand in the long run.
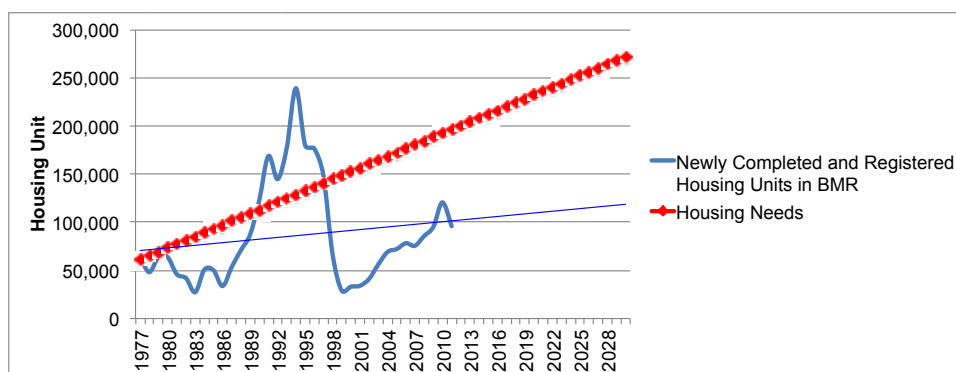
Figure 4.7: Housing Needs and New Housing Supply: Trend and Projection

During Thailand's economic boom between the late 1980s and late 1990s, the BMR housing market was vastly oversupplied, primarily due to intense speculation. As a result of the 1997 financial crisis, there was an excess of housing stock as speculators could not afford payments, a large number of newly completed units went unsold, and many units were only partially completed before some developers became insolvent and abandoned projects. The market then stagnated in the following years as unsold stock was taken up until 2004/2005 when the number of newly completed housing units began to rapidly increase relative to the previous few years. While it is expected that housing supply will keep pace with demand in the long run, if recent trends do persist, there will be a significant lack of housing in the BMR.

Table 4.7 describes the forecast number of households through 2030, which serves as a proxy for future housing demand by subtracting the projected number of households from the current figure.

The results of the analysis in Table 4.9 suggest that through 2030, Thailand will need an additional 9.3 million housing units, of which 5.8 million will need to be provided by 2020. The BMR will need 3.3 million new housing units by 2020 and an additional 2.3 million units by 2030.

Table 4.9: Housing Needs

	2010-2020	2020-2030	Total
			(1,000 Housing Unit)
Bangkok	1,713	1,118	2,831
Vicinity	1,609	1,210	2,820
Central excluding BMR	1,102	657	1,759
North	684	216	900
Northeastern	5	0	5
South	687	356	1,043
Whole Kingdom	5,801	3,557	9,359

Note: Vicinity includes Samut Prakan, Nonthaburi, Pathum Thani, Samut Sakhon and Nakhon Pathom.
BMR includes Bangkok and Vicinity.
Source: JICA Study Team

Table 4.10 describes housing demand for Thailand and the BMR by income group. Low-income households will require 2.8 million new housing units nationwide by 2020, of which 765,000 will be needed in the BMR. By 2030, an additional 1.2 million units will be needed for low-income households nationwide, with about 400,000 being needed in the BMR. As a result, any new public housing strategies and/or corresponding policies should factor in demand for 3.9 million units through 2030, 1.2 million of which will be needed in the BMR.

Table 4.10: Housing Needs by Income Group: Whole Country and BMR

	2010-2020	2020-2030	Total
			(1,000 Housing Unit)
Whole Kingdom	5,801	3,557	9,359
Low	2,750	1,170	3,920
Medium	2,467	1,822	4,289
High	585	565	1,150
BMR	3,323	2,328	5,651
Low	765	398	1,163
Medium	1,824	1,297	3,120
High	734	633	1,368

Note: Vicinity includes Samut Prakan, Nonthaburi, Pathum Thani, Samut Sakhon and Nakhon Pathom.
BMR includes Bangkok and Vicinity.
Source: JICA Study Team

4.3 Future Issues on Housing Sector

In sum, about 25% of all households in the nation are located in the BMR as of 2010 while approximately one-third of the households will be located in the BMR by 2030. Figure 4.8 describes forecasts for the number of households and population in Thailand and the BMR through 2030.
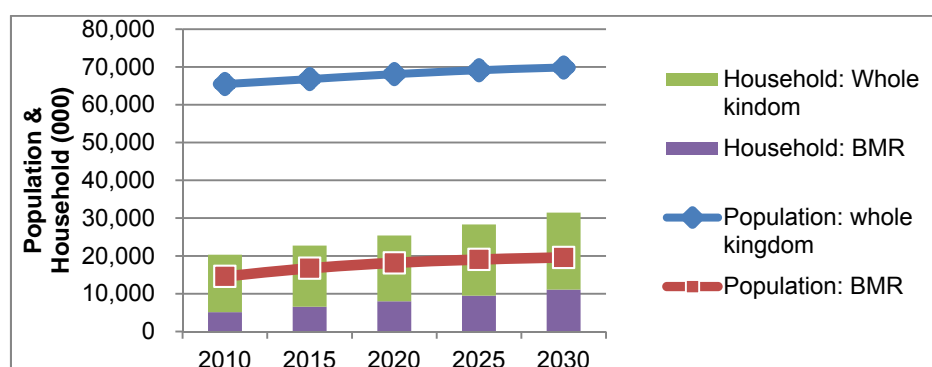
Source: JICA Study Team

Figure 4.8: Population and Household Projection

(1) Factors Affecting Future Housing

- **Continuing Population Growth**: While Thailand's population growth rate is slowly, the national population will reach 69 million by 2030 spread across 32 million households.

- **Increasing BMR-Oriented Urbanization:** As the economy keeps growing, regional income disparities will increase. As a result, people will migrate to the BMR seeking better opportunities. The BMR will account for 30% of the nation's population by 2030, up from 23% today. At the national level, the number of people living in urban areas will increase from 44% in 2010 to 61% by 2030.

- **Decreasing Household Sizes:** It is expected that by 2030, the average Thai household will have 2.4 people, while households in Bangkok will have an average of just 1.9 persons. The decrease is being brought about by the rise of nuclear households (not multi-generational), decreasing marriage rates, and changing lifestyle preferences.

- **Growth in Middle-Income Household Groups in Urban Areas,** especially in the BMR. The middle-income household group will account for 57% of all households in the BMR by 2030.

- **Diversification of Housing Demand:** As incomes rise and lifestyles change, the diversification of demand for different housing types (e.g., detached house, condo, townhouse) will continue.

- **Housing Supply is Determined by Economic Cycles**: Urban areas in particular are vulnerable to business cycle dynamics. The condo market is highly susceptible to such market fluctuations, as many units are purchased by speculators.

(2) Issues on Housing Sector

- It is necessary to facilitate the rapid expansion of the middle-income household group to purchase diversified houses with a certain quality. On the other hand, providing a safety net for socially vulnerable people is also necessary.

- Especially, in BMR where population will be concentrated, diversification of houses and changing housing locations according to lifestyle and life-stage preferences is expected. It is necessary to strengthen the housing market to facilitate providing diversified housing and facilitate people to move between housing types and locations easily.

- To cope with rapid urbanization and population concentration, urban planning is indispensible.   Housing policy should directly correspond to urban planning policies.

5. Review of Housing Policies in Foreign Countries

In order to generate ideas and identify successful policies that could be potentially be applied to Thailand, housing policies in from seven different countries around the world are reviewed. The Study Team has used Japan, the U.S.A., the U.K., Canada, the Netherlands, Malaysia, and Singapore as case studies. Each country's housing policies are reviewed and include coverage, scope and structure, change of function of the public sector in housing policy, public-housing suppliers, and governmental organizations related to urban planning and housing planning.

5.1 Coverage, Scope and Structure

Table 5.1 describes public sector involvement in housing policy development, including supply and demand side concerns and living / environmental conditions in the seven case study countries.

Table 5.1: Public Sector Intervention on Implementation of Housing Policy

Country	Supply Side Intervention	Demand Side Intervention	Improvement of Living Environment
Japan	Housing Construction Five Year Plans Housing (owned and rental) supply for low and middle income and elderly people by public sector ● Provincial and municipal governments, Japan Housing Corporation, Local Housing Supply Corporation	Housing finance for low and middle income people by Government Housing Loan Corporation Housing finance for people by commercial banks Mortgage Tax Break (Income Tax)	Ministry of Land, Infrastructure, Transport and Tourism Provincial and Municipal Governments ● Housing Construction Planning Act ● National Land Us Planning Act ● Urban Planning Act ● Building Code ● Others
USA	Public houses (rental) supply for low income people by Public Housing Authorities	Direct finance by the Federal Housing Bank Housing loan guarantee by Federal Housing Administration (Gimmie Mae) Issuance of Mortgage Backed Security (MBS) Deduction of housing loan interest from income Rent subsidy to low income people (Certificate and Voucher)	Central government, states and municipalities ● Housing Act ● Housing and Urban Development Act ● Housing and Community Development Act ● Affordable Housing Act ● Urban Planning Act ● Standard Building Code
UK	Publicly-rented housing supplied by the Housing Association	Disposal of Public Houses (Right to Buy, Home Ownership) by Department of Communities and Local Government Deduction of Housing Loan Interest from Income Rent reduction and rent subsidy to low income people	Department for Communities and Local Government and Local Authority ● Housing Act ● Urban and Rural Planning Act ● Building Act and its Building Regulations
Canada	Canada's Economic Action Plan by Ministry of Finance Supply of social housing and supportive housing by local governments	Mortgage loan for people provided by Canada Mortgage and Housing Corporation Rebate system of Taxes for new housing	● National Housing Act ● Urban Development Agreement ● Social Housing Renovation Act

Netherland	Housing supply for low income people by Housing Associations and Municipal Housing Company	Rent subsidy by central government through local government Deduction of housing loan interest from income and financial assistance for low income people	Ministry of the Interior and Kingdom Relations ● Housing Act
Malaysia	Five-Year Malaysia Plan Housing supply for people by private sector Housing supply for low income people by State Economic Development Corporation Housing supply for staff by Ministries and local governments	Housing finance by commercial banks Housing finance with low-interest to public servant by Ministry of Finance National Mortgage Corporation (Cagamas Berhad)	Ministry of Housing and Local Government and state governments ● Housing Ownership Democracy ● Town and Country Planning Act ● Street, Drainage and Building Act 1974
Singapore	Housing Construction Five Year Plans Housing supply for people by Housing Development Board	Central Provident Fund	Housing Development Board ● National Housing Ownership System ● Urban Planning Act ● Building Code

Source: The Study Team

5.2 Changes of Function of Public Sector in Housing Policies

5.2.1 Japan

(1) Measure for Promotion of Housing Supply

1) Plan and Program on Housing Development

Housing Construction Five-Year Program

Japan's central government was aware of the necessity to provide a stronger impetus for housing construction under comprehensive long-term plans based on cooperation among the central government, local governments and the people. Based on the awareness, the Housing Construction Planning Act was established in 1966. The new law required the setting of targets for housing standards and targets for the total number of houses built, including houses built by the private sector, during the Housing Construction Five-Year Programs. Since then, eight Housing Construction Five-Year Programs have been formulated between 1966 and 2005. The years covered by the eight Five-Year Programs can be divided into two periods - the quantitative expansion period (first and second programs) and the qualitative improvement period (third through eighth programs).

Table 5.2: General Description of Eight Five-Year Programs

Period	Program	General Description
Quantitative expansion period	First and second programs	The first and second programs were implemented at a time when the number of dwellings was below the number of households, so the aim was to alleviate this housing crisis. The goal for the first program was to increase the number of dwellings to one per household, and the goal for the second program was to ensure that there was one room for every person.
Qualitative improvement period	Third through eighth programs	The goal of providing one dwelling per household had been achieved by 1973, and the number of dwellings was in excess of the total number of households in all prefectures. Under the third program, the focus shifted to the qualitative improvement of the housing stock, and the government defined **minimum housing standards** that should be ensured for all households, and **average housing standards** that should be attained by average households.

| | | A new goal, the provision of **quality residential environments**, was introduced under the fourth program. |
| | | The fifth program saw the introduction of **targeted housing standards** as the basis for efforts to achieve further enhancement of residential living standards. This focus has continued through to the eighth program. |

Source: Ministry of Land, Infrastructure, Transport and Tourism

Table 5.3: General Description of Standards on Housing

Standard	Program	General Description
Minimum Housing Standards	Third program	Minimum housing standards defining the living area that should be available in all households according to the number of residents was introduced under the third programs. The number of households falling below the minimum housing standards had been reduced to less than one-tenth by 1988. However, the standard of accommodation for households living in rental housing in urban areas remained significantly below the level achieved in other regions. The elimination of urban households below the minimum standards has continued through to the eighth program.
Average Housing Standards	Third and fourth programs	The average housing standards were introduced under the third and fourth programs as targets for the standard of housing that should be attained by an average household. The goal was to ensure that the majority of households would reach this level of housing by 1985. The goal was reached in 1983.
Targeted Housing Standards	Fifth through eighth program	Under the fifth program, the focus shifted from the average housing standards to targeted housing standards. The goal of targeted housing standards was to ensure that the majority of households would achieve these standards by 2000. This was maintained under the sixth and seventh programs. The goal for the eighth program is to ensure that two-thirds of all households will reach the standards by FY2015, and that the majority of households in all urban areas will achieve this level by FY2010. The majority of all households had reached the targeted housing standards by 2003.
Housing Performance Standards	Eight program	For the eighth program, housing performance standards were formulated as guidelines for the basic performance requirements to meet the needs of residents and society. Anti-seismic performance, fire-resistance, durability, energy conservation, openness, and suitability for the aged were included in the standards.
Residential Environment Standards	Fourth through eighth program	The residential environment standards were introduced under the fourth program as guidelines for the elimination of low-quality residential environments and the provision of quality residential environments. The fifth, sixth and seventh programs called for continuing effort to improve residential environments under these standards. The priority under the eighth program is to take urgent action to improve environments in densely populated urban areas, in part because of the need to prevent fi res from spreading.

Source: Ministry of Land, Infrastructure, Transport and Tourism

A combined total of 60,276,000 housing units were planned throughout the eight five-year programs, with about 39% (23,813,000) of the units being publicly financed. The programs have been largely successfully as more than 95% of all planned units were built. Notably, more publicly financed units were built than planned (103% of planned total), meaning that 43% of units built were publicly financed.

Table 5.4: Summary of Eight Housing Construction Five-Year Program (1966 ~ 2005)

Program	Period	Background	Goals of Program	Total units (in thousands)			
				Program		Results	
				Total units to be constructed	Units to be publicly financed	Total units constructed	Units publicly financed
1st Program	1966 ~ 1970	To resolve housing shortage.	To resolve housing shortage. **"One housing unit per household"**	6,700	2,700	6,739.3 <100.6%>	2,565.3 <95.0%>
2nd Program	1971 ~ 1975	To completely resolve housing shortage.	To resolve housing shortage. **"One room per person"**	9,576	3,838	8,280 <86.5%>	3,108 <81.1%>
3rd Program	1976 ~ 1980	To upgrade housing standards on long-term perspective	To create two housing standards. -Minimum Housing Standards: -Average Housing Standards:	8,600	3,500	7,698 <89.5%>	3,649 <104.2%>
4th Program	1981 ~ 1985	To go on upgrading housing standards mainly in metropolitan areas. To meet demand of postwar baby boomers for acquiring their own houses	To work toward achievement of housing standards. To set up living environment standards additionally.	7,700	3,500	6,104 <79.3%>	3,231 <92.3%>
5th Program	1986 ~ 1990	To form a good quality housing stock as a basis for stable, affluent living in the 21st century.	To set up a new version of housing standards. • **Minimum Housing Standards:** • **Targeted Housing Standards:**	6,700	3,300	8,356 <124.7%>	3,138 <95.1%>
6th Program	1991 ~ 1995	To solve housing problems in metropolitan areas To take measures regarding the aging society	To develop measures to attain Targeted Housing Standards. • **Targeted Housing Standards:** • **Minimum Housing Standards:** • **Living Environment Standards:**	7,300	3,700	7,623 <104.4%>	4,017 <108.6%>
7th Program	1996 ~ 2000	To tackle following 4 items: Good quality housing stock. Safe, comfortable urban life and living environment. Active elderly society. Good housing and living environment	To continue efforts to achieve goals set by housing standards.	7,300	3,525	6,769 <92.7%>	3,487 <98.9%>
8th Program	2001 ~ 2005	To tackle following 4 items: High-quality housing stock; Residential environment; Housing and living environment; and An accessible housing market	To set up goals for housing standards and the development of barrier-free housing stock To establish "Standards for Densely-inhabited Areas Requiring Urgent Improvement" and "Guidelines for Improvement, etc., of Urban Residential Districts", etc.	6,400 expanded/ Remodeled	3,250	5,935 <92.7%>	1,299 <40.0%>
Total				60,276	23,813 <39.5%>	57,504.3 <95.4%>	24,494.3 <102.9%> <42.6%>

Source: Ministry of Land, Infrastructure, Transport and Tourism

Basic Plan for Housing

Because of housing development based on eight housing construction five-year programs, quantitative needs have been met. However, new priorities have arisen as a result of social and

economic changes that include rapid demographic aging, declining birth rates and increasingly serious environmental problems. These changes have required a major shift in the basic framework of Japan's housing policies. New priorities are designed to improve the overall quality of residential living standards, including residential environments, while also providing safety nets for those whose housing needs require special consideration, such as low-income people.

According to this situation, the Basic Act for Housing was enacted instead of the Housing Construction Planning Act on 2006 and contains the following four fundamental concepts:

- Supply, construction, improvement and management of quality housing as infrastructure

- Formation of quality residential environments

- Protection and advancement of the interests for housing purchase, and

- Provision of stability for those whose housing needs require special consideration.

In September 2006, the Cabinet adopted the Basic Plan for Housing (national plan), which sets targets and basic measures for the realization of the fundamental concepts defined in the Basic Act for Housing over the next 10 years.

1) Methods for Housing Supply

Public housing supply has been implemented mainly by three methods – by local governments, by the Japan Housing Corporation and by local housing supply corporations in Japan.

Publicly Operated Housing supplied by local governments

The Publicly Operated Housing Act was established in 1951 to overcome the housing shortage caused by the extensive property damage caused by World War II. Based on the Act, publicly operated houses were supplied. Publicly operated housing provide rental units for low-income people that are built, bought or rented by prefectural and municipal governments using central government grants. As of March 31, 2007, Japan's stock of publicly operated housing amounted to 2.18 million units.

Table 5.5: Stock of Publicly-Operated Housing by Construction Period (unit: 10,000)

Year	1945-1954	1955-1964	1965-1974	1975-1984	1985-1994	1995-2006	Total
No. of Units	2.1	11.8	71.7	58.6	40.6	33.7	218.4

Source: Ministry of Land, Infrastructure, Transport and Tourism

The size of each housing unit has been increased to raise housing standards. Furthermore, to supply good quality Publicly Operated Housing, the Publicly Operated Housing Construction Standard was set up to regulate housing structure, floor plan, building sites and common facilities. In recent years the standard has specified that every housing unit must be equipped with facilities designed for elderly persons.

Housing supplied by Japan Housing Corporation, now Urban Renaissance Agency (UR)

In 1955, the Japan Housing Corporation (JHC, now Urban Renaissance Agency) was established based on the Japan Housing Corporation Act in order to overcome a housing shortage resulting from an influx of people into Japan's major cities, by supplying housing and land for housing to working people. The purpose of its establishment was to carry out a number of tasks, including construction of housing for working people in regions affected by serious housing shortages, and to undertake systematic, large-scale housing land development. The first JHC development was the Kanaoka Estate in Sakai City, Osaka Prefecture. Occupation of this 675-unit complex began in 1956. Projects undertaken by the JHC include some of Japan's biggest residential developments, such as Tama New Town. The community development activities of the JHC included the development of blocks of apartments above retail outlets.

Under the 1969 Urban Renewal Act, the JHC became involved in redevelopment schemes on a significant scale, as a project entity in its own right.

In 1981 the JHC merged with the Land Development Corporation to form the Housing and Urban Development (HUD) Corporation. It was in this period the priority for HUD housing construction shifted from quantity to quality.

In 1999, the Urban Development Corporation (UDC) was established. It withdrew from business of housing for sale and shifted its priority from the improvement of the housing situation through the large-scale supply of houses and land to the development of urban infrastructure to support efficient urban activities and healthy, cultural urban lifestyles.

Table 5.6: Transition of UR

Name of Organization	Establishment and/or Organizational Change Year	Major Activities
Japan Housing Corporation (JHC)	1955	Construction of housing for working people Development of large-scale housing land Redevelopment of urbanized area
Housing and Urban Development (HUD) Corporation	1981	Merged with the Land Development Corporation Construction of housing for working people Development of large-scale housing land Redevelopment of urbanized area
Urban Development Corporation (UDC)	1999	Withdrawal from business of housing for sale Shift priority from the improvement of the housing situation through the large-scale supply of houses and land to the development of urban infrastructure

Source: Ministry of Land, Infrastructure, Transport and Tourism

When the JHC was established in 1955, Japan faced a severe housing shortage of 2.7 million housing units. The JHC (later HUD and UDC) played a major role in efforts to alleviate this situation, and by 2006, new towns were developed in around 300 areas and approximately 1.5 million dwellings (including the supply of dwellings for sale) were supplied.

Housing Supplied by Local Housing Supply Corporations

Local Housing Supply Corporations are corporations established under the Local Housing Supply Corporation Act established in 1965. Their mission is to design and develop housing environments for workers by supplying collective housing and land for housing, using funds deposited by workers who need housing, together with funds from the Government Housing Loan Corporation (now Japan Housing Finance Agency) and other sources.

A total of 53 Local Housing Supply Corporations have been established by prefectures and ordinance-designated cities with populations of over 500,000 up to now, of which three corporations have gone bankrupt over time. They primarily supply the following types of housing.
- Housing for sale to persons with savings accounts
- Local Good-quality housing for sale, and
- Regional Good-Quality Rental Housing

Table 5.7: Three Major Methods for Housing Supply in Japan

Housing Supply Method	Rent of Publicly-Operated Housing	Rent or Sale of Houses	Rent or Sale of Houses
Implementation Organization	Prefectural and/or municipal governments	Japan Housing Corporation - JHC (Now Urban Renaissance	Local Housing Supply Corporations - LHSC (as of 20012, 50 LHSCs)

		Agency - UR)	
Governing Law	The Publicly-Operated Housing Act of 1951	The Japan Housing Corporation Act of 1955	The Local Housing Supply Corporation Act of 1965
Objectives	To construct, buy or rent houses for low income people by prefectural and municipal governments using central government grants As of March, 2007, stock of publicly-operated housing amounted to 2.19 million units. Type of publicly-operated housing ● Publicly-Operated Housing ● Specified Good Quality Rental Housing ● Good Quality Rental Housing for the Aged ● Regional Quality-Rental Housing	**JHC:** To carry out construction of housing for rent or sale for working people in regions affected by serious housing shortages, and to undertake systematic, large-scale housing land development **UR:** To contribute to sound urban development and the stabilization of national living standards through active initiatives in the area of urban renewal, and through activities that help to create new opportunities for private sector business	To design and develop housing environments for workers by supplying collective housing and land for housing, using funds deposited by workers who need housing, together with funds from the Government Housing Loan Corporation (now Japan Housing Finance Agency) and other sources Type of houses supplied ● Housing for sale to persons with savings accounts ● Local Good-quality housing for sale ● Regional Good-Quality Rental Housing
Target Group	Low income people, middle income and aged people	Middle and high income people	Middle income people
Target Area/Region	Whole of country	Metropolis and its surrounding area	Whole of country

Source: Ministry of Land, Infrastructure, Transport and Tourism

(2) Measures for Stimulation of Housing Demand

1) Financing by the Government Housing Loan Corporation (GHLC)

The Government Housing Loan Corporation (GHLC) was established in 1950 in response to a severe housing shortage in the immediate postwar period. Its task was to facilitate housing construction, and in the years that followed, it provided access to long-term housing finance at low, fixed interest rates to allow low-mid income people to acquire housing, the foundation of national living standards. The GHLC also contributed to the development of quality housing and communities through its policies, including the provision of loans only for dwellings that met its technical standards.

The GHLC had another important role to support housing investment by providing loans during recessions, when lending by private sector financial institutions tended to decline.

The Japanese housing loan market expanded in step with the postwar reconstruction process. In 1994, the new lending of the GHLC has amounted to around ¥12.6 trillion, which was the largest lending amount for one year in the history of the GHLC. Around 45% of housing loan borrowers used the GHLC. In 2000, balance of the GHLC reached around ¥68.3 trillion, which was the maximum of balance.

The GHLC ceased its lending services in 2006. The abolition of the GHLC has led to a continuing increase in the percentage of new loans provided by private sector financial institutions. The majority of loans provided by private sector financial institution are adjustable rate mortgage (ARM), which allows borrowers to make relatively small payments initially.

2) Property accumulation residence savings

Property accumulation residence savings is one of three property accumulation savings methods. The purpose of this savings is for purchasing, expanding and/or renovating a house.

Property accumulation savings is a Worker's Property Accumulation System in which an employee saves a certain amount of money by having their employer automatically deduct a portion of their wages. This system started in accordance with Worker's Property Accumulation Promotion Act enacted in 1971. There are three property accumulation savings types according to employee's purpose.

- Property accumulation general savings
- Property accumulation pension savings, and
- Property accumulation residence savings

Property accumulation residence savings has several constraints, including:

- An employee under the age of 55 working in the company adopting the saving system
- An employee saving more than 5 year, and
- One employee one contract

However, the savings has some merits such as tax-free savings interest and low interest loan rates to purchase employee's own house and/or expansion or renovation of the house. Table 5.8 shows the outline of savings and finance of property accumulation residence.

Table 5.8: Outline of Property Accumulation Residence Savings

Purpose	An employee saves a part of wages to a finance institute for purchasing a house.
Maximum Limit of Tax-free	- Interest income tax to principal up to ¥5.5 million is free. - In case an employee joins both pension savings and residence savings, interest income tax to total amount of both savings up to ¥5.5 million is free. Interest income is chargeable if an employee withdraws savings not for down payment for purchasing and/or extension or reconstruction of a house.
Housing Loan	5 year fixed rate that is reviewed every 5 years. - Loan amount up to 10 times of balance of the savings (max. ¥40 million) or 90% of property value
Requirement	- An employee under the age of 55 years old at conclusion of a contract - One employee one contract - A certain amount of an employee's wages is withheld and deposited by an employer - More than 5 year regular saving - Not to withdraw deposit and saving according to the contract for the savings except for down payment for purchasing and/or extension or reconstruction of a house - Loan from an employer and/or a financial agency for paying remaining amount after deduction of down payment is secured.
Measures for Continuance of the Savings in Case of Job Change	In case that an employee changes job, an employee can transfer a contract for the savings at a previous company to a new company by offering through a new employer within one year after transition to a new company.

Source: Homepage on the Property Accumulation Savings

3) Housing Policies for the Elderly

General

Japan's population is aging (ratio of people aged 65 and over) at a faster rate than the populations of any other countries in the world.   In response to this trend, the following measures have been taken in the housing sector in cooperation with welfare policies.

- Preparation of Act for the Stable Living of the Elderly

- The Act for the Stable Living of the Elderly was enacted in 2001 in response to the rapid aging of Japan's population, and was designed to create a living environment in which elderly people can live without anxiety.   The act aims to ensure an efficient supply of housing for the elderly through private sector initiatives and effective utilization of the existing housing stock.   It also aims to reinforce schemes for providing more broad information on housing that accepts elderly residents.   In 2009, the act was amended to include additional goals, such as the formulation of plans to ensure the reliable supply of housing for the elderly at the prefectural level.

- Establishment of the Guidelines Concerning the Design of Housing where the Elderly Live

- The Act establishes basic policies for securing stable housing for the elderly.   According to these policies, guidelines concerning housing design stipulate that the elderly should be able to continue living in their dwellings even when their physical capabilities deteriorate as a result of aging and other factors.

Establishment of basic policies and formulation of plans for ensuring the reliable supply of housing for the elderly are stipulated in the act.   Outline of the policies and the plans is shown in the following table.

Table 5.9: Outline of the Act for the Stable Living of the Elderly

Basic Policies	The Ministry of Land, Infrastructure, Transport and Tourism and the Ministry of Health, Labor and Welfare must adopt basic policies stipulating the following items. • Policy relating to the establishment of targets for the supply of rental housing and homes for the elderly • Policy relating to the promotion of the supply of rental housing and homes for the elderly, and • Policy relating to the provision of residential support systems for the elderly	
Plans to Ensure Stable Living for the Elderly	Under the basic policies, prefectures can formulate plans that stipulate the following items. • Supply targets for rental housing and rest homes for the elderly • Promotion of the supply of rental housing and rest homes for the elderly, and • Provision of residential support systems for the elderly	
Measures	Owner-Occupied Housing	• Support measures for improvements to meet the needs of the elderly
	Rental Housing	• Assisted-living Rental Housing Project for the Elderly • Promoting the Supply of Quality Rental Housing for the Elderly • Lifetime Leasing of Buildings (Lease that terminate on the death of the tenant)

Source: The Act for the Stable Living of the Elderly

Table 5.10: Outline of Supporting Measures

Support measures for improvements to meet the needs of the elderly	Guarantees for housing improvement loans based on mortgages
Assisted-living Rental Housing Project for the Elderly	Private sector project for supplying rental housing providing a living environment in which elderly people can live without anxiety Provision of specific conditions on hardware side such as space and facilities for

	residence and barrier-free facility is required to houses supplied for the project. Services such as safety confirmation and counseling residents by life support advisor must also be provided. Registration of the houses to prefectures, government-decreed cities and core cities is needed. (Examination is implemented.)
Promoting the Supply of Quality Rental Housing for the Elderly	Quality rental housing for the elderly is a barrier-free house in which the elderly can live safely and securely and receive emergency service. The housing can be modified for secure living by providing additional services and provision of facilities for social welfare to support wellbeing of the elderly Target of the housing is for both single and elderly couple over sixty years old. Rent reduction system can be applied.
Lifetime Leasing of Buildings	Lifetime rental house contract valid until death of the tenant. In case a rental business operator wants to lease a barrier-free house to the elderly for the entire lifetime, the operator has to lease the house to the elderly until death of the tenant. Target of the housing is for both single and elderly couple over sixty years old.

Source: The Act for the Stable Living of the Elderly

Silver Houisng Project

The Silver Housing Project is the model project of assisted-living rental housing for the elderly started by the Ministry of Land, Infrastructure, Transport and Tourism and the Ministry of Health, Labor and Welfare. The Silverpia Project implemented by the Tokyo Metropolitan Government is one of the Silver Housing Project.

The Silver Housing Project targets people aged 60 or older who are able to live their daily lives independently. It provides public rental housing with facilities and specifications that take the needs of the elderly into consideration, as well as services offered by life support advisers. These include daily life guidance, safety confirmation of the residents, and liaison in cases of emergency. The project started in 1987 by Ministry of Land, Infrastructure and Transport in cooperation with the Ministry of Health, Labor and Welfare. As of the end of March 2010, there are 23,298 of such housing units on 869 housing estates in 46 prefectures in Japan.

Table and Figure below show outline of the silver housing project and schematic of the project.

Table 5.11: Outline of the Silver Housing Project

Item	Contents
Housing Supply Agency	Local Governments, UR, Housing Corporations operated by Local Governments
Target of Residents	• Over-sixties single-person households • Elderly couple households (a husband and/or a wife are/is over sixties.) • Households consisting of the elderly (over sixties) • Disability single-person households or households consisting of a disability person and spouse
Building	To provide facilities and specifications considering characteristics of elderly's lives (such as handrails, elimination of difference and emergency call system)
Life Support Service	To station life support advisors for daily life guidance, safety confirmation of the residents, and liaison in case of emergency in the building

Source: Home Page of Foundation for Senior Citizens' Housing
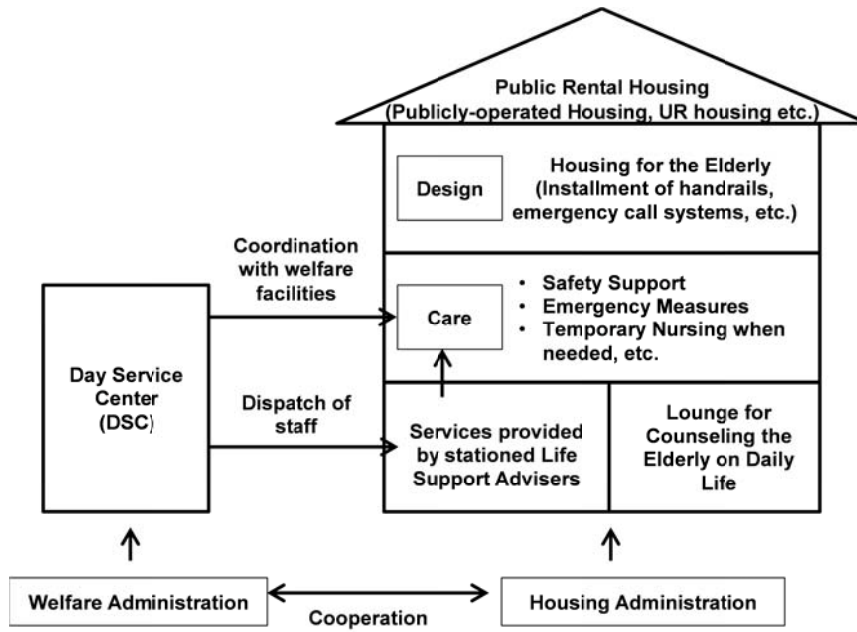
Source: Home Page of Foundation for Senior Citizens' Housing

Figure 5.1   Schematic of the Silver Housing Project

5.2.2 The USA

(1) Measure for Promotion of Housing Supply

1) Establishment of Acts on Housing Supply

Table 5.12 describes the most important laws and regulations that pertaining to housing in the USA since 1933.

Table 5.12: Acts on Housing Supply in the USA

Act	Year	Contents
Housing Act	1933	Establishment of Public Works Administration (PWA) Beginning of construction and supply of public housing for rent by PWA Establishment of Federal Housing Administration (FHA) Beginning of a full scale guarantee of mortgage by public sector and house ownership policy
	1936	Establishment of US Housing Authority (USHA) Establishment of Public Housing Authority (PHA) Establishment of permanent system for supply of public housing for rent by local governments using federal subsidy
	1949	Start of federal subsidy to project on urban redevelopment Tightening of income limitation for renting a public house
	1954	Start of urban renewal project Shift to development of commercial and business area from housing construction
	1959	Low interest loan for rented housing for elderly citizen (first program on housing subsidy by the federal government)
	1961	Low interest loan for privately rented housing
	1964	Restoration of housing
	1969	Amendment on rent of public housing
	1970	Start of experimentation for measurement of effect on rent subsidy
Housing and Urban Development Act	1965	Establishment of Department of Housing and Urban Development (HUD) Supply of public housing by hiring of private sector housing Start of Rent Supplement Program to renter of private sector housing Start of Leased Housing System (System that PHA hires private housing and supply it as public housing.)
	1968	Subsidy to owned house and rented house for low income people Plan for muss construct of public housing
Housing and Community Development Act	1974	Subsidizing the difference of 25% between rent of housing for low income people and income of tenant Provision of Housing Assistance Plan is required to the local government that applies federal subsidy.
	1977	Economic development using subsidy for urban development at poverty area
	1987	Permanent implementation of **Housing Voucher System** started in 1983
	1992	Provision of Community Development Plan is required to the state and local government that applies federal subsidy.
Affordable Housing Act	1990	Provision of Comprehensive Housing Affordability Strategy (CHAS) Plan is required to a state and a local government. HOPE I : Disposal of public housing to non-profitable private organization and private-sector-driven housing supply

Source: Website

2) Methods for Supply of Public Housing

Establishment of Organizations on Public Housing

In the USA, federal government support in the supply of public rental housing was institutionalized in 1930s. Public rental housing construction was started in 1933 through efforts

led by the Public Works Administration (PWA), which was established as a part of broader overall programs designed to stimulate the economy and create jobs during the Great Depression. In 1936, the US Housing Authority (USHA) was established for promoting construction of public rental housing. At the same time, the Public Housing Authority (PHA) was established at the local government level for provision and application of public rental housing supply plans and for construction, possession and management of public rental housing. Many low-income neighborhoods began appearing in the 1950s and 1960s because of mass-migration to large urban areas. As a result, the federal government made low-income housing provision a major priority. Therefore, existing relevant departments were integrated and Department of Housing and Urban Development (HUD) was established within the federal government in 1965. About 1.38 million public rental houses were built under various schemes between 1939 and 1987.

Table 5.13: Organizations established

Year	Organization established to supply public housing
1932	Federal Home Loan Bank
1933	Public Works Administration (PWA) Federal Housing Administration (FHA)
1936	US Housing Authority (USHA) Public Housing Authority (PHA)
1965	Department of Housing and Urban Development (HUD)

Source: The Study Team

(2) Measure for Stimulation of Housing Demand

Public sector plans for housing provisions have been targeted at low-income groups as the private market has long been able to provide adequate stock for middle- and high-income groups. The primary housing measures in the USA are aimed at the development and control of housing financial markets and preferential tax treatments for encouraging home ownership. Public sector involvement in housing finance can be roughly divided into two periods which are described in Table 5.14 – before and after early the 1970s.

Table 5.14: Introduced Measures on Housing Finance and Preferential Tax Treatment

Year	Introduced Measures
Before early 1970s	Provision of public insurance and security to housing loan, and Purchase of housing loan bond
After early 1970s	Provision of public insurance and security to housing loan Purchase of housing loan bond Introduction of Residential Mortgage-backed Security (RMBS) Start of preferential tax treatment (deduction of mortgage interest from income) for aiming promotion of house ownership, and Start of rent subsidy to low income people living in privately-rented housing (Certificate System and Voucher System)

Source: The Study Team

1) Housing Finance

In 1932, the Federal Home Loan Bank was established for a developing mortgage pool, supplying capital to private financial institutions, enhancing the credibility of mortgage markets, and promoting capital flows. In 1933, the Federal Housing Administration (FHA) was established for development of the mortgage system and implementation of measures used to promote home ownership by middle-income people.

Housing Loan (Mortgage)

In America, private financial institutions such as commercial banks, savings and loan

associations, and mortgage companies deal with the provision of housing loans (mortgages). Private financial companies depend mostly on personal savings as capital for mortgage funds.

Public sector agencies such as the FHA and the Veteran's Administration (VA) implement public insurance and security to housing loans for facilitation and generalization of public housing finance. Moreover, agencies such as the Federal National Mortgage Association (FNMA) and the Federal Home Loan Mortgage Corporation (FHLMC) implement purchasing of mortgages. The FNMA and FHLMC are private companies, which are managed by the Department of Housing and Urban Development (HUD).

Securitization of Mortgage

The Government National Mortgage Association (GNMA), FNMA and FHLMC all provide guaranteed loan payments and loss compensation for mortgage defaults.
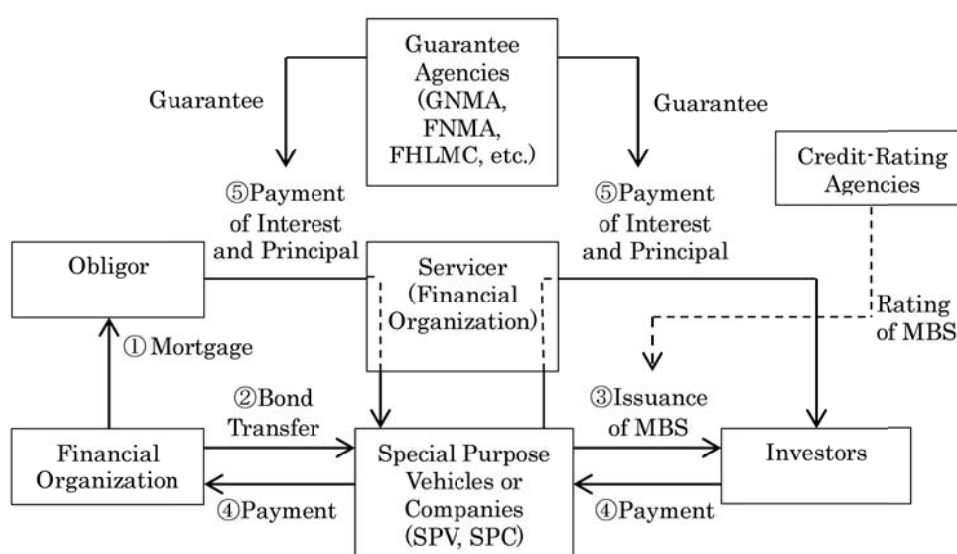
Figure 5.2: Basic Mechanism of Mortgage-Backed Securities in USA

2) Preferential System on Acquisition and/or Renting of Housing

Mortgage Interest Deduction from Taxable Income

When people take out housing loans from financial institutions, mortgage interest is deducted from taxable income. This is the most effective incentive among preferential tax treatments on housing in the USA.

Rent Subsidy

Two rent subsidy systems have been implemented. One is the Certificate System that was implemented in 1974 and the second is the Voucher System which was implemented in 1985.

Table 5.15: Rent Subsidy System

Rent Subsidy	Year	Contents
Certificate System	Since 1974	a certain amount is subsidized by the government based on income level
Voucher System	Since 1985	a certain amount is subsidized by the government based on income without any relation to house rent

Source: The Study Team

5.2.3 UK

(1) Measure for Promotion of Housing Supply

The UK's Housing Act, which was enacted in 1946, has contributed to the supply of public housing constructed by local public agencies. Local public agencies were allowed to supply public housing to not only the working class but also slum dwellers according to the Housing Act of 1949. More than 80% of houses constructed in 1949 were public housing. However, proportion of public housing in total number of newly constructed houses has decreased rapidly over time. By the 1990s, the construction of public housing unit had virtually ceased.

(2) Measure for Stimulation of Housing Demand

1) Disposal of Public House

Right to Buy (RTB)

The Right to Buy (RTB) scheme was introduced in 1980 and was designed to help social tenants in England buy their council home at a discount. The RTB discount increases with the length of tenancy up to a maximum limit as described in Table 5.16.

Table 5.16: Maximum Limit of Discount by Type

Type	Maximum Limit of Discount
Houses	the discount is set at 35 per cent of the property value plus 1 per cent for each year beyond the qualifying period of 5 years up to a maximum of 60 per cent
Flats	the discount starts at 50 per cent and rises by 2 per cent each year up to a maximum of 70 per cent

Source: Homepage of Department of Communities and Local Government

The maximum discount that anyone can get is £75,000. Around two million homes were bought under the scheme to date.

Home Ownership Scheme

There are three types of home-ownership schemes – First buy equity loans, shared ownership, and new buy.

Table 5.17: Three Types of House Ownership

Type	Contents
First buy equity loans	You buy your home with at least 80% of the cost met by a mortgage and a deposit. The rest is paid for by the government and the house builder through an equity loan. **(Eligibility)** You can only buy your home through an equity loan scheme if: ● Your household earns less than £60,000 a year ● You can't afford to buy a home in your area **(Equity loan fees)** You won't be charged loan fees for the first 5 years of owning a home. In the 6th year, you will be charged a fee of 1.75% of the loan's value. After this, the fee will increase every year. The increase is worked out by using the Retail Prices Index plus 1%. Your Home Buy agent will contact you before the fees start, to set up monthly payments with your bank. You'll also be sent a statement about your loan each year. Fees don't count towards paying back the equity loan. **(Paying back your equity loan)** If you pay back all or part of the equity loan early, you'll pay less in fees and get more money when you sell your home. This is known as stair casing. You can pay back your loan early by contacting the National Home Buy agent.
Shared ownership	Shared ownership schemes are provided through housing associations. You buy a share of your home (between 25% and 75% of the home's value) and pay rent on the remaining share. You'll need to take out a mortgage to pay for your share of the home's purchase price. Shared ownership properties are always leasehold.

	(Eligibility) You can buy a home through shared ownership if: ● your household earns £60,000 a year or less ● you're a first-time buyer (or you used to own a home, but can't afford to buy one now) ● you rent a council or housing association property **(Older people)** If you're aged 55 or over, you can get help from another Home Buy scheme called 'Older People's Shared Ownership'.　It works in the same way as the general shared ownership scheme, but you can only buy up to 75% of your home. Once you own 75% you won't have to pay rent on the remaining share. People with disabilities If you have a long-term disability, 'Home Ownership for People with Long-Term Disabilities' (HOLD) can help you buy any home that's for sale on a shared ownership basis.　You can only apply for HOLD if the properties available in the other Home Buy schemes don't meet your needs, eg you need a ground-floor property. Your local HomeBuy agent can help you. **(Buying more shares)** You can buy more shares in your home any time after you become the owner. This is known as stair casing. The cost of your new share will depend on how much your home is worth when you want to buy the share. If property prices in your area have gone up, you'll pay more than for your first share. If your home has dropped in value, your new share will be cheaper.　The housing association will get the property valued and let you know the cost of your new share. You'll have to pay the valuer's fee. **(Selling your home)** If you own 100% of your home, you can sell it yourself.　When you put it up for sale, the housing association has the right to buy the property back first. This is known as 'first refusal' and the housing association has this right for 21 years after you fully own the home.　If you own a share of your home, the housing association has the right to find a buyer for it.
New Buy	New Buy lets you buy a newly built home with a deposit of only 5% of the purchase price.　To qualify for New Buy, your new home must be: ● a **new build** – being sold for the first time or for the first time in its current form (eg a new flat that used to be part of a house) ● priced £500,000 or less ● your **main home** (you can't use New Buy to buy a second home or a buy-to-let property) ● **owned fully by you** (you can't use New Buy for shared ownership or shared equity purchases) ● built by a builder taking part in the scheme ● To qualify you must be either: ● a UK citizen ● someone with the right to remain indefinitely in the UK You don't have to be a first-time buyer and there's no limit on your level of income.　But you can't use New Buy with any other publicly funded mortgage scheme.

Source: Homepage of Department of Communities and Local Government

2) Deduction of Housing Loan Interest from Income

Housing loan interest can be deducted from personal income taxes through schemes such as the Mortgage Interest Relief at Source (MIRAS) program, the Mortgage Interest Tax Relief (MITR) program, the No Taxation on Capital Gains program, etc.

3) Rent Reduction and Rent Subsidy to Low Income People

Rent reduction to households living in publicly-rented housing and rent subsidies to households living in privately-rented housing are providing through a number of different schemes.

5.2.4　Canada

(1) Measures for Promotion of Housing Supply and Stimulation of Housing Demand

1) Canada's Economic Action Plan provided by the Ministry of Finance

Housing-related measures are delivered through the Canada Mortgage and Housing Corporation (CMHC) and are included in Canada's Economic Action Plan, which is provided by

the Ministry of Finance.

2) Establishment of the CMHC

The CMHC is Canada's national housing agency. Established as a government-owned corporation in 1946 to address Canada's post-war housing shortage, the agency has grown into a major national institution. The CMHC is Canada's premier provider of mortgage loan insurance, mortgage-backed securities, housing policy and programs, and housing research.

The CMHC provides low-cost loans directly to federally assisted social housing sponsors, seeking to continue financing their housing projects and to First Nations (indigenous) people to finance new housing production. As a federal Crown corporation, the CMHC can obtain funds borrowing from the Department of Finance under the Crown Borrowing Framework, at a lower cost than can a private lender. In addition, the interest rates charged by the CMHC do not include a profit margin. The CMHC can then pass on these savings to the social housing sponsors by charging lower interest rates, resulting in reduced federal subsidy requirements. Groups eligible for Direct Loans through the CMHC include: First Nations groups or social housing sponsors, including public and private non-profit organizations and Aboriginal non-profit organizations who receive federal funding and who own and operate housing for low- and moderate-income households.

Federal investments in the existing social housing stock built mostly between 1946 and 1993 continue to be substantial. For almost 605,000 households, across Canada, the CMHC continues to provide $1.7 billion annually in federal dollars so that families living in existing social housing can continue to afford their homes. The majority of social housing projects are administered by provincial and territorial governments under various long-term agreements. The rest are directly administered by the CMHC.

The federal government continues to honor its long-term obligations to housing, the provinces and territories are responsible for ownership, management and administration of the housing stock. Today, about 80% of the existing social housing stock is administered by the provinces and territories under Social Housing Agreements (SHA), or other long-term arrangements.

3) Social Housing Program

The existing social housing stock is administered by the CMHC, as well as Provincial and Territorial governments under the following programs:

Table 5.18: Social Housing Program and Contents

Program	Contents
Public Housing Program	Public housing projects approved between 1950 and 1985 are administered by provinces and territories and, in some cases, by municipalities. The projects are targeted to low-income households who pay rent based on their income.
Non-Profit Housing Program	This program provides assistance to public or private non-profit organizations who agreed to build or acquire rental housing for low- and moderate-income households. This program was active until the early 1990s and featured preferred financing rates, forgivable capital contributions, interest rate write-downs and/or a full operating subsidy. This program was delivered to families and special needs households.
Co-operative Housing Program	This program provides modest, affordable housing to low and middle income households. Projects are jointly owned by their members who co-operate to maintain lower housing charges by contributing to efficiencies through volunteer labor. This program was active until the early 1990s and featured preferred financing rates, forgivable capital contributions, interest rate write-downs and/or a full operating subsidy. Where subsidies are available, co-operatives may reduce the housing charge of lower income members. Higher income

	members pay a market-based housing charge.
Rural and Native Housing Program	This program provides assistance to Aboriginal and non-Aboriginal households in rural areas of 2,500 population or less to obtain housing for ownership or rental. Clients pay a proportion of income for their shelter.
Urban Native Housing Program	This program provides assistance to Aboriginal non-profit organizations and Aboriginal co-op groups who own and operate rental housing projects in urban areas. The program requirements are generally the same as for the Non-Profit Housing Program.
Rent Supplement Program	This program helps households in need by setting a limit on the percentage of their incomes used to pay rent.

Source: Homepage of CMHC

4) Rebate System of Good & Sales Tax (GST) and Harmonized Sales Tax (HST) for New Housing

This is the system in which the GST and HST paid on a new home purchase are refunded and rebated. The system and GST were introduced in 1991. The system solely targets newly-built housing.

Table 5.19: Rebate System of Taxes for New Housing

Items	Condition	
Target Housing	Less than CA$450,000 of Housing Price (including land price)	
Main Resident	A person who buys a house, or relative of a house buyer	
% of Rebate	CA$350,000 or less	36% of paid GST is refunded.
	CA$350,000 up to CA$450,000	Percentage of refund is gradually reduced and 0% is applied to CA$450,000.

Source: Homepage of CMHC

5.2.5 The Netherlands

(1) Measure for Promotion of Housing Supply

1) Establishment of Housing Act

The Housing Act, which was established in 1901, gave local governments great power relating building control and implementation of urban redevelopment is the most import piece of legislation related to housing development in the Netherlands. The act mandated local governments to provide an urban master plan. The central government assisted in the construction of Social Rented Housing (SRH), which consists of Association Housing (AH) constructed by Housing Associations (HA) and Municipal Housing Company (MHC) established by municipalities.

This Act was revised several times between 1921 and 1945. At present policy on housing is planned by Ministry of the Interior and Kingdom Relations.

2) Provision of Policy Document

The Policy Document on housing entitled "What People Want, Where People Live: Housing in the 21st Century" was announced in 2001 by the Dutch government and following elements were

listed as housing measures to be implemented over a ten-year period.

Table 5.20: Housing Measures listen in the Policy Document

Housing Measures	Contents
Supply of housing that meets people's needs	1) Increase of house ownership rate to 65% by 2010 2) Selling out of rented housing 3) Housing construction by private sector 4) Relaxation of regulation
Offering opportunity to vulnerable groups gaining comfortable living environment	1) Rent subsidy 2) Establishment of maximum limits of rent raised for rented housing 3) Tax relief of mortgage for low income people 4) Financial assistance for housing acquisition
Promotion of policy on housing and welfare	1) Increase of offering opportunity of housing to elderly 2) Promotion of economically easy life 3) Improvement of housing quality 4) Combination of housing and welfare
Improvement of housing quality in urban area	People moving out to suburbs from urban area increased because of shortage of preferred housing. To stop this situation, quality of housing in urban area should be improved. The government introduced 「Investment Budget for Urban Regeneration」 in 2000 for improvement of housing environment in urban area.
Coexistence with Green and housing	Supply of spacious housing surrounded by greens to people and adoption of a measure for housing construction not to damage to surrounding environment
Construction of environment friendly housing	Promotion of use of housing material contributing to resource saving and environment friendly material

Source: Homepage of Ministry of the Interior and Kingdom Relations

1) Supply of Social Rented Housing by Housing Associations

Many dwellings in the Netherlands are owned by housing associations, which are non-profit organizations established by local governments for improvement of the housing situation. There are about three million rented homes in the Netherlands. About 75% of these are owned by housing associations. Social housing is available at pricing below market-rate because it is subsidised by the state. Housing associations are responsible for:

- Housing older people, people with a disability and those needing assisted housing;

- Building and letting social property such as schools and sports facilities;

- Appointing caretakers and neighbourhood managers;

- Maintaining houses and the immediate surroundings, such as alleyways and parking spaces;

- Selling rented properties to tenants and other house seekers.

(2) Measures for Stimulating Housing Demand

The following programs have been instituted during various periods to stimulate housing demand, however both ended in the mid 1990s. At present housing associations use their own funds to support new demand:

- Rent subsidy by the central government through local governments

- Deduction of housing loan interest from income and financial assistance for low-income people

5.2.6 Malaysia

(1) Measure for Promotion of Housing Supply

1) Housing Policy – Housing Ownership Democracy

The Malaysian federal government provides a housing program called "Housing Ownership Democracy" that aims to ensure that all households can obtain a house at an appropriate time. Housing supply objectives are outlined in each of Malaysia's five-year national development plans. At present, there are a number of different agencies and/or organizations responsible for implementing housing policy (see Table 5.21).

Table 5.21: Agencies/Organization related to Implementation of Housing Policy

Agencies/Organizations	Role
Ministry of Finance (MOF)	Collection and service of information on real estate
The Central Bank	Management of housing finance
State Governments	Administration on land and development permission
State Economic Development Corporations and Private Developers	Development of housing
Ministry of Housing and Local Government (MHLG)	Financing to developers supplying low cost housing Evaluation of standard/regulation on building

Source: Website

2) Methods for Housing Supply

Assignment of Number of Houses/Households

As a state government evaluates and permits implementation of a housing development applied by a state economic development corporation and/or a private developer, the government assigns developers to build certain number of low-cost houses and houses for bumiputra (religious leaders other important members of the clergy) according to size of housing development. Developers implement a low price housing project utilizing profit on sale of middle and high price houses and/or buildings and plots for commercial and industrial uses.

Private corporations can also get access to state-owned land. In return, the corporation implements projects at less developed areas in line with a development policy in a given state. Or the corporation increases percentage of low-cost houses constructed. The corporation is run on a stand-alone basis and borrows development funds from banks.

Low-Interest Loan to Developers

A national housing company under the control of the MHLG implements loans to developers at low interest rates.

Construction of Staff Housing by the Central and Local Government

Ministries, local governments, municipalities and government-linked companies sometimes construct houses for their staff members to provide affordable and accessible housing.

(2) Measure for Stimulation of Housing Demand

Assignment of Minimum Number of Housing Loan to Banks

The central bank assigns a minimum number of housing loans for low-cost housing purchases to each bank. The interest rate on loans to purchases of low-cost housing is limited to lowest rate which falls between the Base Lending Rate (BLR) at any given time plus 1.7% with a ceiling of 9%. In the case where a minimum number of housing loans is not achieved, banks have to deposit money without any interest as a penalty to the central bank for two years.

Establishment of the Cagamas Berhad: National Mortgage Corporation

In 1987, the Cagamas Berhad: National Mortgage Corporation, in which the Central Bank is the biggest stakeholder, was established as ta special agency for purchasing mortgages. Private banks can sell all purchased mortgages at once to the Cagamas Berhad. The Cagamas Berhad issues bonds (Cagamas Bond) to investors based on the number and value of purchased mortgages. Some of the taxes imposed to selling and buying of bond for example stamp tax are exempted. Major buyers of bond are private banks.

Low-Interest Loan to Government Officers

The Ministry of Finance offers low-interest mortgage loans to government officers in national and local governments in order to provide increased affordability.

5.2.7 Singapore

(1) Measure for Promotion of Housing Supply

1) Establishment of the Housing & Development Board (HDB)

The Housing & Development Board (HDB) is Singapore's public housing authority and a statutory board under the Ministry of National Development. The HDB was set up n 1960, during a housing major crisis. At that time, many Singaporeans lived in unhygienic slums and crowded squatter settlements. Only 9% of Singaporeans lived in government flats. Taking over from its predecessor, the Singapore Improvement Trust, the HDB was tasked with solving the nation's housing crisis. The HDB built 21,000 flats in less than three years. By 1965, it had built 54,000 flats and within 10 years of its formation, the housing crisis had been resolved. At present, about 82% of Singaporeans live in HDB flats, about 90% of which own their home.

2) Utilization of National Land and Forcible Expropriation of Land

The Singaporean government owns almost all land in the country. The government retains the right to expropriate private land in areas where public projects are to be located without compensation. As a result, the acquisition of land for projects is relatively inexpensive. Therefore, the HDB rarely has issues with a lack of funds for project implementation.

3) No Arbitrary Allocation

The government commits all Singaporeans except high-income people to supply public housing. Public housing is allocated to Singaporeans on a first-come-first-served basis or in a drawing. While newly built units take into account Singapore's multi-ethnic population in terms of needs, no special allocations are made for these groups (Chinese, Malay and Indians) at a specific place or project.

(2) Measure for Stimulation of Housing Demand

1) Utilization of Provident Fund

It is compulsory for a all Singaporeans to participate in the Provident Fund, a property accumulation savings fund managed by the Singapore government. Singaporeans can use the savings from this fund for various purposes, including for purchasing housing.

2) High Quality of Housing Design

Design of public housing in almost all countries is standardized and usually quite poor in quality. However in Singapore, high-quality designs have been adopted for HDB flats in consideration of the second-hand / resale market, which makes up a large percentage of the overall housing market.

5.3 Public-house Suppliers

5.3.1 Present Role of Public Sector on Housing Supply

Table 5.22 below describes the present role of public sector in providing housing supplies across the seven countries.

Table 5.22: Present Role of Public Sector on Housing Supply by country

Country	Role of Public Sector	
Japan	Supply Side	JHC and HUD supplied public housing. UDC established 1999 withdrew from business of housing for sale and also shifted from the improvement of the housing situation through the large-scale supply of houses and land. Urban Renaissance Agency (UR) was formed instead of UDC in 2004. Main activities of UR are **urban renewal**, **improvement of residential environment**, **post-disaster reconstruction**, and **improvement of suburban environment**. Local governments and local housing corporation still supply public housing.
	Demand Side	Abolition of the GHLC and the establishment of an independent administrative agency - Japan Housing Finance Agency (JHF) Role of JHF as a direct lender was shifted to a support and supplementary role based on support for, and complementation of, lending by private sector financial institutions.
USA	No agency/organization belonged to the central government supplies public housing. PHA belonged to local government supplies public rental housing. Main housing policy is intervention to demand side such as financing by the Federal Housing Bank, housing loan guarantee by the Federal Housing Administration, deduction of housing loan interest.	
UK	Public sector no more supplies public housing. Main housing policy is intervention to demand side such as RTB, Home Ownership, deduction of housing loan interest, etc.	
Netherland	No agency/organization belonged to the central government supplies social housing. Social rented housing (SRH) is constructed and supplied by housing associations and housing companies belonged to local governments.	
Canada	Social housing is supplied by local governments. CMHC finances to developers.	
Malaysia	A state Economic Development Corporation belonged to local government supplies low price housing. Housing for government staff is constructed by the central and local government.	
Singapore	HDB belonged to the central government supplies housing.	

Source: The Study Team

At present, the central government of Malaysia and Singapore directly supply public housing. In Japan, the U.S.A., the U.K., the Netherlands, Canada and Malaysia, both the central government and organizations under the central government provide public housing. Local government bodies also provide public housing in Japan, the U.S.A., the Netherlands, Canada and Malaysia. Housing policy is driven by the central government in Japan, the U.S.A., the U.K., the Netherlands and Canada and concentrates on creating incentives to stimulate housing demand, not on directly providing housing supply.

5.3.2 Case in Japan

(1) UDC to UR (Supply Side)

In December 2001, the Cabinet approved a plan to restructure and rationalize special corporations.   This plan resulted in the abolition of the Urban Development Corporation (UDC), and its merger with the Regional City Development Division of the Japan Regional Development Corporation to form Urban Renaissance Agency (UR) in July 2004. The mission of the UR is to support private sector urban renewal activities.

While the UR has a policy of entrusting the private sector with tasks that can be performed by the private sector to the private sector, its role includes the creation of new business opportunities for the private sector in the field of urban renewal, activities designed to ensure that the full potential of private sector activities is realized, and the establishment of conditions conducive to those activities.

Main activities of the UR include urban renewal, improvement of residential environments, post-disaster reconstruction, and improvement of suburban environments.

Table 5.23: Activities of UR

Activities	Contents
Urban Renewal	To facilitate urban renewal by private sector entities through its activities as "**urban renewal producer**"
	To support activities such as concept planning, establishment of the necessary conditions and coordination
	To participate in projects as a partner
	Involved in following four main areas of activities related to urban renewal ● National projects, such as urban regeneration schemes ● Creation of urban structures that reflect changes in socioeconomic conditions ● Community revitalization, including the revitalization of central areas of regional cities ● Creation of safer, more secure communities through environmental improvements and the improvement of disaster-prevention systems
Improvement of Residential Environment	To manage about 763,500 units of UR rental housing stock in a timely and appropriate manner
	To make renewal/utilization of rental housing stock using various approaches, including the supply of renovated housing, the development of exterior environments, and rebuilding programs, aiming to provide barrier-free access, improve room layouts and raise the standard of facilities to reflect current social conditions, while ensure housing stability for residents.
Post-Disaster Reconstruction	To apply the valuable experience gained through past activities conducted for post-disaster recovery and reconstruction to reconstruction in the wake of other disasters, and to the improvement of urban disaster-prevention systems
Improvement of Suburban Environment	To develop attractive suburban and provincial residential areas using local characteristics and complete projects as early as possible based on past experience on new-town development

Source: Ministry of Land, Infrastructure, Transport and Tourism

(2) GHLC to JHF (Demand Side)

It became apparent that there would need to be a shift in overall housing policy, away from a structure based on the direct provision of housing and housing finance through the public sector, and toward a market-oriented approach to the improvement of housing quality. Changes in the financial market environment, including the liberalization of housing loan interest rates and product characteristics, led private sector financial institutions to adopt a more active stance toward housing loans for individuals. As a result, the GHLC needed to move away from its traditional role as a direct lender and shift instead to a support and supplementary role based on support for, and complementation of, lending by private sector financial institutions.

One source of pressure for change in the housing finance system was the reform of the treasury investment and loan program. This process necessitated a shift away from the traditional approach, in which housing finance was based mainly on government investment and loans, toward a new system based on use of market mechanisms.

In December 2001, the government adopted a plan to rationalize special corporations and other organizations. This resulted in the abolition of the GHLC and the establishment of an independent administrative agency with the task of supporting securitization. The Japan Housing Finance Agency (JHF) was established on April 1, 2007 to achieve these ends. The JHF will continue to carry out activities relating to the maintenance and improvement of housing quality. Its tasks include the following:

- Support for access to finance from private sector financial institutions, through securitization support and other means, to ensure that reliable, long-term loans at low, fixed interest rates are uniformly available without discrimination on the basis of occupation, gender, region or any other factors,

- Direct lending in areas of high-policy priority for which it would be difficult to obtain finance from private sector financial institutions, such as disaster recovery housing and rebuilding in densely populated urban areas, and

- The provision of housing information to consumers, housing-related businesses and others

The core activity of the JHF is secondary market operation, which it provides in the form of either purchases of mortgages or guarantees on Mortgage Backed Securities (MBS). With the purchases method, the JHF purchases housing loans provided by private sector financial institutions and other organizations. These are used as collateral for issues of residential mortgage-backed securities (RMBS), which are sold to investors to raise funds. The guarantee method involves the provision of guarantees on MBS originated by, and insurance for the securitization of housing loans by private financial institutions and other organizations. Figure 5.3 shows old and new framework of the housing finance market in Japan.
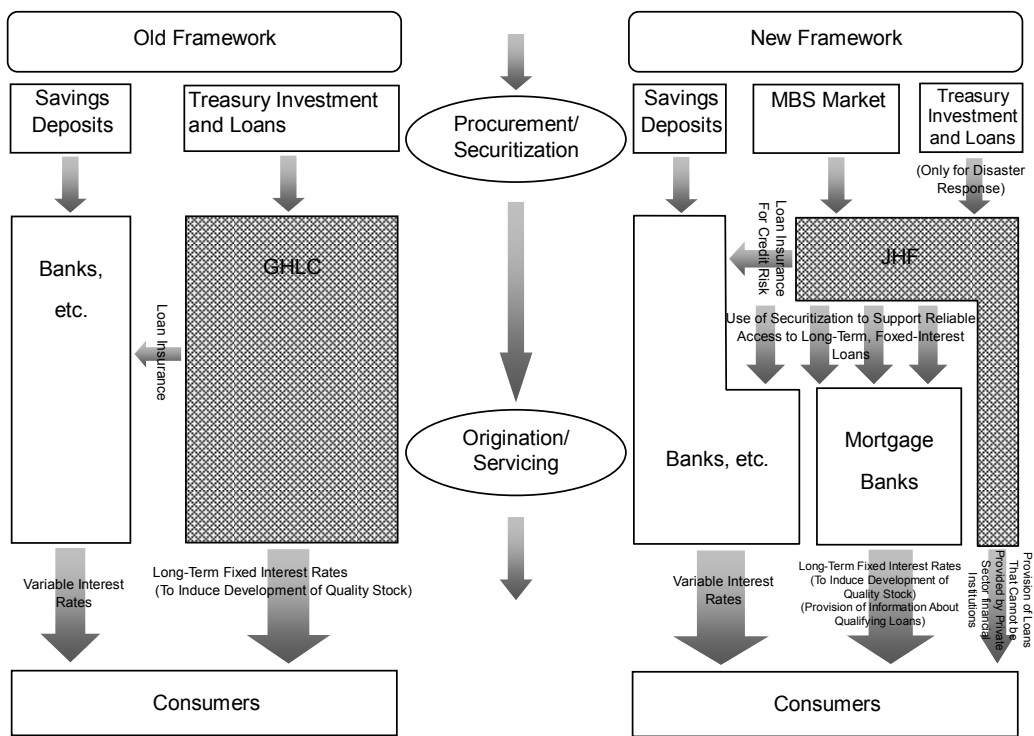
Source: Ministry of Land, Infrastructure, Transport and Tourism

Figure 5.3   Old and New Framework of Housing Finance Market

5.4 Governmental Organization related to Urban Planning and Housing Planning

5.4.1 Case of Other Countries

Housing is one of the key elements in any urban area. As a result, housing needs must be considered in conjunction with a city's future population, the safety and security of its residents, and the location of infrastructure provision and different land uses. Thus, a comprehensive urban plan is the preferred option for addressing housing needs in urban areas. Table 5.24 describes governmental organization related housing and urban development in Thailand and the seven case study countries.

Table 5.24: Governmental Organization related to Urban and Housing Plan by Country

Country	Government	Role on Housing/Housing related	Agency
Thailand	Ministry of Social Development and Human Security	**Housing Development**	NHA CODI
	Ministry of Interior	**Urban Plan**, Building Control, Water Supply, Land Registration, etc.	
	Local Government	**Housing Development**, Urban Road, Sewerage Development	
	National Economic and Social Development	Economic and Social Development including Housing	
Japan	Ministry of Land, Infrastructure, Transport and Tourism	National Land Use Policy, Real Estate Business, **Urban Plan/Urban Development/ Urban Redevelopment**, Building Control, Urban Road, Water/Sewerage, **Housing Policy and Development**, and Urban Railway	UDC(UR) GHLC(JHFA)
	Local Government	**Urban Plan**, **Housing Development**	Local HSC
USA	US Department of Housing and Urban Development	**Housing Policy**, Community Development	Federal HA US HA
	State Government	**Urban Plan**, **Housing Development**, Building Control, Water Supply	Public HA
UK	Department for Community and Local Government	**Housing Policy and Development**, **Urban Plan**, Building Control	
	Department for Transport	Road, Railway	
	Department for Environment, Food and Rural Affairs	Water Supply	
Netherland	Ministry of the Interior and Kingdom Relations	**Housing Policy**	
	Ministry of Infrastructure and the Environment	**Urban Plan**, Urban Road, Urban Railway	
	Local Government	**Housing Development**	Housing Association Municipal Housing Company
Canada	Department of Public Works and Government Services	**Housing Policy**	CMHC
	Department of Finance	Economic action plan including housing related measures	
	State Government	**Housing Development**, **Urban Plan**, Building Control, Land Registration, Urban Road, Water Supply, Sewerage	
Malaysia	Ministry of Housing and Local Government	**Housing Policy and Development**, **Urban Plan**, Solid Waste Management	
Singapore	Ministry of National Development	**Housing Policy and Development**, Building Control, **Urban Plan**	
	Ministry of the Environment and Water Resources	Water Supply and Sewerage	

Source: Homepage of each government

In Thailand, the NHA and CODI (under the MSDHS) provide a housing plan, build, and supply housing for low- and middle-income people. The MOI is responsible for urban planning and provision of building codes in a regulatory capacity. Local governments provide an urban master plan. Local governments also build housing for low-income people and examine and permit development plans and building plans that private developers submit. No detailed discussion when making an urban plan has been conducted between NHA and MOI and local governments.

In the U.S.A. and Canada, the federal government is responsible for preparation of housing policies.   State governments have the responsibility for planning and development of a city and rental housing for low-income people.

In the Netherlands, the Ministry of the Interior and Kingdom Relations prepares housing policies and local governments implement housing development. Planning and development of a city is implemented by the Ministry of Infrastructure and the Environment.

In Japan, the U.K., Malaysia and Singapore, one ministry is responsible not only for urban planning but also for housing planning and development. The central government builds and supplies houses for rent and sale for low- and middle-income people.

5.4.2 Japan – Ministry of Ministry of Land, Infrastructure, Transport and Tourism

The Japanese MLIT&T is responsible for policies and planning for both housing and urban development. There are 14 bureaus in the MLIT&T, of which seven bureaus are related to housing and urban development policy and planning. Table 5.25 below describes the bureaus, divisions and offices related to urban development and housing in the MLIT&T.

Table 5.25: Bureau/Division/Office related to Urban Plan and Housing Plan in MLIT&T

Bureau	Office/Division	Role and Responsibility related to Housing/Community Development
Policy Bureau	Land Expropriation Office	Matters on use and expropriation of land
National and Regional Bureau	National Planning Div. National Land Information Div.	Matters on planning, designing and implementation of national land use plans, and land use master plans stipulated in the National Land Use Planning Act
Land Economy and Construction and Engineering Industry Bureau	Land & Real Property Market Div. Land Price Research Div. Cadastral Promotion Div. Real Estate Industry Div. Real Estate Market Div.	Matters on examination for licensing real estate appraisers, criteria of real estate appraisal, registration and supervision of real estate appraisers Matters on transaction of real estate and claims handling on management of condominiums and rented accommodation Matters on notice of land price and standard of official government selling price
City Bureau	Urban Policy Div. Urban Disaster Prevention Office Urban Renewal Promotion Div. Urban Develop. Finance Office City Planning Div. Urban Develop. & Improvement Div.	Guidance and subsidy on urban disaster prevention Support and subsidy to projects for promotion of relocation of people from a disaster stricken area and disaster risk area Basic studies on urban plans and projects in urban plans Matters on study, planning and designing of an urban transportation Matters on planning, designing, coordination and guidance for smooth implementation of urban redevelopment projects Matters on development and management of urban parks and other public open space
Water and	River Improvement &	Matters on river improvement projects related to development of urban

Disaster Management Bureau	Management Div.	area near the river
	Disaster Management Div.	Matters on planning, designing, coordination and instruction for smooth implementation of sewerage development projects
	Sewerage Planning Div.	Matters on study, instruction and supervision for maintenance and management of sewerage
	Sewerage Works Div.	
Housing Bureau	Housing Policy Div.	Matters related to planning and designing on housing
	Housing Develop. Div.	Matters on coordination of measures on support for private sector
	Residential Environment Office	Matters implemented by Urban Renaissance Agency (UR)
	Housing Warranty Office	Matters on funding, acceptance of loan claims, debt guarantee and housing loan insurance implemented by Japan Housing Finance Agency
	Building Guidance Div.	Matters on planning, designing and coordination for promotion of housing investment
	Urban Building Div.	Matters on planning, designing and coordination for promotion of a service industry contributing to ensure and improve stable housing
	Urban Housing Improvement Office	Matters on planning, designing and coordination for developing public facilities related to supply of housing and housing land
	Condominium Policy Office	Matters on supply, development, improvement and management of housing land conducted by a prefectural or a city housing corporation
		Matters on planning and designing for operation and management of rented housing (excluding public housing)
		Matters on new construction method of housing renovation/improvement and utilization of housing stock
		Matters on planning of rebuilding of old buildings in a crowded urban area
Railway Bureau	Urban Railway Policy Div.	Matters on planning, designing and coordination for urban railway policy and development
		Planning and permission of urban railway, etc.

Source: Homepage of Ministry of Land, Infrastructure, Transport and Tourism

5.5 Reverse Mortgages

5.5.1 Outline of Reverse Mortgages

A reverse mortgage is a form of equity release. In a conventional mortgage the homeowner makes a monthly amortized payment to the lender, and when the mortgage has been paid in full the property is released from the mortgage. In a reverse mortgage, the home owner is under no obligation to make payments till maturity date of the reverse mortgage or borrower's death before due date. The title to the property remains in the name of the homeowners until maturity date of the reverse mortgage or borrower's death before due date.

It is a loan available to home owners over 62 years old in the U.S.A. and for those over 65 in Japan. Home owners use their real estate as security for borrowing money from financial institutions. Home owners can get the mortgage principal in a lump sum or by monthly payments over a specified term or over their lifetimes. The loan plus interest must be repaid when the reverse mortgage comes due or borrower dies before the due date. In case the borrower has not enough money for repayment of the reverse mortgage, borrower sells the property or moves out from the property and the title is transferred to the lender. Table 5.26 below shows the present situation of reverse mortgages in relevant countries.

Table 5.26: Present Situation of Reverse Mortgage by each country

Country	Provider	Eligibility of Borrower	Loan Condition
Japan	Public and Private sector	● Must be over 65 years old ● Must own the property entirely or nearly by a borrower or by both a borrower and a partner. ● Must get approval from all presumed heirs. ● Occupy the house as their principal residence in to the future. ● Owns a property having more than ¥10 million assessed value.	● Target of mortgage is only land for housing. ● Maximum amount of mortgage is around 70% of assessed land value. ● Lower interest rate either 3% or a long-term prime rate adopted by financing agencies ● No mortgage principal in lump sum ● Amount of monthly payment is decided individually.
USA	Private sector	● Must be over a certain age, usually at least 62 years old ● Must own the property entirely or nearly. ● Must occupy the house as their principal residence. ● No minimum income or credit required. ● Must take an approved counseling as a safeguard for the borrowers.	● Borrower's age (higher payments for higher age) ● Property value, including any health or safety repairs ● Maximum lending limit varies by county, but not exceed $625,500. ● Heirs can take over roans. ● Monthly service charge (between $25 and $35) is added to the balance of the loan. ● Interest rate is determined on a program-by program basis.
Canada	Private sector	● Must be over a certain age, usually at least 55 or 62 years old. ● Must own the property entirely or nearly. ● Must occupy the house as their principal residence. ● No qualification requirement for minimum income level	● Borrower's age (higher payments for higher age) ● Property value, including location and a factor for future appreciation ● Minimum C$200,00, maximum C$750,000 ● Interest rate varies by program. ● Loan length also varies by program. ● No restriction on how the funds are used ● Must maintain the house properly. ● Must pay taxes.

Source: Home page of reverse mortgage in Japan, USA and Canada

The reverse mortgage system has the following merits for elderly people:
- Can be obtained without minimum income requirement,
- Can continually live in their house without the release of property, and
- Can obtain funds in lump sum or paid out on a regular basis.

However, the following risks still remain in the system:
- Decrease of security value
  - o A borrower lives longer than contract period of reverse mortgage,
  - o Value of collateral real estate at liquidation time decreases by more than at the borrowing time, and
  - o The interest rate of reverse mortgage at liquidation time increases more than at the borrowing time.
- Getting agreement from all of the borrower's heirs.

No reverse mortgage system has been introduced in Thailand yet. In order to accommodate Thailand's aging population, the introduction of the reverse mortgage system in Thailand should be studied in further detail. Table 5.27 describes the merits and demerits of the reverse mortgage system.

Table 5.27: Merits and Demerits of Reverse Mortgage

Merits	● Aged people can obtain a loan without minimum income requirement ● Aged people can continually live in their house without release of property. and ● Aged people can obtain fund in lump sum or regularly.
Demerits	● Decrease of security value caused by 　➤ Borrower's longer live than contract period of reverse mortgage 　➤ Decrease of estimated value of real estate at due date than at borrowing date, and 　➤ Increase of interest rate of reverse mortgage at due date than at borrowing date ● Getting agreement from borrower's all heirs

Source: Homepage on Reverse Mortgage

In Japan, value of a building for housing is not evaluated when the owner apply for reverse mortgage. Reasons are that actual useful life of wooden and reinforced concrete houses is short (about 40years) and the market on second hand housing is not brisk in Japan. In U.S.A. and UK, houses are used for around 100 ~ 120 years. Moreover, legal durable years of a wooden house and a reinforced concrete house set by Ministry of Finance are 22 and 47 years respectively. Therefore, each financing institution in Japan evaluates only the value of land for housing because almost no asset value of a house remains when owner apply for reverse mortgage.

The public guarantee system for decrease of estimated value of real estate and increase of interest rate of mortgage has not been developed yet in Japan. However, there is a system called Ginnie Mae in which the government housing finance institution buys mortgage bonds to support fund raising and to enhance credit in U.S.A. Furthermore, Federal Housing Administration under the United States Department of Housing and Urban Development guarantees payment to the policyholders of reverse mortgage in case a financing institution becomes insolvent and guarantees excess to the institution in case the total of financing exceeds asset value of housing. Because of development of the guarantee system and long life span of a house, many people in the United States use reverse mortgage system.

No reverse mortgage system has been introduced in Thailand yet. In preparation for the coming aging society, introduction of the system suitable for Thailand should be studied.

5.6 Rent Subsidy

Implementation status of rent subsidy in Japan, USA, UK and Singapore is described in this section.

5.6.1 Japan

Mainly local governments such as prefectural and city governments implement rent subsidy to low-income households, households with dependent children, aged household and households with disabled person. The following tables show example of rent subsidy in Tokyo Metropolitan and Osaka Prefecture.

Table 5.28: Rent Subsidy in Tokyo Metropolitan

Ward	Example of Rent Subsidy
Chiyoda	Aged Households, Households having a disability person, Single-parent families: Max. JPY50,000/month (Max. 5 years)
Shinjuku	Aged Households, Households having a disability person, Single-parent families: Half of difference of rent between before and after removal(2 years)
	Households in the middle of child raising (Total income of a household in a last year is JPY5.1 million or less.): JPY30,000/month (Max. 5 years)

	Students, Employees living separated from his/her family: JPY10,000/month (3 years)
Shibuya	Married-couple households, Households in the middle of 2 children raising: JPY40,000/month (Max. 9 years)
	Households in the middle of 3 and more children raising: JPY50,000/month (Max. 9 years)

Source: Homepage of each ward

Table 5.29: Rent Subsidy for Newlyweds households and Households in the middle of child raising in Osaka Prefecture

Monthly Income of Residents	Rent Subsidy
JPY268,000 or less	JPY20,000
Between JPY268,000 and JPY322,000	JPY10,000
More than JPY322,000	No subsidy

Source: Homepage of Osaka Prefecture

5.6.2 The USA

Voucher method as rent subsidy for low income households is adopted in the United States.

Voucher method is calculate by the difference between regional fair market rent and 30% of resident's adjusted income (or 10% of gross income) is subsidized.   Residents can select to rent house at higher rent than a fair market rent.   However, they have to pay difference.   If they choose to rent a house with cheaper rent than the fair market value, they can spend the difference in other expense items.

5.6.3 UK

Two systems are implemented as rent subsidy in UK.   One is Housing Benefit which is rent subsidy for low income tenants such as tenants receiving public assistance.   Other is Local Housing Allowance which is rent subsidy for a leased house.

Housing Benefit

In 2008, the total average received amount of rent subsidy to all tenants is 81 pounds per household per week.   Amount of rent subsidy to private rented houses, housing associations and public houses is 105 pounds, 76 pounds and 67 pounds per household per week respectively.   Condition for recipient of subsidy payment is shown in the following table.

Table 5.30: Housing Benefit in UK

Tenants (Households)	Subsidy
Tenants obtaining income which is equal or below the standard level of welfare payment set by the government	Amount equal to eligible rent
Tenants obtaining income which is beyond the standard level of welfare payment set by the government	65% of real income which is beyond the level is reduced from the subsidy.

Source: "Rent Subsidy in USA and UK" written by Ryokichi Ebizuka

Local Housing Allowance

Standard allowance to a rented house by number of bedrooms is decided according to size of household and household composition in each broad rental market area.

Table 5.31: Weekly Standard Allowance by City by Bedroom Size

City	Standard Allowance for One Week (pounds)	
	2 Bedrooms	3 Bedrooms
Birmingham	127	132
London (Inner East London)	300	350

Source: "Rent Subsidy in USA and UK" written by Ryokichi Ebizuka

Standard allowance for one week for 2 bed rooms and 3 bedrooms is 127 pounds and 132 pounds respectively in Birmingham. The rental market area in London is divided into three area. In the rental market area of Inner East London including Hackney, standard allowance for one week for 2 bed rooms and 3 bedrooms is 300 pounds and 350 pounds respectively.

5.6.4 Singapore

Singapore government does not implement rent subsidy. The government supplies one-room and two-rooms rented houses for households obtaining monthly income equal to SG$1,500 or less.

Table 5.32   Monthly Rent by Household Type by Flat Type

Monthly Household Income (SG$)	Household Type	Monthly Rent (SG$)	
		1-Room	2-Room
SG$800 of less	First-timer	26 - 33	44 - 75
	Second-timer	90 - 123	123 - 165
SGD$801 and SG$1,500	First-timer	90 - 123	123 - 165
	Second-timer	150 - 205	205 - 275

Source: HDB Homepage

5.7 Standard on Dwelling Area

In this section, standard on dwelling area in Japan and Singapore is studied and described.

5.7.1 Japan

Development target on dwelling area was set in "Housing Construction Five Year Program" and "Basic Plan for Housing (national plan)" in Japan. The dwelling area development target had been reviewed and expanded periodically.

Minimum dwelling area standard and targeted dwelling area standard were set in the basic plan. Targeted dwelling area was divided into two – general housing and urban housing. Definition and area of minimum and targeted dwelling area standard are shown in the following tables.

Table 5.33: Definition of Minimum and Targeted Dwelling Area Standard

Dwelling Area Standard	Definition
Minimum Dwelling Area Standard	Standard on dwelling area necessary as a basis for carrying healthy and cultural living life depending on household size
Targeted Dwelling Area Standard	Standard on dwelling area necessary for responding to various life style as premises for realizing rich living life depending on household size

Source: Basic Plan for Housing (national plan)

Table 5.34: Standard on Dwelling Area in the Basic Plan for Housing (national plan)

Standard on Dwelling Area		Dwelling Area by Household Size (Unit: m2)					
		One	Two	Three	Four	Five	Six
Minimum Dwelling Area Standard		25	30	40	50	60	70
Targeted Dwelling Area Standard	Urban Housing	40	55	75	95	115	135
	General Housing	55	75	100	125	150	175

Source: Basic Plan for Housing (national plan)

The following table shows minimum and targeted dwelling standard which was set up in the housing construction five year programs.

Table 5.35: Dwelling Standard in Housing Construction Five Year Program

Dwelling Standard		Dwelling Area by Household Size (Unit: m2)					
		One	Two	Three	Four	Five	Six
Minimum Dwelling Standard		25	29	39	50	56	66
Targeted Dwelling Standard	Urban Housing	43	55	75	91	104	112
	General Housing	55	72	98	123	141	147

Source: Housing Construction Five Year Program (the Fifth ~ the Eighth)

Dwelling area in the basic plan was set up larger than ones in the five-year program. The following table shows transition of average dwelling area of owned and rental house.

Table 5.36: Transition of Average Dwelling Area (Unit: m2)

Year	1968	1973	1978	1983	1988	1993	1998	2003	2008
Owned House	97.4	103.1	106.2	111.7	122.7	122.1	122.7	123.8	122.6
Rent House*[1]	37.8	40.0	42.1	44.8	46.4	48.6	49.3	50.8	50.9

Source: "Statistical Survey on Housing and Land" by Ministry of Internal Affairs and Communications
Note: *1 – Rental Houses supplied by public

5.7.2 Singapore

In Singapore, the HDB does not set a standard on minimum dwelling area.

Dwelling area of a housing unit (for sale and rent) by type in a multi-story housing building supplied by HDB is shown in the following table.

Table 5.37: Size of Flat by Type

Flat Type	Flat Size (m2)	Remarks
1-room flat	35 and 45	Studio apartment (for one or two-member household)
2-room flat	45	1 bedroom with bathroom, Living, Kitchen, Storeroom
3-room flat	60 ~ 65	2 bedrooms, Common bathroom, Living, Kitchen, Storeroom, others
4-room flat	85 ~ 105	3 bedrooms, Common bathroom , Living, Dining, Kitchen, Storeroom
5-room flat	110 ~ 123	3 bedrooms, Common bathroom , Living, Dining, Kitchen, Storeroom
Executive	130	3 bedrooms, Common bathroom , Living, Dining, Kitchen, Storeroom

Source: HDB Homepage

5.8 Summary and Comparison of Housing Policy in Foreign Countries

This section provides and summary and comparison of housing policies in the seven case study countries from the following perspective:

- Laws on development and supply of housing and long term plans on housing development and supply,
- Laws and regulations on housing and urban planning,
- Governmental departments related to housing and urban planning,
- Housing supply by the public sector, and
- Stimulation of housing demand by the public sector

Laws on Development and Supply of Housing and Long Term Plans on Housing Development and Supply

In Japan, the U.S.A., the U.K. and the Netherlands, laws on housing development and supply have been prepared already. Long-term plans for housing development and supply have also already been created and implemented in all of the seven case study countries.

The central government prepares the long-term plans (or goals) in Japan, the U.K., the Netherlands, Malaysia and Singapore. In the U.S.A. and Canada, state governments provide the plan.

Laws and Regulations on Housing and Urban Planning

Building Codes for buildings including housing and laws on urban planning and development have been provided and implemented in all seven countries.

Governmental Departments related to Housing and Urban Planning

In Japan, the U.K., Malaysia and Singapore, governmental departments related to housing and urban planning belong to a single ministry. In the U.S.A. and Canada, the federal government provides housing policy and state governments implement rental housing development for low-income people. Planning and development of urban areas are conducted by each state government in the U.S.A. and Canada. Preparation of housing and urban development policies is implemented by different ministries in the Netherlands. Local governments develop housing in the Netherlands.

Housing Supply by Public Sector

In Malaysia and Singapore, the central government directly builds and supplies housing. In Japan, the JHC and HUD, which were agencies managed by the central government had directly constructed and supplied housing. However, the central government has abandoned construction and supply of housing at present. The central government and/or agencies under the central government do not supply housing in the other four countries. In Japan, the U.S.A., the Netherlands, Canada and Malaysia, local governments supply housing.

Stimulation of Housing Demand by Public Sector

All seven countries have a housing loan system supported by the public sector. Preferential taxation systems are adopted in Japan, the U.S.A., the U.K., the Netherlands and Canada. Rent subsidy systems are in place in each of the five countries. Saving systems for purchasing a house such as Worker's Property Accumulation Residence Savings is implemented only in Japan and Singapore.

Reverse mortgage systems that contribute to promotion of housing sales to elderly people are in place in Japan, the U.S.A., the U.K. and Canada.

The table below shows comparison of housing policy in the seven countries.

Table 5.38: Comparison of Housing Policy in 7 countries

Target	Policy Option		Japan	USA	UK	Canada	Nether	Mala.	Sin.	Thai.
Housing Environ.	Housing Plan[*1]		○	○	○	○	○	○	○	
	Regulation[*2]		○	○	○	○	○	○	○	○
	Ministry[*3]		○		○			○	○	
Supply Side	Cent. Gov't	Sale[*4]						○	○	○
		Rent[*4]						○	○	○
	Local Gov't	Sale	○			○	○	○		○
		Rent	○	○	○	○	○	○		○
Demand Side	Rent Subsidy		○	○	○	○	○			
	Tax Incentive		○	○	○	○	○			○
	Finance		○	○	○	○	○	○	○	○
	Loan Guarantee		○	○		○		○		○
	Saving System[*5]		○						○	
	Reserve Mortgage		○	○	○	○				

Note: *1 - Long Term Plan on Development and Supply of Housing
　　　*2 - Law, Regulation and Code on urban and housing
　　　*3 - Ministry which has departments related to housing and urban in a same organization
　　　*4 - Housing for sale and rent
　　　*5 - Worker's Property Accumulation Residence Savings
Source: JICA Study Team

6. Proposal on Housing Policy

6.1 Framework of Housing Policy

6.1.1 Preconditions anticipated

Thailand has grown as a production center for manufacturing industries in Southeast Asia, and is currently a member of global middle-income countries. Rapid economic growth since the 1980s has brought about rapid socio-economic changes to Thai society, including rapid urbanization, increasing numbers of middle-income families, and decreasing of family / household sizes (nuclear family). These socio-economic changes significantly impact housing demand, particularly in the BMR. As a result, the size of housing units has become smaller, and in the BMR, housing located near arterial roads and especially urban railways is becoming increasingly popular. In addition, rising incomes have increased housing affordability for a large number of Thai people. According to the Study Team's socio-economic forecasts, these changes will continue, following recent trends will substantially influence future requirements/needs for housing and living environments. In particular, the following six elements are of key importance in considering future housing policies and programs:

- An increase in the number of households belonging to middle-income groups will increase the number of families able to afford their own homes, thereby expanding the size of the housing market,

- Growth of private firms in the housing sector that will provide more capacity and new services to facilitate the growth of the housing market,

- Changing demographics, including slower population growth rates, an increase in the elderly population, and smaller family sizes, all of which will demand a variety of housing options,

- Development of urban railway systems that affect location of new housing development. More transit-oriented urbanization or urban development shall be required to relieve traffic congestion,

- The growing importance of the quality of living environments at the urban, neighborhood, and dwelling unit levels, and

- The need to increase the capacity of relevant government agencies to support housing sector growth, particularly with respect to enhancing the security of homeownership.

6.1.2 Roles of housing policy

Future housing policies that can address the aforementioned elements are discussed through the following four lenses:
- Target
- Scope
- Role of the public sector
- Demarcation of roles between central and local governments

(1) Target

First of all, it is necessary to clarify who the main beneficiaries of new housing policies will be. As mentioned in section 3.4, until now, the Thai government has largely focused on the needs of lower-income groups. The mission and scope of previous housing policies have been largely defined by this focus. Thus in moving forward, it necessary to clearly identify which income groups should be targeted through future housing policies and programs. There are two main options:

> **Housing Policy targets only low-income groups -- or – targets a wider range of income groups**

Specifically, should housing policy continue to be targeted at lower-income groups or should the focus shift to middle-income groups that are more representative of Thai society?

Housing policies targeted at lower-income groups serve as an important safety net for social vulnerable citizens, however, these target groups represent a small share of the national population, which will only grow smaller over time. Given that it provides such a safety net, there is a strong rationale for maintaining low-income groups as a focus in future policy.

If the focus of future policies is expanded to include various middle-income groups, it creates opportunity to address many of the issues mentioned previously in the report, particularly in improving the design and quality of housing and surrounding environments in accordance with economic growth and socio-economic changes.

As mentioned in Chapter 5, European and North American countries mainly focus on supporting of low-income groups by supplying public housing, meanwhile, Japan and Singapore cover wider income groups as targets group of housing policy. European and North American countries are mature societies and economies and their populations and housing demand changes at a stable pace. In Europe and the North American countries, the structure of housing units are typically made of stone, steel and concrete, leading to relatively long life-spans. Accordingly, rehabilitation and renovation of existing houses can fulfill the majority of housing demand. This seems to be one reason why the public sector has made limited commitments to supplying housing, but at the same time also engages more in consumer protection, creating transparency in housing markets, ensuring fair transactions and business etc.

On the other hand, in Asian countries like Japan and Singapore the public sector is involved in a broader range of programs, including public housing for low-income groups and supporting supply and demand of housing for middle-income groups. The reason for the difference may stem from the fact that Asian countries face(d) rapid population growth, migration and urbanization at the same time after World War II, such that the government was required to supply housing for most income groups.

Looking at situation in Thailand, rapid economic growth after 1970s brought about large population migration to Bangkok and fostered the development slums and squatter settlements. Since the mid-1980s, Thailand's rapid economic growth has resulted in an increasing number of middle-income families. This group is expected to continue to grow, depending on steady economic growth (as analyzed in Chapter 4), and will account for the majority of future housing demand or "volume zone (market segment)." In accordance with the new demand created by middle-income groups, the overall housing market will expand and housing sector businesses will expand with many newcomers (which has already started). Accordingly, it is of the utmost importance for Thailand to have a properly regulated housing sector that controls how housing will be supplied for middle-income groups. Besides this, public housing policy will be defined

more clearly as a social safety net policy.

Under these circumstances, the Study Team recommends that future housing policies and programs should be targeted at both lower-income groups AND at middle-income groups for the following reasons:

- The majority of families are going to belong to the middle-income group. Housing policies should bring benefits to the majority,

- It is an appropriate time for Thai society to enhance efforts to seek better living environments for Thai citizens given its stage of economic development, and

- It is very important to ensure Thailand's status as a middle-income nation through the provision of public housing, which will provide a safety net for many citizens.

(2) Scope

Housing policies targeting a wider range of income groups aims at the improving quality of living conditions and responding to economic growth and socio-economic changes through:

- Improvement of quality and performance of houses,

- Improvement of living environments,

- Provision of appropriate housing to meet various needs of families using market mechanisms,

- Support to obtain housing for lower- and middle-income families, and

- Enhancement of the safety net in the housing sector.

(3) Roles of public sector in housing sector

More than 95% of houses are supplied by the private sector in Thailand. The private sector has accumulated sufficient capacity in terms of investment and business skills in the housing sector. Accordingly, the private sector should be a main actor in the housing market as much as possible. In this regard, the roles of the government should be as a market regulator and operator of the safety net.

Looking at foreign experiences, several useful tools have been identified, such as qualification and registration of housing businesses, standardization of transactions, consumer protection to ensure reliability, transparency, and fairness of housing market. Almost all countries have tools to support demand (families), such as mortgage loans supported or provided by public banks and tax incentives. Japan and Singapore have special savings systems to accumulate funds for buying homes. With respect to publicly supplied housing, governments in foreign countries are gradually reducing their involvement. Only Malaysia and Singapore have strong involvement in providing public housing. European countries stopped supplying public housing for sale but carry out supply public house for rent and rent subsidy.

Based on foreign practice, roles of the public sector may regulate supply and demand of public housing, and support the stability of the housing market. In particular, it is very important for the Thai government to strengthen regulation of the housing market. The following functions are critical:

- Maintaining fair competition and transparency in the housing market to keep/improve reliability of housing market,

- Assist housing businesses to be a growing industry,

- Supporting private businesses to participate in lower-income housing services,and

- Guidance to improve the quality of housing.

The Thai government should take care of following roles as operator:
- Enhancement of safety net for vulnerable groups,

- Necessary development with public interests (less profitability), and

- Projects to tackle external diseconomies within housing market (such as traffic congestion, disorderly development etc.).

(4) Demarcation of roles between Central and Local Governments

Local governments play a major role in public welfare policy in Western countries, though their influence depends how decentralized administrations are in a given country. Local governments provide public housing and rental subsidies for lower-income families. Their ability to do is largely determined by financial and technical capacity as well as considerations of efficiency of public services to be provided. For instance, local governments in Western countries, including Japan, have sufficient administrative, technical and financial capacity, making their involvement advantageous due to their proximity to the people that need assistance. It also results in ensuring peoples' satisfaction with regard to public services.

Although the Thai government has gradually introduced decentralization of administrative authority to the local government level in 1990s, most local governments still have limited capacity in terms of human resources, and financial and technical capacities. Accordingly, local governments should be afforded the opportunity to increase capacity and gain more experience by being responsible for certain parts of administrative procedures (instead of the central government) as in the case of land development permissions under the Department of Land.

6.2 Goal of Housing Policy

Housing policies targeting a wider range of income groups aim at up-lifting overall housing conditions of Thai citizens so that everyone can live with a safe, secure and comfortable house in Thailand. To achieve this, the Thai government must implement appropriate housing policies to realize:

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(1) Sufficient housing supply to meet the needs of all families

(2) Creation of safety, security and good living environment

Sufficient housing supply to meet the needs of all families means ensuring the creation of an adequate quantity and quality of housing to the market, including both new and second hand houses. Housing demand may be different depending on lifestyles and life-stages, such that various cost, type and location of housing should be stocked in the market to increase the availability of appropriate houses. For this purpose, the quality of housing (design and construction), and the housing market as well as participants in the housing market should be more reliable.

The creation of safe, security and good living environments requires public concern to maintain public interests like amenity and livability of towns, which cannot be achieved by the housing market. Things such as guidance of urban development and urbanization must be driven by the public sector.

6.3 Principles of Housing Policy

6.3.1 Basic Direction of Housing Policy

Proposed housing policies should target not only low-income groups but also middle- and high-income groups to a certain extent. According to the housing demand discussed in Chapter 4, by 2030 Thailand will need at least nine million new units and while the BMR may need as many as six million. To respond to these demands, it will be necessary to continuously provide public housing for low-income group who have insufficient income to afford market-rate mortgage loans. In this regard, it is of great importance to maintain organizations responsible for public housing and community development (from financial and technical points of views) such as CODI and the NHA.

At the same time, the expansion of middle-income groups will increase the overall size of the housing market. Changes in household and population structure, lifestyle preferences, and urban expansion will diversify demand for housing in terms of price, size and location. Such expansion and the variety of housing needs will create new business opportunities in the housing sector. Since the private sector already plays a vital role in providing housing for middle- and high-income groups, it is of great importance to maintain an efficiently functioning housing market with an increased number and type of stakeholder in the market for the sake of ensuring sufficient quantity and quality of houses to meet demand.

For this purpose, it is necessary to maintain a reliable housing market, ensuring a safe, fair and transparent transaction and business environment. In addition, lower- and some middle-income households have difficulty in obtaining mortgages loan due to an inadequate guarantee of repayment. This segment of the market has become a "vacuum zone" where current housing policy fails to address the needs of Thai people. As the number of households in the middle-income group increases, it is of great importance to include political measures to target the group.

Improvement of living environments, particularly the convenience and amenity of residential areas is also an important principle of housing policy, which can bring benefits all income groups and improve the welfare of Thai society.

Housing policy principles reflect the Study Team's forecast of Thailand's future socio-economic situation, including changes of household and income structure, housing demand and anticipated roles of public and private sectors, which are shown in Figure 6.1.

	Low Income Group	Middle Income Group	High Income Group
2010 **Household by Income Level** **2030**	25 % / 15 %	55 % / 56 %	20 % / 29 %
Salient Socio-economic Changees	Population increase Urban poulation increase (rather than rural population) Newclear Family Aged Society	Economic growth: more middle income families	Increae of houses for rent Expansion of Urban areas Urban railway development
Housing Demand (during 2010 - 2030)	1,350,000 units	4,210,000 units	300,000 units
Expected Major Supplier	Public Houisng & Low Cost Housing by Public Sector	Private Sector	
Issues	・ Enhancement of safety net ・ Sastainability of project funds	・Loan	- Eensuring suffient number of houses supplied - Ensuring variety of type of houses suppied in the - Amenity and good living environemnt in residential area
Expected Roles of Private Sector	Expansion of services/ businesses		Supply of houses respoding to needs in the market Supply of sufficient number of houses
Roles of Public Sector	Supply of houses as a safety net Support lower income families to obtain own house	Operation Support Support	Consumert protection Maintenance of market reliability Maintanance of urban functions Safety and reassurance in house and resienital area Regulation, Supervision, and Support

Source: JICA Study Team

Figure 6.1: Principles of Housing Policy

6.3.2 Housing Strategy reflecting Housing Policy

Based on the aforementioned housing policy principles, the following four housing strategies are designed to realize the goals of the housing sector.

Strategy 1: Restructuring of Housing and Urban Administration

Strategy 2: Improvement of Housing Market

Strategy 3: Enhancement of Safety Net

Strategy 4: Improvement of Living Environment in Residential and Urban Area

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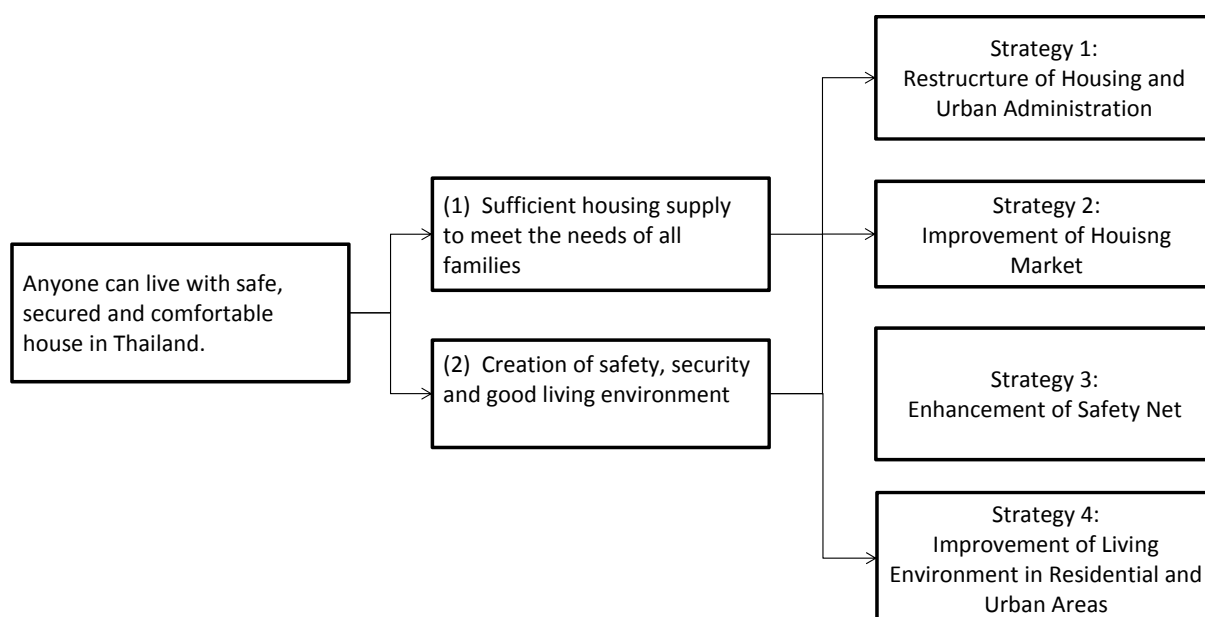
Source: JICA Study Team

Figure 6.2: Goal and Strategy of Housing Policy

6.4 Housing Strategy

6.4.1 Strategy 1: Restructuring of Housing and Urban Administration

(1) Objectives and Intention

This strategy aims at integrating the current housing administration to provide high-quality comprehensive housing policies and ensure the performance of public agencies concerned with housing sector by utilizing the same set of policies and strategies. Currently, several agencies are involved in separate parts of Thai housing policy. For example, the National Housing Authority (NHA) is responsible for public housing development, the Community Organizations Development Institute (CODI) is responsible for community development of low-income communities, and the Government Housing Bank (GHB) and the Government Saving bank (GSB) are responsible for publicly supported mortgage loans. However, there is no comprehensive housing policy that provides overall objectives and policy directions for housing policy and lays out the roles and contributions of each agency to achieve such objectives. There is no organization to coordinate among those agencies.

It is thus indispensable for the current housing administration to be reorganized or restructured with regard to housing and relevant fields like urban development in order to be more efficient in carrying out housing policies and to expand housing businesses and market with keeping their reliability, transparency and fairness.

(2) Structure of Strategy

A new organization that deals with housing matters should consist of two sub-organizations, one dealing with policy and the other dealing with administration. The new policy-oriented organization may be responsible for policy and decision-making on projects, while the new administrative organization may be responsible for the execution of policies and projects. To this end, it may be possible to transform the existing "National Housing Policy Committee (NHPC)" into a "Housing and Urban Development Board (HUDB)", which will simultaneously handle decision-making for housing and urban policy to realize comprehensive approaches to housing and urban development issues. At present, there is no organization the Ministerial or Department level in the national government that is responsible for housing administration like planning and regulating of housing businesses. There is only the NHA that takes care of certain area of housing administration. Accordingly, it is proposed to re-organize the NHA to separate policy and planning functions and project execution functions. The section that takes care of policy and planning should upgraded to either the Ministerial level or the Department level as the core of the new organization at the administration level. This organization shall be responsible for housing planning, coordination, regulating and supervision of housing businesses.

Recently, the NHA made agreement with the MRTA and SRT to carry out coordinated urban development projects together along planned urban rail lines. The projects aim to realize true transit-oriented development (TOD). The NHA is expected to provide the requisite knowledge for appropriate housing and urban development projects. Accordingly, it is of great importance for the NHA to strengthen management capacity of urban development projects.

To realize above, the following three programs are proposed:

- Establishment of Housing and Urban Development Board (HUDB) (PRO 1-1)
- Establishment of New Organization responsible for Housing Administration (PRO 1-2)
- Strengthening of Urban Development Project Management Function of NHA (PRO 1-3)
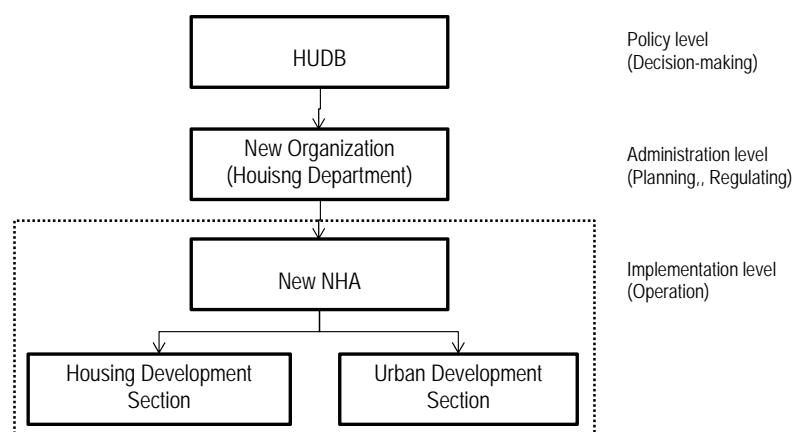
Source: JICA Study Team

Figure 6.3: Concept of Proposed New Housing Administration

(3) Programs

1）Establishment of Housing and Urban Development Board（PRO 1-1）

There currently exists the National Housing Policy Committee, which was established by the NHA to discuss housing policy. However, the committee is currently operational due to insufficient coordination among relevant agencies in the central government. One major reason is due to the lack of an authorized administrative organization at the Ministerial or Department level to take necessary actions with respect to decision-making in the committee and to coordinate relevant agencies, even through there is great need to have an authorized decision-making body to smoothly implement housing policy. It is accordingly proposed to transform the NHPC into the Housing and Urban Development Board (HUDB) to discuss not only housing issues but also housing businesses and market and living environment in residential areas. Major issues to be discussed in the UHDB shall include but not be limited to:

- The housing market,

- Housing businesses and industry,

- Improvement of living environment in residential areas, and

- Linkage of housing development and urban development administration.

The Secretarial office of the HUDB may be a new organization responsible for housing administration (P12), which is discussed in the following section.

To actually implement this program, the following actions should be taken into account:
- Transformation of the existing NHPC, and

- Establishment of the Housing and Urban Development Board (HUDB)

2）Establishment of New Organization responsible for Housing Administration (PRO 1-2)

There is no ministry or department within the central government that is responsible for housing administration, including planning and regulating the housing sector. Accordingly, the central government has little involvement with housing businesses and market. There is only the Department of Lands (DOL), which has the authority to provide permission for land development projects. The NHA, has technical knowledge for the physical development of houses and residential areas from project planning to construction supervision.

As for the basic direction to strengthen the housing administration, it is most important to improve transparency and fairness, and efficiency of the housing administration by clearly separating supervision / regulation and operational / execution functions of the housing administration. It is important to separate policy and planning functions from execution function sections to be a core of a new organization at the Ministerial or Department level, which is responsible for comprehensive housing planning, coordination, regulation and supervision of housing businesses and market.

For this purpose, the following three actions are taken into account:
- Restructuring of the NHA (separation of policy and planning, and execution functions),

- Formulation of new organization at the Ministerial or Department level based on the policy and planning functions of the NHA, and

- Developing of new system for coordination between NHA and other relevant agencies such as DPWTCP, DOL, BMA etc.

3） **Strengthening of Urban Development Project Management Function of NHA (PRO 1-3)**

The NHA shall be responsible for carrying out housing projects like public housing and low-cost housing projects, as well as urban development projects. The NHA can greatly contribute in realizing a more efficient urban structure in Bangkok and vicinity areas through appropriate urban development projects with minimum traffic and environmental burdens utilizing the TOD concept. The NHA can manage those projects together with mass transit authorities such as the MRTA and SRT based on the accumulated experience of housing and urban development projects.

To strengthen these technical services, the NHA should pay careful attention how to avoid oppression of private businesses. Since Thai private businesses have adequate capacity to carry out housing projects and residential area development projects, the NHA should specialize in the following scope of services to avoid the oppression of private businesses in housing sector:

● Urban development projects with high public interests,

● Urban development projects with lower profitability but high public benefits (of which the private sector will not normally be involved in), and

● Urban development requiring participation of many private businesses and coordinating among them.

However, the NHA has little or limited experience on urban development projects except for new town development projects in suburban areas. The NHA has no experience on integrated urban redevelopment projects or urban development at/surrounding rail station areas. Accordingly, the NHA should improve management capacity of these urban development projects, which will be the core of TOD efforts. For this purpose, the Study Team proposes the following three actions:

● Establishment of urban development section in the NHA,

● Capacity development by temporarily employing external expertise (like JICA expert, detachment to the NHA from private sector etc.), and

● Joint urban development projects with private sector.

6.4.2　Strategy 2: Improvement of Housing Market

(1) Objectives and Intension

This strategy aims at enhancing the housing market to supply sufficient houses in terms of quantity and quality to meet future housing demand, in response to the increasing housing demand, particularly for rental units and second hand homes.

Demand for second hand and rental housing will gradually expand due to lower cost and locational advantages. If people in Thailand gradually tend to select housing to be more suitable for a new "way of living" depending on changes of population structure and family structure, it is important to introduce the concept of the "housing ladder", which facilitates moving from one house to another in accordance with requirements for cost, size, number of rooms and location. This must be realized to ensure a healthy housing market that ensures an adequate quantity, quality, and variety of supply.

Transactions should be carried out in a way that reflects demand and supply in the housing market, the maintenance of freedom and fairness of private businesses, and in such a fashion that they generate efficiency in the market at the same time. In this regard, transparency, accountability and fairness must be ensured in the market. To achieve this, the public sector must be responsible for creating and maintaining a "good business environment," which consists

of fairness of the market, appropriateness of participants, and consumer protection.

(2) Structure of Strategy

The expansion of the housing market will create new opportunities for new housing development projects and new housing transactions, as well as increases opportunities for relevant businesses that deal with transactions of second hand homes and rental housing. These new opportunities may present a windfall for the sector, increasing the overall number of participants in the real estate and housing industry. The increasing number of participants and new business opportunities will serve as a basis to ensure sufficient supply of housing in terms of quantity and variety in the housing market, which will meet the needs of end-users.

To realize these new opportunities, it is critical that the public sector secure reliability and transparency in the market at first. Then, the public sector can encourage the private sector to expand businesses in the market. In particular, the public sector should pay more attention to the actions that encourage developing new second hand home businesses (e.g., brokers, renovation companies, etc.), which will expand the number and variety of businesses and participants in the housing market.

In addition, the quality of housing, especially construction and design that ensure the long life of housing units, is a crucial issue for expansion of the second hand housing market in order to ensure maintaining and or increasing the value of second hand homes.

At the same time, condominiums and apartment are becoming increasingly popular in Bangkok and the surrounding provinces. Owing to the condo boom during the 1990s, the number of aged (decrepit) condominiums and apartments in Bangkok is also on the rise. Renovation of these aged condominiums and apartments is one of the crucial issues in the housing sector. In particular, renovation of these aged condominiums and apartments offer significant opportunities for urban renewal and development projects that could supply a number of high-quality housing units. Accordingly, it is very important to carefully consider measurements to smoothly accelerate the renovation and/or reconstruction of aged condominiums and apartments.

To realize the above, the JICA Study Team proposes the following three programs:

- Improvement of Housing Trade Information (PRO 2-1)
- Improvement of Reliability of Housing Market (PRO 2-2),
- Encouragement for businesses involved in the second hand housing market (PRO 2-3), and
- Promotion of Renovation / Reconstruction of Condominiums and Apartments (PRO 2-4)

Figure 6.4 shows overall concept of the strategy with relations of each program. The program of P42 "Improvement of Physical Aspects of Houses for Re-use" is described in the section of Strategy 4 (6.4.3).
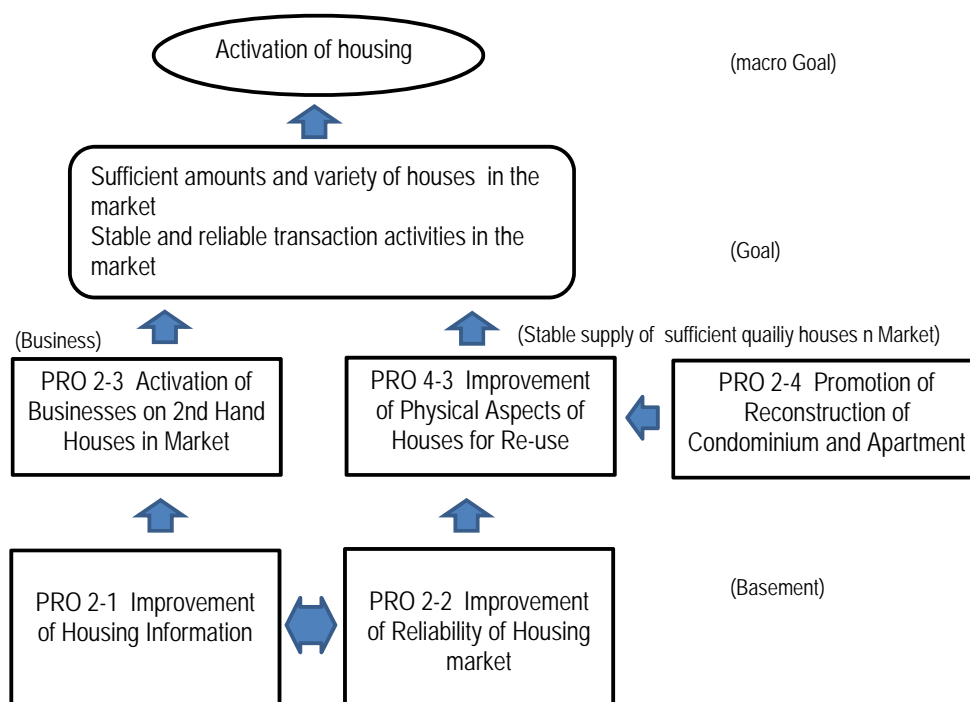
Source: JICA Study Team

Figure 6.4: Concept of Strategy on Improvement of Reliability of Housing Market

(3) Program

1）Improvement of Housing Trade Information (PRO 2-1)

In order to improve fairness in housing market, it is important to reduce information gap between house seller and buyer. This will also greatly improve market reliability and market activation.　For housing information, there are several information available at present such as land price information of Department of Lands, information of the Real Estate Information Center (REIC) under the GHB and private institutions such as Agency for Real Estate Affairs (AREA).　These organization currently provide housing stock, transaction and prices of houses in the private housing market, however these data is difficult to access.　Housing information available should be coordinated and organized to meet requirements from customers as well as to be more open to public. In this regard, the following two actions shall be of importance:

- Disclosure of housing and real Este information
- Organizing housing information by private sector

2）Improvement of Reliability of Housing Market (PRO 2-2)

To upgrade the reliability of the housing market, it is crucial to enhance the system to ensure fairness and transparency in the market. More specifically, the reliability of participants in the market and system to secure appropriates roles with regard to transactions and contracts should be built-in the housing businesses and market. Consumer protection is also indispensable to ensure market fairness.

Generally speaking, consumers (the demand side) have limited knowledge and information, expertise, and financial capacity compared to the supply side or housing businesses, resulting in being in a disadvantageous position in the transaction. Since housing is an expensive commodity for ordinary families, damage from a bad transaction can create huge financial

difficulties for many families. This is a key reason why consumer protection is of great importance for housing transactions more so than other commodities. Consumer protection should be enhanced to improve fairness of the market.

To implement this program, the JICA Study Team shall proposes the following four actions:
- Improvement of market reliability by introducing registration and licensing to the housing businesses, particularly housing brokers,
- Standardization of contracts and procedures for property transactions and housing rental, and
- Enhancement of consumer protection in housing businesses and market.

3) Encouragement of businesses involved in the second hand housing market (PRO 2-3)

The number of second hand housing businesses increases every year and is expected to have more potential to grow in the future. To stimulate this potential, it is important to improve the transparency and accountability of transactions, and to increase the number of housing businesses through encouraging the development of relevant businesses such as brokerages, renovation companies, and housing equipment supply etc.

The first action to be taken to improve transparency and fairness of transactions in the housing sector is to improve the accountability of asset valuations in the second hand housing market. This will contribute to improving the level of assets on the price of housing for both buyer and seller and will add reassurance in the validity of the transaction, which will positively affect the amount of transactions that will be conducted. Currently, Thailand has an official valuation system under the Land Valuation Office, however, actual price of second hand housing is set in accordance with previous cases of transaction prices of housing in a nearby area. The second hand housing market is highly varied in terms of location, structure, size, duration (lifespan) and the surrounding environment and conditions, so that pricing of the second hand housing will be difficult to ascertain just by referring to nearby example(s). Accordingly, it is important to introduce certain valuation systems for the housing market, especially those in the second-hand market, which may be consist of authorized methods and authorized valuators from a third party. This action can provide good information for transaction and contribute to safe and reassured transactions.

To realize the encouragement of second hand housing businesses as mentioned above, the Study Team proposes the following two actions:
- Revision of the valuation system of real estate and housing, including second hand housing, and
- Fostering the development of businesses relevant with to the second hand housing market.

4) Promotion of Renovation / Reconstruction of Condominium and Apartment (PRO 2-4)

There is currently a large stock of both condominiums and apartments in Bangkok and its surrounding provinces. Recent escalation of land prices in desirable areas has accelerated the development of new supply in this market segment. The condo / apartment market segment continually records a higher number of new builds and registrations than that of detached housing. Demand for condos and apartments in desirable areas will gradually increase the necessity for renovation and/or reconstruction of older existing condominiums and apartments. As such, it is expected that the renovation and reconstruction of older building and units will be a crucial issue in the near future.

The Condominium Act in Thailand stipulates the roles and procedures for carrying out repairs, modifications and reconstruction of condominiums and apartments. According to the Act, more than a 50% consensus of owners/dwellers is required for minor repairs and a 100% consensus

of owners/dwellers is required for major repairs, renovations and reconstruction. This act is highly necessary to maintain the rights of the owners / dwellers, but it also often creates a high barrier to overcome when large-scale renovations are necessary. Thus it is important to consider certain schemes designed to promote renovation and reconstruction of condominiums and apartments. For this purpose, it is necessary to revise the current condominium act with regards to renovation and reconstruction. The renovation / reconstruction of old NHA apartments is also very important to accumulate technical know-how of reconstruction projects as lessons learned that can support future market needs.

To realize concept of accelerating renovation and reconstruction of condominiums and apartments the Study Team proposes the following three actions:
- Revision of the condominium act (from promotion of reconstruction point of view),
- Revision of relevant laws, and
- Implementation of renovation and/or reconstruction of old NHA's apartments.

6.4.3 Strategy 3: Enhancement of Safety Net

(1) Objectives and Intension

This strategy aims at enhancing the safety net in the housing sector, which should expand policy targets to include low-income families as well as socially vulnerable groups such as aged families, single parent families, and handicapped families. The public sector should not only be responsible for providing public housing, but also for promoting the participation of private sector into this field of service.

(2) Structure of Strategy

Public service for lower income group should consist of safety net service and other services. The public sector should continue safety net service as a social welfare policy. For this service, it is important to pay attention on improvement of continuity of project to be more sustainable.

At the same time, other services for lower-income groups who have relatively higher and more stable incomes should be provided. In recent years, the government has carried out projects targeting this group like the Baan Eau Arthorn project. The problem for this group is insufficient eligibility to obtain mortgage loans due to limited loan guarantees. Certain appropriate actions should be taken to solve this problem. It will thus be necessary to encourage the private sector to provide houses for this group. This will reduce the burden on public sector authorities by decreasing their involvement in the direct provision of affordable housing, while simultaneously growing the housing market and opportunities for private sector business as household incomes rise.

To realize the above strategy, the JICA Study Team proposes the following five programs:
- Expansion of Private Housing Businesses to serve Low Income Groups (PRO 3-1),
- Enhancement of Mortgage Services to Lower Middle Income Groups (PRO 3-2),
- Strengthening of Financial Sustainability for Public Housing and Community Projects (PRO 3-3),
- Introduction of Private Collaboration in Safety Net Services (PRO 3-4), and
- Introduction of Reverse Mortgages (PR 3-5)

(3) Program

1）Expansion of Private Housing Businesses to serve Low Income Groups (PRO 3-1)

There is a problem of low viability in projects for low-income groups, which is a big obstacle for the private businesses to participate in the low-income housing development. To participate in this market segment, the private sector needs to improve project viability and/or profitability. The public sector can support it through reducing construction costs of houses (for example introducing container house technology) as well as reducing business expenses through revision of existing BOI incentives.

Actual action to be taken for this program can be accordingly divided into the following two actions:
- Revision of the BOI Incentive schemes that pertain to housing, and
- Revision (cost-reduce) of low income housing projects.

2）Enhancement of Mortgage Service to Lower Middle Income Groups (PRO 3-2)

Mortgage loan are available at not only public banks like the GHB and GSB, but also at private commercial banks. However, conditions of the mortgage loans are rather difficult for low and lower-middle income group to meet, due mainly to insufficient / limited capacity of loan guarantees and collateral. Accordingly, the current mortgage loan system does not adequately function as a tool for low- and middle-income families to purchase housing. Thus it is necessary to expand the mortgage loan system to accommodate a wider range of income groups. To do so, there are two key policy measures that can be implemented; one is to reduce loan amounts (which can reduce necessary guarantees and collateral) by promoting increasing household savings, and the other is the provision of additional loan guarantees by the public sector to the borrower. Both measures may be effective in assisting low- and middle-income groups in purchasing homes through improving their ability to take on mortgages.

Actual steps to be taken for this program can be divided into the following two actions:
- Introduction of public credit guarantee corporation, and
- Introduction of "Property Accumulation Saving" system.

3）Strengthening of Financial sustainability for Public Housing and Community Projects (PRO 3-3)

There are public housing projects under the NHA and community development projects under CODI that function as public services for lower portions of the low-income group. These project schemes are have been gradually improved, such that the projects have been relatively successful in the long run. It is necessary to continue such projects in future. At present, both CODI and the NHA, are mandated by the government to secure their own financial resource to fund projects. It is an urgent and crucial issue for both CODI and the NHA to establish financial sustainability in order continue "safety net" projects. However, these organizations do not currently have profitable projects, any for-profit projects. Furthermore, neither organization currently has sufficient capacity and experience to manage profitable projects. Accordingly, it is most realistic that these organizations should obtain funds from outside to strengthen the project sustainability with the following two ways:
- Provision of new fund to CODI, and
- Promotion of donations.

4） Introduction of Private Collaboration in Safety Net Services (PRO 3-4)

Single-person households will increase in accordance with the increased number of elderly population as well as trends toward small, nuclear families. The public sector has limited capacity to bear the burden on finance and human resources to carry out services to such households who require a safety net, especially children, elderly people, and handicapped persons. In this regard, it is proposed to build a system to collaborate with the private sector and NGOs to provide such safety net services. The public sector should foster a good environment that supports members of all vulnerable groups. For example, private companies may be encouraged to investigate how they can support the needs of these families. The Study Team points out the following two necessary actions:

- Collaboration with NGOs, and
- Collaboration with private businesses.

5） Introduction of Reverse Mortgages (PRO 3-5)

Pensions will be a more crucial political issue in Thailand in the future as the number of aged people increases along with trends towards the nuclear family (which lessens the financial support capacity of families). In this regard, it is worthwhile for Thai society to discuss the possibility of introducing a reverse mortgage loan system, which can be a supplement to or substitution for pensions. In addition, the reverse mortgage idea seems to have certain positive effects that can promote housing demand. To introduce the reverse mortgage systems, the following three issues should be carefully taken into consideration:

- Further study on scheme of reverse mortgage,
- Further study on the evaluation method of property such as housing and land, and
- Further study on the effects from changes in the value of property.

6.4.4 Strategy 4: Improvement of Living Environments in Residential and Urban Areas

(1) Objectives and Intention

Improvement of the quality of housing includes two aspects; one is improvement of amenity and living environments of residential area, and the other is physical improvement of housing to be used for a longer duration. This strategy aims at pursuing both aspects. It is proposed to promote improvement of the quality of house and to promote urban area development projects to form better living environments in residential areas and better urban structures to reduce the burden on the urban environment of Bangkok by accelerating the renovation and/or reconstruction of existing houses. Meanwhile, it is crucial for improving the housing market, especially the second hand housing market, to secure a sufficient volume of houses in the market. From the physical aspect of housing durability, houses in the second hand market are required to have adequate remaining duration of use.

(2) Structure of Strategy

There is large and active urban development potential in Bangkok and major regional cities as seen by steady population growth and increasing real estate investments. Urban development administrations should enhance such urban development potential and seek public interests from those developments at the same time. Specifically, urban development project led by the public sector shall be taken into account to generate new urban areas, which have smaller environmental burdens using the TOD concept in the suburban areas. At the same time, there is

large potential for large-scale urban development projects, which may require public sector participation in coordinating many private stakeholders as well as contributing proving public services in urban development. To carry out the concept above, the Study Team proposes the following four actions:

- Urban Development in Suburban Areas (PRO 4-1),

- Acceleration of Urban Redevelopment in Urbanized Areas, (PRO 4-2)

- Improvement of Physical Aspect of Houses for Re-use (PRO 4-3), and

- Improvement of Residential Area Management (PRO 4-4).
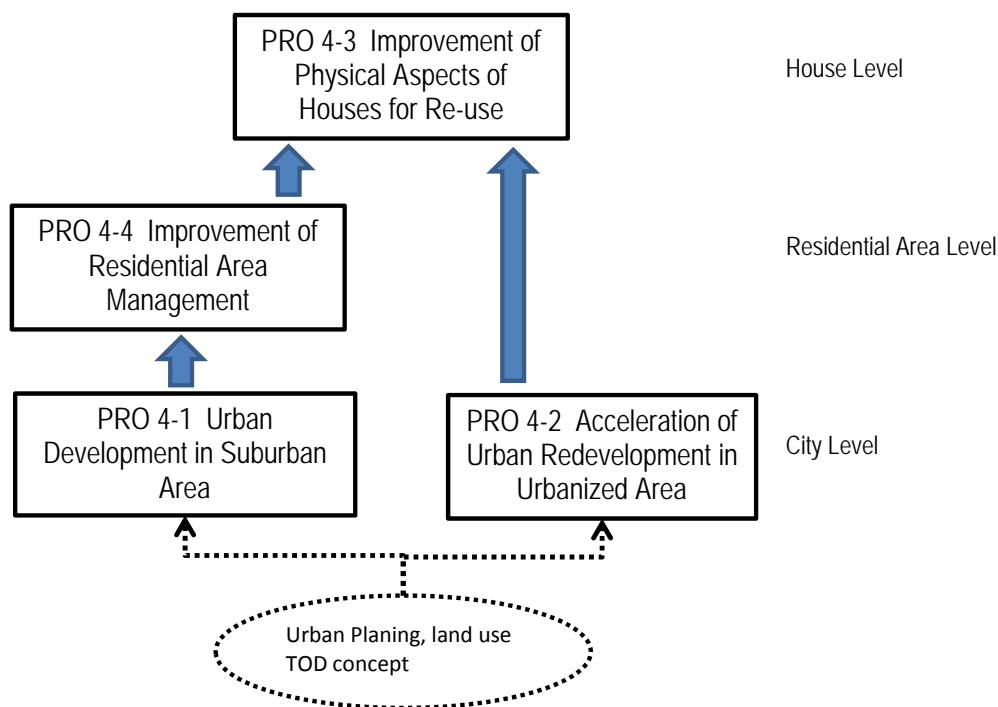
Source: JICA Study Team

Figure 6.5: Approaches to improve Living Environment

(3) Program

1）Urban Development in Suburban Area (PRO 4-1)

Urban mass transit systems are gradually being developed in Bangkok as a countermeasure against traffic congestion. In this regard, the BTS Skytrain, the MRT Blue Line (subway) and SRT Airport Rail Link are currently in operation, with several extensions to both the BTS and MRT networks under construction as well as new Commuter lines developed by SRT. These mass transit systems are being built to encourage modal shift away from private vehicles and towards public transport. To promote the modal shift, it is of great importance to facilitate changes in Bangkok's urban structure to support use of the mass transit system. For this purpose, new urban area developments and station area developments along the mass transit systems should be promoted. To support smooth implementation of the developments, it is necessary to take actions to change urban structure and to control land use:

- New town development projects along mass transit systems of MRTA/SRT,

- Deregulation of land use at core development areas along mass transit systems of MRTA/SRT, and

- Station Plaza development at suburban areas.

2）Acceleration of Urban Redevelopment in Urbanized Area (PRO 4-2)

Most urbanized areas in Thailand, particularly in and around Bangkok, are densely built-up with many buildings, such that it is very hard to carry out large-scale redevelopment projects because of numerous small property owners who must be consulted prior to projects being implemented. At the same time, the private sector efficiently provides small-scale (re)development in the form of many new condo and office building and building renewal projects along mass transit systems and major arterial roads. The renovation and renewal of large, high-quality commercial and condo buildings are profitable for the private sector due to high land productivity. The public sector should not compete with the private sector in this regard, but participate in the field of services in which the private sector cannot be involved, or in where the public sector can collaborate with the private sector. Examples include public space/facility development, developments with high public interests low profitability, and large developments requiring coordination of many stakeholders in both private and public sectors. In line with this consideration, the Study Team proposes the following two actions:
- Efficient use of public lands in urbanized areas, and
- Introduction of integrated urban redevelopment schemes.

3）Implementation of Physical Aspects of Houses for Re-use (PRO 4-3)

The build quality of housing should be ensured through the development and enforcement building codes that dictate minimum requirements for types of housing structures and construction materials that are appropriate. At present, there are no such systems in place at the local or national level to ensure that housing structures are built and maintained properly. As the quality of second hand housing is very important to the overall housing market and to create new opportunities for housing-industry businesses, it is necessary to implement a program designed to ensure the quality of housing units. To implement this concept, the Study Team proposes to the following three actions:
- Upgrade of housing construction technology and standard,
- Establishment of housing assurance system, and
- Research & Development in houses in Easy Renovation.

4）Improvement of Residential Area Management (PRO 4-4)

In addition to the improvement of physical aspects of houses, it is important to improve the management and maintenance of housing after construction, which can increase the lifespan of the dwelling unit, maintain the quality living environment of housing and residential areas as well as ensuring that the value of the housing stays as high as possible. Property management associations (PMA) are required in condominium buildings under the Condominium Act, however, PMAs are not required in housing estates or other residential developments in urban areas. These areas normally lack a responsible body to implement management and maintenance of living environments. The only maintenance often come through the local government investing in and/or maintaining public utilities. The lack of regular maintenance can have a damaging effect on the value of housing in residential areas with poor quality (or no) management. This is a reason why public participation in the management and maintenance of living environments in their own areas is important. For this purpose, the Study Team proposes to introduce PMA schemes in housing estate and residential area in urban areas with the following three actions:
- Revision in Services and Rules of Asset Management Cooperatives (AMC),
- Expansion of AMC to residential areas, and
- Countermeasures on vacant houses.

6.4.5 Structure of Strategies and Programs, and their Expected Implementation Bodies

The structure of the four strategies and 15 corresponding programs is systematically illustrated with potential implementation bodies in Figure 6.6.

Successfully implementing these strategies and programs will require the reformation of the NHA and the creation of two new organizational bodies. The proposed Housing and Urban Development Board will be responsible for housing policy while a second new body (within the central government) will be responsible for housing administration. The proposed future role for the NHA is focused on dedicating itself to housing and urban development projects. These organizations will be the key players in housing policy and coordinate, collaborate and negotiate amongst themselves and with other relevant stakeholders in the following areas:

- Safety Net: CODI

- Urban Planning: DPWTP, BMA

- Transport: OTP, MRTA, SRT, BMA

- Public banking and financing: MOF, GHB, GSB

- Incentives to private companies: BOI

- Consumer protection: Consumer Protection Board

Goal	Strategy	Program	Action	Organization
Anyone can live with safe, secured and comfortable house in Thailand. (1) Sufficient housing supply to meet the needs of all families (2) Creation of safety, security and good living environment	**Strategy 1:** Restructure of Housing and Urban Administration	PRO 1-1: Establishment of Housing and Urban Development Board (HUDB)	- Restructuring of existing National Housing Development Committee - Establishing HUDB	NHA
		PRO 1-2: Establishment of New Organization responsible for Housing Administration	- Restructuring NHA (division of planning and operation functions) - Formulating organization in ministry or department level (based on planning function of NHA) - Coordination of NHA and other relevant agencies (DPWTCP, DOL, BMA etc.)	NHA
		PRO 1-3: Strengthening of Urban Development Project Management Function of NHA	- Establishment of urban development department in NHA - Capacity development with experts from other resources (like JICA expert) - Joint urban development projects with private sector	NHA
	Strategy 2: Improvement of Housing Market	PRo 2-1: Improvement of Housing Trade Information	- Disclosure of housing and real Este information - Organizing housing information by private sector	New Organization GHB
		PRO 2-2: Improvement of Reliability of Housing Market	- Ensuring housing brokers by registration, licensing etc. - Standardization of documentation regarding housing/real estate trade - Consumers Protection in housing transaction	New Organization
		PRO 2-3: Activation of businesses on 2nd-Hand Houses in Market	- Ensuring assent assessment/evaluation of 2nd houses - Fosterage of Related Business (like reform business)	New Organization
		PRO 2-4: Promotion of Reconstruction of Condominium and Apartment	- Revision of Condominium Law - Revision of related laws and regulations - Acceleration of reconstruction of existing NHA's properties	New Organization NHA
	Strategy 3: Enhancement of Safety Net	PRO 3-1: Expansion of Private Housing Business to serve Lower Income Groups	- Revision of BOI scheme - Revision (cost down) of low-cost housing project	New Organization BOI
		PRO 3-2: Enhancement of Mortgage Service to Lower-Middle Income Groups	- Introduction of public credit guarantee corporation - Introduction of "Property Accumulation Saving" system	New Organization, GHB
		PRO 3-3: Strengthening of Financial Sustainability for Public Housing and Community Projects	- Expansion of fund in CODI - Donation from private sector through public relations	New Organization, CODI, NHA
		PRO 3-4: Introduction of Private Collaboration in Safety Net Services	- Collaboration with NGOs - Collaboration with private businesses	New Organization, MSDHS
		PRO 3-5: Introduction of Reverse Mortgage	- Review of Reverse Mortgage system - Confirmation of Asset evaluation system - Countermeasures on changes of value of house	New Organization GHB
	Strategy 4: Improvement of Living Environment in Residential and Urban Area	PRO 4-1: Urban Development in Suburban Area	- New town development projects along mass transit systems of MRTA/SRT - Deregulation of land use at core development areas along mass transit systems - Station Plaza development at suburban areas	New Organization DPWTPC,NHA,BMA,OTP, MRTA,SRT
		PRO 4-2: Acceleration of Urban Redevelopment in Urbanized Area	- Effective use of public lands in urbanized areas - Introduction of integrated urban redevelopment scheme	NHA,BMA,OTP,MRTA,SRT
		PRO 4-3: Improvement of Physical Aspects of Houses for Re-use	- Up-grade of housing construction technology and standard - Establishment of housing assurance system - Research & Development in houses in Easy Renovation	New Organization DPWTPC, NHA, BMA
		PRO 4-4: Improvement of Residential Area Management	- Revision in Services and Rules of Asset Management Cooperatives (AMC) - Expansion of AMC to residential areas - Countermeasures on vacant houses	New Organization GHB

Figure 6.6: Structure of Strategies and Programs

6.5 Proposed Implementation Schedule

The study team proposes to first establish sound implementation bodies to practice housing policy and strategies. Once successfully established, the implementation bodies shall take actions regarding the housing market, safety-net, and improvement of living environments.

In the short term, the first stage of implementation will thus consist of creating the HUDB, which will be responsible for housing policy (PRO 1-1), creating a second new organization that will be responsible for housing administration (PRO 1-2) and ensuring the reformation of the NHA (P13), such that it will be responsible for housing and urban development projects.

The new organization will be responsible for regulating, guiding and supervising housing markets and associated businesses. The first steps the new organization should take in the short term is to formulate an implementation scheme for its three priority programs, including the program on improvement of reliability of housing market (PRO 2-2), the program on Activation of businesses in the second hand housing market (PRO 2-3), and the program on promotion of reconstruction of condominium and apartment (PRO 2-4). As these programs may require some time for implementation (medium term), developing a sound implementation scheme in the near term is the highest priority.

For enhancing the safety net in the housing sector, it is of great importance to begin discussing how to strengthen the financial capacity of existing programs such as the Baan Mankong Project under CODI and low-cost housing projects under the NHA. The "new" NHA should pay more attention to the formation of urban development projects along future mass transit systems in suburban areas of Bangkok in its role as a project execution body.

In the mid-term period, the new organization responsible for housing administration will practice actual actions regarding the reliability of the housing market, which includes formulating an implementation scheme in the short-term period. The program on Improvement of Physical Aspects of Houses for Re-use (PRO 4-3) should be implemented in the medium term. The methodology and scheme of management of residential areas under the program on improvement of residential area management (PRO 4-4) should be studied to introduce management systems for living environments that encourage the participation of residents in a given community. The new NHA should engage in urban development projects, particularly those near mass transit, as soon as possible.

Figure 6.7, illustrates the aforementioned schemes in a diagram that can be used as an overall implementation road map.
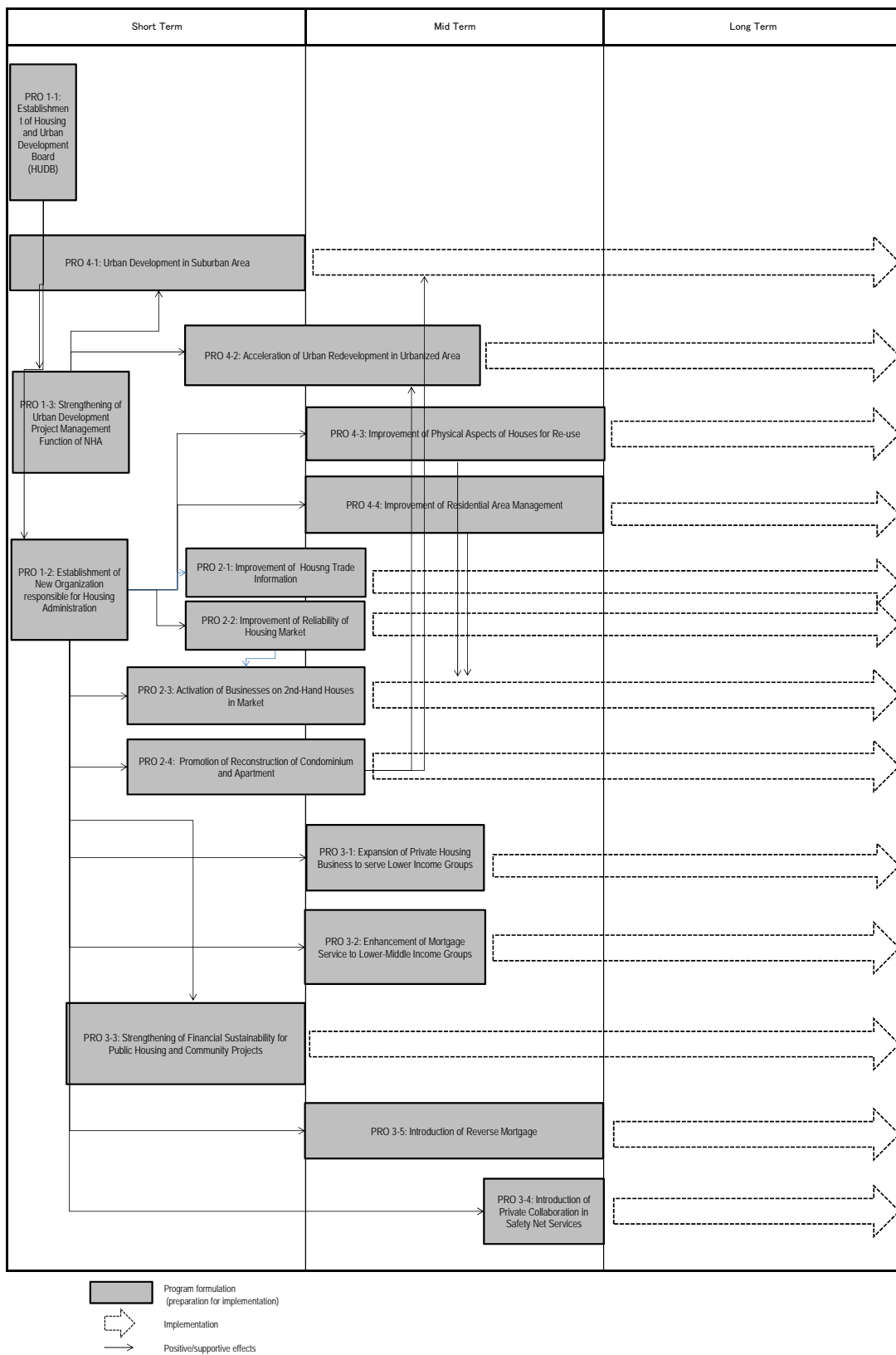
Source; JICA Study Team

Figure 6.7   Road Map of Implementation of Programs

7. Short Term Projects

As mentioned in the chapter 6, the projects to be implemented in the short term stage is the project to build up new organization for housing administration as well as the project to carry out appropriate urban development in the suburban areas of Bangkok where urban railway projects are currently implemented.   The basic idea of housing administration reform is to clearly divide "regulator" and "operation" functions to keep transparency and accountability as well as improve expertise and efficiency of administration. For this purpose, it is proposed to transform existing NHA to two organizations: one is new organization this purpose, it is proposed to transform existing NHA to two organizations: one is new organization responsible for housing administration and the other is organization responsible for urban development and housing projects, which are the Project of Establishment of New Organization responsible for Housing Administration (PRO 1-2), and the Project of Strengthening of Urban Development Project Management Function of NHA (PRO 1-3).   On the other hand, urban development in the suburban areas of Bangkok (PRO 4-1) will be one of important tasks of the new NHA, which aims at realizing suburban residential areas with good environment and accessibility under a concept of transit-oriented development (TOD).   It seems to be useful for the NHA to consider further action to be taken for smooth implementation of this project.

7.1 Restructure of Housing and Urban Administration

Currently, several agencies are concerned certain portion of housing policy and conduct housing administration in Thailand.   Re-organization and/or restructuring of the agencies are necessary for preparation and implementation of comprehensive housing policy. Preparation of the housing policy, development and regulation of housing plan, and implementation of housing projects should be done sequentially by the re-organized agency.

7.1.1 Existing Situation of Governmental Agency on Housing Administration

Governmental agency on housing administration and its activities are shown in Table 7.1.

NESDB and NHPB are organizations in policy level.   However, NESDB has no department and/or section specializing in preparation of housing policy and NHPB which was expected to prepare housing policies has stopped the activity.

In administration level, though MSDHS has NHA and CODI, MSDHS does not prepare the policy and/or the plan on housing.   MOI enforces an urban planning act and the building code and prepares an urban master plan.   MOI also reviews land development plans submitted and gives permission to implement the plan.   However, MOI does not implement direct housing administration and has no department for implementation of housing administration.

In project implementation level, NHA prepares and implements plans and projects on housing limited to low income households, and has departments related to preparation of the plan and implementation of the projects. NHA is a state-owned enterprise and is operated on a stand-alone basis. However, NHA has a problem threatening self-sustaining as mentioned in the section 2.4.3. NHA has currently made agreement with MRTA and SRT to carry out urban development projects together along the urban railways of MRTA and SRT for solving a problem mentioned above. The project aims at realizing urban development with the concept of transit-oriented development (TOD). Urban development such as new urban area development and urban redevelopment is expected to be major projects for NHA in the future. However, NHA has no experience for implementation of these projects.

Thus, various governmental agencies are involved in housing development. However, preparation of the policy and the plan and project implementation are not conducted in an integrated manner. Therefore, re-organization of present agencies and establishment of new organizations are necessary for steady preparation of the policy and the plan and implementation of the project by strengthening of housing administration.

Table 7.1: Governmental Agency on Housing Administration and Its Activities

Governmental Agency	Activities on Housing Administration
NESDB	Preparation of a national economic and social development plan including housing policy No department/section specializing in preparation of housing policy
NHPB	Preparation and supervision of a long term national comprehensive housing policy Activity has been stopped.
MOI	Preparation of a land use plan including residential area and an urban master plan, Review of land development plans, Preparation of a policy on community development, Enforcement of the Urban Planning Act and the Building Code No department/section related to housing
MSDHS	NHA and CODI are affiliated enterprises. Preparation of budget of administrative expenses for NHA and CODI No preparation of policy and plan on housing
MOF	Implementation of the incentive measure to promote purchase of a house Management of 8 SFIs such as GHB and GSB under MOF
Local Government	Supply of housing for low income households Preparation of an urban master plan and review of land development plans
NHA	Supply of housing for low and middle income households
CODI	Community development including housing for low income households

Source: JICA Study Team

7.1.2 New Organization for Housing Policy and Administration

As the new organization responsible for housing policy and administration, the study and establishment on Housing and Urban Development Board (HUDB) responsible for preparation of housing policy and the new organization responsible for housing administration such as planning, coordinating, regulating and managing are implemented.

(1) Establishment of Housing and Urban Development Board (HUDB) (P11)

Not only development of housing buildings but also development of residential areas as complexes of housing buildings is usually dealt with in the policy on housing development. Location and size of residential areas developed should be studied and planned in the urban plan and the urban development plan in an integrated fashion. National Housing Policy Board (NHPB) which has stopped their activity has a sub-committee responsible for preparation of housing policies and plans. However, it does not have a sub-committee responsible for study and preparation on urban plans and urban development plans.

NHPB should be an organization which prepares the policy on housing development plans that are well coordinated with an urban plan and an urban development plan. Therefore, NHPB should have a sub-committee for the urban plan and the urban development plan. Policies on housing market and housing industry should also be studied and provided by NHPB. A sub-committee responsible for these policies should be newly set in NHPB. Name as NHPB should be changed to HUDB in accordance with change of the organization.

Individual project cannot be implemented steadily without clear policies and plans. Therefore, HUDB should be established as soon as possible. Term of the present 11th Five-year National Development Plan is 2016. The study and the examination necessary for establishment of HUDB should be conducted prior to the study and the examination of other strategies.
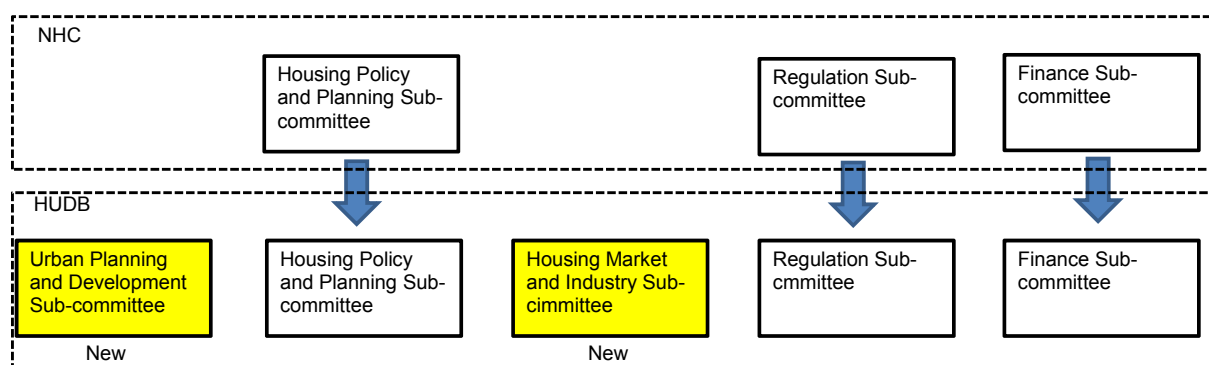
Source: JICA Study Team

Figure 7.1: Structure of HUDB

(2) Establishment of New Organization responsible for Housing Administration (P12)

At present, no ministry and department responsible for housing administration including planning and regulating housing sector exists in the central government. In addition, no department that controls, guides and manages housing market and industry exists in the government. Therefore, involvement of the government on housing market and industry is very limited.

MSDHS supplies housing for low and middle income households as a social welfare policy and a safety net through NHA and CODI. Present 27 departments in NHA consist of the departments related to the policy, the plan and the strategy on housing and the departments related to implementation of the project such as housing construction and community development. MOI has departments responsible for urban planning, urban infrastructure planning and permission of land development. However, MOI does not have any department for housing development and is not involved in housing administration.

The government will not only supply housing for low and middle households but also implement housing and urban development integrally in the future. In addition, the government will improve transparency and fairness, and efficiency of housing administration by clearly separating supervision/regulation and operation/execution functions of housing administration.

Therefore, planning sector and project implementation sector in NHA are separated. The separated planning sector becomes a base of a new organization at ministry or department level responsible for housing administration such as preparation of housing policy and plan, and coordination and regulation and management for implementation of housing projects. If possible, the new organization should be set in the MOI to implement housing development and urban development integrally. In association with establishment of the new organization in the MOI, jurisdiction of NHA should be transferred to the MOI from the MSDHS. CODI which is responsible for housing supply for lower-low income households and for community development is managed by the MSDHS same as before.

Study, discussion and establishment of the new organization in the MOI and change of jurisdiction of NHA to the MOI from the MSDHS are conducted soon for implementation of housing and urban development policy prepared in the HUBD.

7.1.3 Strengthening of Urban Development Project Management Function of NHA (P13)

NHA wants to make not only housing supply but also urban development such as development of new urban area and urban redevelopment main services in the future. Followings are example of services.

- Urban development projects with high public interests

- Urban development projects with lower profitability but high public benefits (of which the private sector can't be normally involved in)

- Urban development requiring participation of many private businesses and coordinating among them

Organization of NHA should be restructured to meet the services implemented in the future. Capacity development for management of the services through human resource development and recruitment and interaction with private sector is indispensable for smooth implementation of the services.

Therefore, study and discussion on establishment of the urban development department, capacity development by outside resource, and joint implementation with private sector should be conducted soon for organizational change of NHA and strengthening of capacity on urban development project management.

(1) Establishment of urban development section in the NHA

Restructuring of present project implementation departments and establishment of an urban development department responsible for urban development and urban redevelopment are implemented. Business implementation plan for the department is provided. Personnel arrangement plan of the department is also provided based on the business plan. Reallocation and acquisition of personnel needed are conducted in line with the personnel plan.

(2) Capacity development by temporarily employing resources from outside (like JICA expert, detachment to the NHA from private sector etc.)

NHA has no experience on urban development. Therefore, NHA receives human resource from private companies which conduct business on urban development and experts on urban development from JICA for gathering and spreading of knowledge on urban development in the NHA. These persons implement urban development projects as core member.

(3) Implementation of urban development projects jointly with private sector

It is impossible to implement urban development projects by NHA alone at first because of no experience. NHA implements the project jointly with private companies having experience and achievement of urban development and gains experience on urban development.

7.2 Urban Development related to Housing in Suburban Area

Present situation and issues on housing related development in suburban area of Bangkok and outline of projects implemented are described in here.

7.2.1 Present Situation and Issue on Housing related Urban Development in Suburban Area

Bangkok is the city constructed on both banks of Chaophraya River. Urban area of the city has been expanded to surrounding area in line with economic growth of Thailand. Because of characteristic of location, river and/or canal transportation using boats and ships had been a main mode of transportation in Bangkok before. However, revers and canals in the city had been reclaimed because of urban growth and the mode had been sifted from ships to cars.

Recently, BTS and MRT are being operated in the downtown of Bangkok. Many people living in the central area use these lines. On the other hand, people living at suburbs of Bangkok commute to the central area by SRT lines. However, SRT line has not been sufficiently developed not only in the central area but also at the suburbs yet. Moreover, less number of commuting train is operated in rush hour. Therefore, private cars and public transportation such as taxis and buses are widely used as commuting mode. SRT lines have not been elevated in the urbanized area yet. Construction works of overpasses at grade crossings in the urbanized area have also been implemented yet. These make Bangkok a city of heavy traffic jams in the world. To improve this circumstance, construction of new subways and extension of the elevated railway are being implemented at present. SRT also had constructed the Airport Rail Link connecting the International Airport in the suburb and the central area of Bangkok and is operating trains. Furthermore, SRT has now improved other railway lines at the suburbs.

New town development along mass transit system and development of station plazas and surrounding area of stations at suburban area are necessary to become the city using railways more actively. Urban structure and land use should be set adequately for easy implementation of these developments. Following projects, therefore, are implemented.
- New town development projects along mass transit systems of MRTA/SRT
- Development of station plazas and surrounding area of stations at suburban area
- Deregulation of land use at core development areas along mass transit systems of MRTA/SRT

7.2.2 Outline of Projects

(1) New Town Development Projects along Mass Transit Systems of MRTA/SRT

The project consists of the feasibility study for the new town development, the basic design, detailed design, construction, sales and occupation.

1) The Feasibility Study on Development of the New Town

The feasibility study on development of the new towns consisting mainly of residential zones and commercial zones at suburbs is implemented. Followings are studied in the feasibility study.

- Demand Forecast of housing by location by type, forecast of family size, forecast of housing size

- Selection of locations considering characteristic of areas for development (location, condition, land use, urban function, natural and social condition, etc.),

- Assumption of the project size (number of residents, number of houses by housing type, Functions introduced and land use in the new towns, and development area of the new towns, etc.),

- Regional consensus on infrastructures (traffic accessibility, water supply and sewerage system, electricity, telecommunication),

- Study on the project implementation method (procuring of site – acquisition or allocation of land, project implementing body – only public or joint of public and private sectors), study on financing and feasibility of the projects

2) Basic Design

Followings are studies in the basic design:

- Improvement of accuracy on the assumed project Size of the selected new town,

- Decision of the development area,

- Study on demand of functions introduced,

- Basic designs of each facility in the new town (building design, design on environment and landscape, location of facilities, plan and design of facilities, construction period, rough construction cost, etc.),

- Study and basic design of regional infrastructures necessary for the new town especially transportation infrastructure (access road connecting the new town and the nearest railway Station, station plaza at the nearest station, feeder bus network, etc.)

- Study on the project implementation method and funding

An environmental impact assessment is also conducted.

3) Detailed Design

The detailed design of each facility provided in the new town is implemented such as construction schedule, construction cost and project management plan (funding, revenue and expenditure plan, operation and management system, etc.) are also provided.

(2) Development of Station Plazas and Surrounding Area of Stations at Suburban Area

This project consists of establishment of system and mechanism for development of station plazas and surrounding area of stations, human resource development and organization reinforcement, the feasibility study on development of station plazas and surrounding area of stations, the basic design, the detailed design, construction, sales and occupation.

1) Establishment of System and Mechanism for Development of Station Plazas and Surrounding Area of Stations

Development of surrounding area of stations includes development of public facilities such as a station plaza and roads, buildings for commercial and business, and housing. The surrounding area of stations becomes a convenient, busy and lively district to create synergetic effort by cooperation of the each development. Many stake holders such as the railway business operator, the local government, urban infrastructure development agencies, private sectors operating commercial and business, and the housing development agency (NHA) are involved in development of surrounding area of stations. Coordination and cooperation among all the parties concerned are very important.

Therefore, system and mechanism on development of surrounding area of stations are studied and established by involved parties, academic experts and specialists.

2) Human Resource Development and Organization Reinforcement

To implement the established system and mechanism, human resource development in the railway business operator, NHA and the local government is implemented. Reinforcement of the organization on urban development in these business operators is also conducted.

3) Feasibility Study on Development of Station Plazas and Surrounding Area of Stations

After establishment of system and mechanism, human resource development and strengthening of the organization, the feasibility study on station plazas and surrounding area of stations is implemented. Study items are as follow:
- Selection of stations considering characteristic of urban railways (forecast of railway ridership at each station, integrated functions and land use and natural/social condition along railways and station vicinities, etc.),
- Assumption of the project size (number of population, functions introduced and land use in the project Site, and development area of the project site, etc.),
- Regional consensus on infrastructures (traffic accessibility, water supply and sewerage system, electricity, telecommunications),
- Study on the project implementation method (procuring of site, acquisition or allocation of land, project implementing body – only public or joint of public and private sectors),
- Study on financing and financial and economic viability of the project

4) Basic Design

Followings are studies in the basic design.
- Improvement of accuracy on the assumed project size at the selected stations,
- Decision of the development area,
- Study on demand of functions introduced such as the plaza, commercial, business and housing,
- Basic designs of urban development and public facilities (building design, design on environment and landscape, location of facilities, plan and design of facilities, construction period, rough construction cost, etc.),

- Study on the project implementation method and funding

An environmental impact assessment is also conducted.

5) Detailed Design

The detailed design of each facility provided in the project site is implemented. Construction schedule, construction cost and project management plan (funding, revenue and expenditure plan, operation and management system, etc.) are also provided based on the studied and determined project implementation method such as procuring of site and project implementing body, size of facilities and construction method.

(3) Deregulation of Land Use at Core Development Areas along Mass Transit Systems of MRTA/SRT

In case of development of new urban areas at suburbs and development of surrounding areas of stations located at suburbs, floor area ratio and land use designated in an existing urban master plan are obstacles. These make realization of the development plans difficult. Therefore, based on the results of the feasibility study on development of station plazas and surrounding area of stations, floor area ratio and land use are changed to appropriate ones through discussion between agencies responsible for urban development especially NHA and the department responsible for preparation of an urban master plan to realize urban development plans.   If possible, revised new floor area ratio and land use are adopted in an urban master plan.

8. Conclusion and Recommendations

8.1 Conclusion

Rapid economic growth and the ensuing urbanization experienced in Thailand since the mid-1980s has brought about a wide range of socio-economic changes in Thai society. Examples include, population migration from rural to urban areas, urbanization, an increase in the number of middle-income families, an increase in the number of nuclear families, etc. These socio-economic changes affect housing demand. As the average household size (number of people) continues to decline and land prices continue to rise in desirable areas, there is rapidly increasing demand for condominiums and apartments.

Thai people traditionally prefer to purchase their own homes rather than rent and have preferred to own detached housing (and the land that comes with it). However, in recent years, it is clear that traditionally preferences are changing, particularly in Bangkok and its vicinities. In these areas, it is becoming more popular to rent housing of all kinds, along with the aforementioned shift to purchasing condos and apartments. Demand for condo and/or rental housing in and around Bangkok is due to increasing migration from the provinces (rental units) and rising household incomes (condos and rentals).

In Bangkok and other BMR provinces, there is an increasing variety in the types of housing available by price and location. Inexpensive land and good road / expressway connections have fostered development of numerous detached housing developments in suburban areas while mass rapid transit systems like the BTS and MRT have simultaneously driven demand for much smaller condo and apartment units near stations. If current socio-economic trends continue, the future housing market will not only be much larger, but will also more varied by location, size, quality and price/rent to meet the changing demand.

As the housing market grows and becomes more diverse, the public sector must ensure a transparent, reliable, and secure business environment for both private sector industry firms and consumers. The public sector must also continue to provide support for low-income housing provision as safety net for Thai society, while at the same time it must encourage the private sector to become involved in the low-income housing market.

Based on the foregoing, the underlying concept for future housing policy and strategy is to facilitate the private sector to play a more active role in the housing sector. The Study Team proposes to extend the target and scope of national housing policy from focusing solely on low-income groups to include households and all levels of income, improving the reliability of the market and improving the living environment for housing and residential areas.

Future policies and strategies must sustain and enhance the system and organization of supplying public housing for low-income groups as a safety net. At the same time, it will be critical to foster the growth of middle- and upper-income segments of the housing market through increased regulation of housing-related businesses and enhanced consumer protection measures. The improvement of living environments is another important issue that must be tackled, as such, improving amenity levels and efficiency of urban functions are high priorities.

The Study Team proposes the following four strategies consisting of 16 programs for ensuring a secure, transparent, reliable, and efficient housing sector in Thailand:

Strategy	Program
Strategy 1: Restructure of Housing and Urban Administration	PRO 1-1: Establishment of Housing and Urban Development Board (HUDB) PRO 1-2: Establishment of New Organization responsible for Housing Administration PRO 1-3: Strengthening of Urban Development Project Management Function of NHA
Strategy 2: Improvement of Housing Market	PRO 2-1: Improvement of Housing Market Information PRO 2-2: Improvement of Reliability of Housing Market PRO 2-3: Activation of businesses on 2nd-Hand Houses in Market PRO 2-4: Promotion of Reconstruction of Condominium and Apartment
Strategy 3: Enhancement of Safety Net	PRO 3-1: Expansion of Private Housing Business to serve Lower Income Groups PRO 3-2: Enhancement of Mortgage Service to Lower-Middle Income Groups PRO 3-3: Strengthening of Financial Sustainability for Public Housing and Community Projects PRO 3-4: Introduction of Private Collaboration in Safety Net Services PRO 3-5: Introduction of Reverse Mortgage
Strategy 4: Improvement of Living Environment in Residential and Urban Area	PRO 4-1: Urban Development in Suburban Area PRO 4-2: Acceleration of Urban Redevelopment in Urbanized Area PRO 4-3: Improvement of Physical Aspects of Houses for Re-use PRO 4-4: Improvement of Residential Area Management

Since there is no authorized office in the central government that has strong leadership in the housing sector, the Study Team proposes to first establish sound implementation bodies to practice housing policy and strategies, then, the implementation bodies shall take actions regarding the housing market, safety-net and improvement of living environments.

Under this consideration on staging program implementation, the Study Team recommends immediately working towards establishing the housing and urban development board (HUDB) (PRO 1-1), establishing the new organization responsible for housing administration (PRO 1-2), and the program for urban development in suburban areas (PRO 4-1). These three items are the highest priority and should begin as soon as possible.

8.2 Recommendation

In accordance with expansion of the middle-income group in Thai society, issues on low-income housing are shifting from being a key social issue to being a public welfare issue. Although past housing administration programs focused on low-income housing, there is a question of whether or not the focus of housing administration should remain the same or shift in accordance with the changes in Thai society.

As a result of Thailand's sustained economic growth, private sector firms engaged in the housing sector have acquired substantial human resource, financial, and technical capacity. Accordingly, the private sector is expected to play a more substantial role in the housing market. At the same time the private sector must play a larger role, the role of the public sector must change, in line with international trends. The primary role of the public sector should be to ensure a transparent, secure, and reliable business environment for private sector actors as well as ensuring consumer protection. The public sector should provide minimum support to the provision lower-income housing while at the same time encouraging private businesses to engage in lower-income housing provision.

At the core of the proposed housing strategies is the reformation and reorganization of housing administration development responsibilities at the national level. The Study Team proposes that the NHA should be reorganized into two distinct, separate organizations.

The first organization, which is to ultimately be located in the central government as a Department within the Ministry of Interior, will be responsible for housing administration (it may be possible to temporarily establish this organization within the NESDB before transferring to MOI). It will assume policy and planning roles from the NHA and ensure that the housing market is more fair, transparent, and accountable by protecting consumers and facilitating the growth of private sector housing industry firms.

The second organization will be the "new" NHA, which will be dedicated to undertaking and/or facilitating housing and urban development projects that require public intervention. These projects may include those with low viability (profitability), projects that require substantial stakeholder cooperation, and projects that require unique approaches such as land readjustment. In particular, the new NHA shall focus on urban redevelopment / renewal projects in major cities along with fostering new urban development projects in suburban areas. At no time shall the new NHA compete with the private sector.

As the current NHA has limited resources and technical knowledge accumulation with respect to urban development, the Study Team recommends creating opportunities technical knowledge transfer from foreign experts and private experts and create opportunities for joint urban development project implementation in conjunction with the private sector to quickly accumulate know-how in urban development projects.

Appendix

A1. Supplementary note for Chapter 4

A1.1 Population and its Projection

(000 person)

	2000			2010			2015			2020			2025			2030		
	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total
Whole kingdom																		
0-4	2,349	2,484	4,833	1,824	1,916	3,740	1,799	1,874	3,673	1,721	1,759	3,480	1,608	1,654	3,262	1,501	1,545	3,046
5-9	2,563	2,690	5,252	1,981	2,101	4,082	1,905	1,991	3,897	1,874	1,939	3,813	1,782	1,815	3,598	1,659	1,700	3,359
10-14	2,566	2,692	5,258	2,370	2,494	4,864	1,998	2,115	4,112	1,921	2,004	3,925	1,887	1,950	3,837	1,794	1,825	3,619
15-19	2,632	2,724	5,356	2,436	2,465	4,901	2,320	2,404	4,725	1,954	2,036	3,991	1,884	1,937	3,821	1,857	1,893	3,750
20-24	2,688	2,725	5,413	2,330	2,361	4,692	2,340	2,326	4,666	2,236	2,282	4,519	1,883	1,933	3,816	1,824	1,851	3,675
25-29	2,849	2,725	5,574	2,563	2,530	5,093	2,302	2,285	4,588	2,315	2,261	4,576	2,215	2,228	4,443	1,865	1,890	3,756
30-34	2,906	2,727	5,633	2,725	2,670	5,395	2,580	2,510	5,090	2,319	2,276	4,595	2,329	2,257	4,585	2,226	2,226	4,453
35-39	2,735	2,592	5,327	2,861	2,754	5,615	2,736	2,686	5,422	2,593	2,535	5,128	2,333	2,303	4,637	2,342	2,282	4,624
40-44	2,439	2,307	4,745	2,919	2,753	5,672	2,868	2,766	5,634	2,744	2,702	5,446	2,602	2,553	5,155	2,343	2,322	4,664
45-49	1,941	1,827	3,768	2,714	2,553	5,266	2,905	2,727	5,632	2,850	2,742	5,593	2,735	2,682	5,416	2,595	2,536	5,131
50-54	1,485	1,400	2,885	2,376	2,212	4,588	2,678	2,490	5,168	2,861	2,660	5,521	2,822	2,676	5,498	2,711	2,619	5,330
55-59	1,208	1,116	2,324	1,870	1,697	3,567	2,332	2,123	4,455	2,637	2,393	5,030	2,833	2,560	5,393	2,798	2,580	5,378
60-64	1,054	942	1,996	1,454	1,311	2,765	1,836	1,620	3,455	2,299	2,023	4,322	2,592	2,280	4,872	2,788	2,443	5,231
65-69	837	713	1,550	1,031	903	1,933	1,358	1,184	2,542	1,757	1,476	3,233	2,189	1,859	4,048	2,485	2,111	4,595
70-74	600	494	1,094	885	722	1,608	940	782	1,722	1,230	1,032	2,263	1,628	1,296	2,925	2,043	1,644	3,686
75-79	357	277	635	641	483	1,123	769	583	1,352	799	636	1,435	1,091	850	1,941	1,458	1,079	2,537
80+	362	231	593	648	431	1,078	842	541	1,384	1,100	612	1,712	1,207	647	1,854	1,505	766	2,271
Total	31,571	30,666	62,236	33,627	32,355	65,982	34,510	33,006	67,516	35,209	33,370	68,578	35,621	33,482	69,103	35,795	33,311	69,106
Bangkok	-			-			-			-			-			-		
0-4	179	189	368	155	160	314	270	275	545	279	270	549	254	259	514	225	230	455
5-9	190	196	386	161	173	334	129	133	262	247	250	497	259	249	508	238	242	479
10-14	198	202	400	199	213	412	170	183	353	137	142	279	254	258	511	264	255	519
15-19	282	264	546	286	291	577	238	250	488	203	216	420	166	170	337	278	281	559
20-24	414	365	779	434	392	826	380	365	746	320	316	636	274	273	547	225	217	443
25-29	399	354	753	496	448	944	519	464	983	455	429	884	384	371	755	327	319	646
30-34	366	322	688	470	450	920	518	481	999	539	494	1,033	472	455	927	398	393	791
35-39	323	283	606	421	422	842	479	476	955	527	505	1,032	546	515	1,061	478	474	952
40-44	283	249	532	390	375	765	430	441	871	487	493	980	534	519	1,053	552	527	1,079
45-49	217	190	407	334	321	656	394	387	781	433	450	883	489	500	989	535	524	1,059
50-54	159	143	302	277	260	537	330	321	652	387	384	772	429	445	874	485	492	977
55-59	114	99	213	200	179	379	268	250	518	324	310	633	381	371	751	423	429	852
60-64	99	83	182	148	128	276	193	169	362	260	236	496	315	293	608	372	352	724
65-69	71	56	127	96	77	173	138	115	253	188	153	341	248	217	464	303	271	573
70-74	55	41	96	84	67	150	88	67	155	127	101	228	175	135	310	231	192	424
75-79	30	21	51	56	39	95	74	54	128	78	55	133	113	84	197	157	113	270
80+	36	20	56	66	40	106	81	48	129	103	57	160	118	59	177	154	75	229
Total	3,414	3,076	6,491	4,273	4,033	8,305	4,699	4,480	9,179	5,093	4,862	9,955	5,409	5,172	10,581	5,645	5,386	11,031
Vicinity	-						-			-			-			-		
0-4	119	127	246	125	131	257	212	221	433	224	233	456	219	228	446	204	212	416
5-9	126	133	259	134	139	272	127	131	258	213	219	433	224	231	455	219	226	446
10-14	125	130	255	164	174	337	152	158	310	143	148	291	227	233	460	236	243	479
15-19	165	157	322	223	220	443	202	208	411	186	188	374	172	174	346	251	255	506
20-24	231	205	436	308	289	597	296	283	578	266	263	529	240	235	475	218	213	431
25-29	238	218	456	360	357	718	386	368	754	364	352	715	325	323	647	289	285	574
30-34	222	208	430	348	351	699	407	414	821	426	418	845	399	395	794	354	359	713
35-39	193	181	374	326	310	636	383	386	769	437	445	883	453	446	899	421	419	840
40-44	160	150	310	300	293	593	356	342	699	409	414	823	460	468	929	472	465	937
45-49	117	109	226	255	237	492	324	312	636	376	358	734	426	426	852	474	477	951
50-54	83	77	160	205	187	392	271	248	519	335	319	654	387	361	748	435	425	860
55-59	62	57	119	153	126	278	217	189	406	282	247	529	344	314	657	394	354	748
60-64	55	49	104	113	96	209	162	129	291	223	188	411	286	241	527	345	304	649
65-69	40	34	74	77	63	140	116	94	210	167	124	291	221	178	399	281	228	509
70-74	30	24	54	63	51	114	77	60	137	113	86	200	160	113	273	210	161	371
75-79	18	13	31	42	31	73	59	44	104	72	52	124	104	74	178	147	96	243
80+	20	11	31	45	26	71	61	36	97	83	46	129	104	53	156	140	66	207
Total	2,004	1,883	3,886	3,240	3,081	6,321	3,808	3,623	7,431	4,321	4,099	8,419	4,750	4,492	9,242	5,088	4,789	9,878
Central				-			-			-			-			-		
0-4	382	404	786	310	327	637	327	343	669	316	332	648	310	304	615	291	285	576
5-9	414	437	851	340	358	698	328	343	671	342	356	698	329	344	673	321	314	635
10-14	422	444	866	403	419	822	350	365	715	336	350	686	349	362	712	336	349	684
15-19	433	447	880	419	426	846	405	415	820	352	362	713	338	347	685	351	359	710
20-24	448	487	935	416	460	876	417	432	848	402	419	822	350	366	715	336	350	686
25-29	472	463	935	493	498	991	439	480	920	437	450	887	420	435	855	364	379	744
30-34	496	463	959	508	520	1,027	517	511	1,028	461	493	953	455	461	917	435	445	881
35-39	479	446	925	513	513	1,025	525	539	1,064	532	530	1,062	474	510	985	467	476	944
40-44	425	393	818	517	493	1,010	522	524	1,045	533	550	1,082	539	539	1,079	481	519	999
45-49	339	311	650	484	458	943	519	496	1,014	523	525	1,048	534	550	1,084	540	540	1,079
50-54	254	232	486	418	384	802	480	450	929	511	486	997	519	515	1,033	530	539	1,069
55-59	217	196	413	330	292	623	411	370	781	476	433	909	507	468	976	515	497	1,012
60-64	199	177	376	254	227	481	326	283	609	406	356	761	469	416	885	501	449	950
65-69	159	134	293	187	166	353	238	208	446	319	261	580	387	329	716	450	387	837
70-74	119	95	214	170	136	306	171	144	315	220	182	401	296	229	525	361	291	653
75-79	73	55	128	122	90	212	147	110	257	150	117	267	195	150	344	265	190	456
80+	78	47	125	130	81	211	163	101	264	201	114	315	224	119	343	273	136	409
Total	5,408	5,230	10,638	6,012	5,850	11,862	6,283	6,113	12,396	6,517	6,316	12,832	6,696	6,445	13,141	6,817	6,505	13,322

	2000			2010			2015			2020			2025			2030		
	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total
North							-	-		-			-			-		
0-4	411	432	843	317	336	653	271	287	558	252	267	519	238	252	491	227	241	468
5-9	469	492	961	352	373	725	339	357	696	290	306	596	269	283	552	252	266	518
10-14	470	495	965	424	448	872	359	381	740	345	364	709	296	312	608	273	289	562
15-19	463	485	948	420	433	854	405	424	829	342	360	703	331	347	677	284	297	581
20-24	422	439	861	337	356	693	367	377	744	359	374	733	303	318	621	297	311	609
25-29	450	436	886	346	352	697	291	304	594	326	331	657	324	335	659	273	286	559
30-34	517	480	997	385	376	761	332	327	659	278	284	562	316	314	630	315	321	636
35-39	550	524	1,074	433	411	844	380	367	747	328	322	649	275	280	555	313	311	624
40-44	515	496	1,011	504	455	959	429	403	832	377	362	738	325	318	643	274	277	551
45-49	408	393	801	545	499	1,044	502	445	947	428	395	823	376	356	732	325	313	638
50-54	287	280	567	512	474	986	542	486	1,029	497	435	932	427	387	813	376	348	724
55-59	239	229	468	406	377	783	507	460	967	541	472	1,012	496	423	919	426	376	803
60-64	221	206	427	291	272	564	402	364	766	501	442	942	534	453	987	491	406	897
65-69	189	169	358	205	186	391	273	246	519	393	332	725	478	406	884	513	419	932
70-74	133	115	248	185	158	343	187	161	348	250	215	465	364	292	656	446	359	805
75-79	78	64	142	143	115	257	160	128	287	163	131	294	221	177	398	326	243	568
80+	72	49	121	134	96	230	180	124	304	217	136	353	241	136	377	302	159	461
Total	5,893	5,783	11,675	5,940	5,716	11,656	5,924	5,642	11,565	5,888	5,527	11,415	5,814	5,388	11,202	5,713	5,223	10,936
Northeast							-	-		-			-					
0-4	900	954	1,854	623	653	1,276	443	458	901	375	387	762	334	346	680	315	326	641
5-9	979	1,030	2,010	686	731	1,416	662	691	1,353	481	493	974	406	418	823	360	371	731
10-14	959	1,009	1,968	828	871	1,699	660	701	1,362	640	665	1,306	463	471	934	390	400	790
15-19	903	973	1,876	729	731	1,460	729	751	1,480	573	597	1,170	566	576	1,142	401	397	798
20-24	820	869	1,689	493	513	1,006	543	532	1,074	565	576	1,141	433	448	881	449	452	901
25-29	926	902	1,828	514	511	1,026	338	333	671	407	374	781	449	441	890	337	336	672
30-34	950	914	1,864	648	608	1,255	447	411	858	280	247	527	357	301	658	407	380	787
35-39	859	840	1,699	792	734	1,526	598	546	1,144	404	361	765	245	206	451	327	267	594
40-44	773	750	1,523	847	789	1,636	753	688	1,441	563	510	1,074	377	333	711	223	185	408
45-49	637	610	1,247	771	726	1,496	811	742	1,553	716	650	1,365	538	480	1,019	357	311	668
50-54	532	507	1,038	701	657	1,358	740	684	1,424	783	703	1,487	693	617	1,310	521	456	977
55-59	434	399	832	573	532	1,105	672	617	1,289	707	645	1,352	764	667	1,431	677	587	1,264
60-64	347	303	650	483	439	922	549	494	1,043	658	577	1,235	685	606	1,291	744	629	1,373
65-69	274	228	502	344	304	648	440	388	829	491	443	934	618	524	1,141	649	555	1,204
70-74	184	151	335	273	219	493	307	258	565	380	334	714	449	385	835	572	459	1,031
75-79	113	87	200	194	144	338	231	173	404	238	206	444	332	272	604	398	318	716
80+	101	66	167	182	124	306	242	157	398	356	178	533	369	200	569	455	241	696
Total	10,689	10,590	21,280	9,682	9,284	18,966	9,165	8,624	17,789	8,616	7,948	16,564	8,078	7,291	15,369	7,583	6,669	14,252
South							-						-					
0-4	359	378	737	293	309	602	277	291	567	275	270	546	252	265	516	240	252	491
5-9	384	401	785	309	328	636	320	336	656	300	314	614	295	291	586	269	281	550
10-14	393	412	805	352	371	723	307	326	633	319	335	654	299	313	612	295	290	584
15-19	387	398	785	358	363	721	342	356	697	298	313	611	311	323	634	293	304	596
20-24	352	360	712	342	351	693	337	338	675	324	333	657	283	294	577	298	307	606
25-29	365	352	717	354	363	717	329	337	666	326	326	652	314	324	637	275	286	561
30-34	355	341	696	367	365	732	360	366	726	335	340	675	331	329	660	318	326	644
35-39	331	319	650	376	365	741	372	371	743	365	372	737	340	346	686	335	335	669
40-44	283	270	553	360	349	709	378	368	746	375	374	748	367	375	742	341	349	690
45-49	223	214	437	323	312	635	357	344	701	375	364	739	372	370	741	365	371	736
50-54	171	162	333	264	250	515	315	301	615	347	333	679	368	352	720	366	359	724
55-59	143	137	280	208	191	399	257	237	494	309	286	595	341	318	659	363	337	700
60-64	134	123	257	165	148	313	203	181	384	251	225	476	303	272	574	335	302	637
65-69	104	93	197	121	107	228	153	132	285	198	164	361	239	205	444	290	250	540
70-74	79	69	148	111	91	202	110	91	201	140	114	254	183	143	325	222	181	403
75-79	46	38	84	85	65	149	98	74	172	98	75	173	126	94	220	165	119	284
80+	55	37	92	92	63	155	117	76	192	140	81	221	152	80	233	182	88	270
Total	4,163	4,103	8,266	4,480	4,391	8,871	4,631	4,524	9,155	4,774	4,619	9,392	4,874	4,694	9,567	4,948	4,738	9,687

Note: Projection for 2015 and after

Source: Population and Housing Census 2000 and 2010.

A1.2   Fertility and Mortality Assumption

	2000-05	2005-10	2010-15	2015-20	2020-25	2025-30
Age-specific fertility rate (ASFR): Whole Kingdom						
10-14	0.2	0.4	0.5	0.5	0.5	0.5
15-19	37.0	48.9	50.4	51.2	51.7	52.1
20-24	73.1	80.8	79.3	78.7	78.3	78.0
25-29	72.6	80.4	79.3	78.7	78.3	78.0
30-34	51.1	57.7	56.6	56.3	56.1	56.0
35-39	24.8	27.2	26.9	26.8	26.7	26.7
40-44	6.7	6.9	6.9	6.8	6.7	6.7
45-49	0.7	0.6	0.3	0.3	0.3	0.3
Total	266.2	302.9	300.1	299.3	298.7	298.3
Age-specific fertility rate (ASFR): Bangkok						
10-14	0.2	0.4	0.4	0.5	0.5	0.5
15-19	34.8	46.1	47.5	48.2	48.7	49.1
20-24	68.8	76.1	74.7	74.2	73.8	73.5
25-29	68.3	75.8	74.7	74.2	73.8	73.5
30-34	48.1	54.4	53.3	53.1	52.9	52.8
35-39	23.3	25.6	25.3	25.3	25.2	25.1
40-44	6.3	6.5	6.5	6.4	6.4	6.3
45-49	0.7	0.6	0.3	0.3	0.3	0.3
Total	250.5	285.4	282.8	282.0	281.5	281.1
Age-specific fertility rate (ASFR): Vicinity						
10-14	0.2	0.4	0.4	0.4	0.5	0.5
15-19	34.3	45.2	46.6	47.3	47.8	48.1
20-24	67.8	74.7	73.3	72.7	72.4	72.1
25-29	67.3	74.3	73.3	72.7	72.4	72.1
30-34	47.4	53.3	52.3	52.0	51.9	51.7
35-39	23.0	25.1	24.9	24.8	24.7	24.7
40-44	6.2	6.4	6.3	6.3	6.2	6.2
45-49	0.6	0.6	0.3	0.3	0.3	0.3
Total	246.8	280.0	277.4	276.6	276.1	275.7
Age-specific fertility rate (ASFR): Central						
10-14	0.2	0.4	0.4	0.5	0.5	0.5
15-19	36.5	47.3	48.7	49.5	50.0	50.4
20-24	72.1	78.1	76.7	76.1	75.8	75.5
25-29	71.6	77.8	76.7	76.1	75.8	75.5
30-34	50.4	55.8	54.7	54.5	54.3	54.1
35-39	24.5	26.3	26.0	25.9	25.9	25.8
40-44	6.6	6.7	6.6	6.6	6.5	6.5
45-49	0.7	0.6	0.3	0.3	0.3	0.3
Total	262.7	293.0	290.3	289.4	288.9	288.5
Age-specific fertility rate (ASFR): North						
10-14	0.2	0.4	0.5	0.5	0.5	0.5
15-19	36.4	50.3	51.8	52.6	53.1	53.5
20-24	71.9	83.0	81.5	80.9	80.5	80.2
25-29	71.4	82.6	81.5	80.9	80.5	80.2
30-34	50.3	59.3	58.2	57.9	57.7	57.5
35-39	24.4	28.0	27.6	27.5	27.5	27.4
40-44	6.6	7.1	7.1	7.0	6.9	6.9
45-49	0.7	0.6	0.3	0.3	0.3	0.3
Total	262.0	311.3	308.5	307.6	307.0	306.6
Age-specific fertility rate (ASFR): Northeast						
10-14	0.2	0.4	0.5	0.5	0.5	0.6
15-19	38.1	52.0	53.6	54.4	55.0	55.4
20-24	75.2	85.9	84.3	83.7	83.3	83.0
25-29	74.7	85.5	84.3	83.7	83.3	83.0
30-34	52.6	61.4	60.2	59.9	59.7	59.5
35-39	25.5	28.9	28.6	28.5	28.4	28.4
40-44	6.9	7.3	7.3	7.2	7.2	7.1
45-49	0.7	0.6	0.3	0.3	0.3	0.3
Total	273.8	322.2	319.2	318.3	317.7	317.3
Age-specific fertility rate (ASFR): South						
10-14	0.2	0.4	0.5	0.5	0.5	0.5
15-19	38.7	51.0	52.6	53.4	53.9	54.3
20-24	76.5	84.3	82.8	82.1	81.7	81.5
25-29	76.0	83.9	82.8	82.1	81.8	81.5
30-34	53.5	60.2	59.1	58.8	58.6	58.4
35-39	25.9	28.4	28.1	28.0	27.9	27.8
40-44	7.0	7.2	7.2	7.1	7.0	7.0
45-49	0.7	0.6	0.3	0.3	0.3	0.3
Total	278.5	316.1	313.2	312.3	311.8	311.4

Mortality rate (MR)

Female	2000-05	2005-10	2010-15	2015-20	2020-25	2025-30
0-4	0.21	0.20	0.17	0.15	0.13	0.11
5-9	0.06	0.04	0.03	0.02	0.02	0.01
10-14	0.04	0.04	0.03	0.03	0.03	0.02
15-19	0.06	0.06	0.06	0.05	0.05	0.04
20-24	0.11	0.07	0.06	0.06	0.05	0.05
25-29	0.22	0.13	0.08	0.07	0.06	0.05
30-34	0.23	0.16	0.11	0.07	0.05	0.03
35-39	0.22	0.19	0.15	0.12	0.10	0.08
40-44	0.26	0.23	0.20	0.17	0.15	0.13
45-49	0.35	0.32	0.28	0.35	0.21	0.19
50-54	0.51	0.48	0.41	0.25	0.21	0.19
55-59	0.77	0.74	0.63	0.55	0.48	0.42
60-64	1.17	1.17	0.98	0.25	0.79	0.71
65-69	1.80	1.78	1.60	1.50	1.39	1.29
70-74	2.77	2.83	2.51	2.37	2.21	2.06
75-79	4.58	4.57	4.24	4.07	3.87	3.68
80+	9.63	10.36	9.90	9.89	9.90	9.91
Male	**2000-05**	**2005-10**	**2010-15**	**2015-20**	**2020-25**	**2025-30**
0-4	0.24	0.24	0.22	0.20	0.19	0.17
5-9	0.08	0.06	0.05	0.04	0.03	0.03
10-14	0.07	0.06	0.06	0.06	0.06	0.05
15-19	0.20	0.21	0.17	0.16	0.14	0.13
20-24	0.28	0.26	0.20	0.16	0.13	0.10
25-29	0.43	0.31	0.23	0.15	0.11	0.07
30-34	0.58	0.41	0.30	0.20	0.13	0.09
35-39	0.58	0.48	0.40	0.32	0.26	0.21
40-44	0.61	0.57	0.50	0.44	0.39	0.34
45-49	0.71	0.71	0.66	0.63	0.60	0.57
50-54	0.93	0.95	0.87	0.83	0.79	0.75
55-59	1.30	1.28	1.20	1.15	1.09	1.04
60-64	1.84	1.86	1.67	1.59	1.49	1.39
65-69	2.70	2.73	2.54	2.46	2.37	2.28
70-74	4.03	4.03	3.76	3.63	3.47	3.32
75-79	6.14	6.16	5.86	6.78	6.99	7.20
80+	10.02	11.01	11.07	11.88	12.57	13.30

Note: ASFR & MR in 2002 used for 2000-05, 2005 for 2005-10, 2010 for 2010-15.

ASFR & MR for 2015-20, 2020-25, 2025-30 are estimated.

Source: Ministry of health.

A1.3 Household Income and Consumer Price Index

	CPI (2007=100)	HH Income: Whole Kingdom (baht/month/HH)	HH Income: Greater Bangkok (baht/month/HH)
1994	64.17	8,262	16,418
1995	67.90	9,521	19,183
1996	71.84	10,779	21,947
1997	75.88	11,636	23,438
1998	81.95	12,492	24,929
1999	82.18	12,321	25,086
2000	83.49	12,150	25,242
2001	84.85	12,943	26,741
2002	85.44	13,736	28,239
2003	86.98	14,350	28,187
2004	89.39	14,963	28,135
2005	93.44	16,375	30,612
2006	97.78	17,787	33,088
2007	100.00	18,660	35,007
2008	105.40	19,782	36,370
2009	104.49	20,904	37,732
2010	107.96	22,070	39,681
2011	112.07	23,236	41,631
2012	116.02	24,354	43,600
2013	119.50	25,718	45,657
2014	123.09	27,159	47,812
2015	126.79	28,680	50,067
2016	130.60	30,286	52,429
2017	134.53	31,983	54,903
2018	138.57	33,774	57,493
2019	142.73	35,666	60,206
2020	147.02	37,664	63,046
2021	151.43	39,774	66,021
2022	155.98	42,001	69,135
2023	160.67	44,354	72,397
2024	165.50	46,838	75,813
2025	170.47	49,462	79,390
2026	175.59	52,232	83,135
2027	180.86	55,158	87,057
2028	186.30	58,247	91,165
2029	191.90	61,510	95,466
2030	197.66	64,955	99,970

Note: Projection for 2012 and after
CPI: $y = 79.31e^{0.0285x}$, $R^2 = 0.97639$
HH income for whole kingdom: $y = 8645.2e^{0.0545x}$, $R^2 = 0.99698$
HH income for Greater Bangkok: $y = 18166e^{0.0461x}$, $R^2 = 0.99471$
Source: Household Income: NSO; Consumer Price Index: World Bank