The Study on Implementation of the BMA Subcenter Program in the Kingdom of Thailand

1st December, 2005
Open Seminar
(Thai-Japanese Sports Stadium)

JICA Study Team
Chapter 1 Introduction
1.1 Objective of the Study

1) To formulate **a strategic development plan** for the Lat Krabang area (subcenter area: 2,000ha)

2) To formulate a basic plan for the pilot project area, selected in the Lat Krabang area for **the pre-F/S of the land readjustment method**

3) To implement **the capacity building** for the counterparts and Thai officials
1.2 Study Area

1) Location Map of the Subcenter Area

- 30km east far from the center of BKK
- Close to the 2nd Int’l Airport
(2) Study Area

- Approx. 2,000ha (12,500rai)
Chapter 2  Functions of Lat Krabang Sub-Center
2.1 Basic Functions of Lat Krabang Sub-Center

⇒ Serves the essential urban functions to “Eastern Bangkok” area

⇒ Thus creates a regional urban / administrative and business center

⇒ Creates a residential area for expanding suburban population

⇒ Provides homes to airport-related industries
2.2 Development Targets

⇒ Serves as the pilot Sub-Center development for shifting to a multi-center city in Bangkok from one-center city of today.

⇒ Creating a Gateway to New Airport

⇒ Thus needs a long term and strong commitment for a World Class, High Quality Subcenter.
⇒ Formation of **Value Creation Center** for higher value-added of the Thai Industries

⇒ Facilitating a **UPSTREAM** expansion of Thai Industries from Parts/Components and Assembling to Research & Development and Designing (RD&D)
2.3 Images Held by Local Residents

⇒ A Survey by the Study Team with the local residents in Sub-Center area (sample: 350 households) reveals their image of development.
2.4 Components of Lat Krabang Sub-Center

Research, Development and Design (RDD) City
⇒ Create a Sub-center for Eastern Bangkok
⇒ Accommodates upstream functions of Industries for higher value-added (RDD)
⇒ Provides high-quality residential areas suitable for suburban residence

Thai Culture Town
⇒ Creation of a water-front town following the Thai tradition, and cater to the needs for Day Tourism
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International framework: Free Trade & Competition

National Policy Framework: Value Creation, Destination Thailand

BMA Policy: Multi-center Structure, Suburban development, Compact city

Research, Development and Design

Value Creation Center

Sub-center core

Day Tourism

Garden Suburb

International Trade Center

SBIA: International Hub Airport & 45 million passengers

Lat Krabang Sub-Center
Chapter 3  Master Plan
### 3.1 Planning Framework

**Population Framework for Lat Krabang Sub-Center (Summary)**

<table>
<thead>
<tr>
<th>Development Scenarios</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2003</td>
</tr>
<tr>
<td>Low Growth - Without Project</td>
<td>30,000</td>
</tr>
<tr>
<td>Medium Growth</td>
<td>30,000</td>
</tr>
<tr>
<td>Medium-High Growth - With Project</td>
<td>30,000</td>
</tr>
<tr>
<td>High Growth</td>
<td>30,000</td>
</tr>
</tbody>
</table>

**Employment Framework for Lat Krabang Sub-Center (Summary)**

<table>
<thead>
<tr>
<th>Development Scenarios</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2003</td>
</tr>
<tr>
<td>Low Growth - Without Project</td>
<td>3,000</td>
</tr>
<tr>
<td>Medium Growth</td>
<td>3,000</td>
</tr>
<tr>
<td>Medium-High Growth - With Project</td>
<td>3,000</td>
</tr>
<tr>
<td>High Growth</td>
<td>3,000</td>
</tr>
</tbody>
</table>
### 3.2 Pre-Conditions for Planning

(1) **Present Land Use**

- Communities formed along On-Nut Road and along Canal
- Large agricultural and un-used lands North of Motorway
- Small scale developments along Rom Klao Rd.
(2) Land Ownership
3.3 Development Plan

(1) Basic Concept

**North of Chonburi Motorway**: Primarily low density residential, agricultural and un-used lands, with large scale land ownership

⇒ Accommodates Research, Development and Design (RD&D) City and suburban residential development

**South of Chonburi Motorway**: Major east-west canal and two major temples, relatively established communities with sporadic farm land and un-used lands

⇒ Maintains the canal and water-front communities to form Thai Culture Town
(2) Two Components

RD&D City
Thai Culture Town
Chon Buri Motorway
(3) Overall Structure

1) Road and Canal Network

- Road and Canal Network
- Chon Buri Motorway
- On Nut Road
- NS-1
- NS-2
- EW-1
- Prawet Bureerom Canal
(3) Overall Structure

2) Zoning

- Hybrid Town Cores
- Thai Culture Town Core
- Logistics/Distribution
- Medium-High Density Housing
- Low-Medium Density Housing

Chon Buri Motorway
Prawet Bureerom Canal
On Nut Road
3.4 Classification of Development Methods

(1) Improvement Area: Gray Color

(2) New Development Area: Pink Color
3.5 RD&D City Component

(1) Direction of Development

- Seek for higher value added of Thai industries, and promote the upstream functions such as Research and Development / Designing
- Main focus on high-tech fields such as Automobile, ICT and Medical Industries having close relation to high class logistics and information
- Need to make FDI-Friendly investment environment (FDI = Foreign Direct Investment)
- Seek for introduction of Trade Mart functions
- Accommodate suburban residential needs with quality
- Location: North of Chonburi Motorway
(2) Development Image

Active Business Center

Convenient Public Transport

Comfortable Urban Environment
(2) Development Image in 3D
(3) Zoning for RD&D City
3.6 Culture Town Component

(1) Direction of Development

⇒ Combination of Canal, Temples, Water Market and Water Transport
⇒ Focus on creation of lively Water Front Area
⇒ Needs to maintain the traditional Thai water-side towns
⇒ Cater to the Day-Tourism needs for Airport Passengers (Forecast for Initial Stage 45 million/year)
⇒ Provide homes to Airport staff and employees at affordable prices
⇒ Location; South of Chonburi Motorway
(2) Development Image

- Cultural Experience
- Plenty of Tree Lining
- Riverside Shopping Walk
- Revival of Floating Market
(3) Zoning of Culture Town
(4) Regional Network of Culture Town

- Wat Lanboon Temple
- Wat Sangkaracha Temple
- Lat Krabang Station
- King Mongkut Univ.
- Hua Takae Market
- Culture Town
- District Office
3.7 Transport Network Plan

(1) Public Transport Network

**Medium Transit System**

- Subcenter
- Shuttle Bus
- SBIA

**Feeder Transit System**

- Subcenter
- Shuttle Bus
- SRT
- - SA Rail Link
- - Red Line

**Express Bus System**

- Subcenter
- Express Bus
- - Motoway
- - Krunthep Kritha-Romklao Road
- SBIA
(1) Public Transport Network

Necessary Actions: A Comparison of public transport modes needs to be done:

⇒ **Ridership** (how many people will ride?)

⇒ What will be the **appropriate type** of public transport? (BTS extension/ Light Rail/ Bus transit system etc.)

⇒ What will be the **suitable route**? (Connection to Airport Link Railway/ extension to Airport?)
(2) Road Network Plan

Regional Roads

⇒ NS1 from On-nut to Sukhapiban2 Road

⇒ EW1 from NS1 to Rom Klao Road

⇒ NS2 from EW1 to On-nut road
(2) Road Network Plan

Necessary Actions

⇒ Survey, routing and engineering design of new roads (NS1, EW1 and NS2)
⇒ Related structures such as bridges, fly-over etc.
(3) Improvement of Connection to Motorway

New interchange at ORR at New Krungthepe Kreeta Road

Necessary action:
- detail design and Land acquisition

New Krungphee Kreeta Rd.
(4) Inter-modal Facility at Lat Krabang Station

Station plaza west side of Rom Klao Road, connected by pedestrian walkway to Lat Krabang Airport Link Station
3.8 Flood Protection Plan

(1) Adopted Scheme

1. Sub-Polders (two)
2. Canal Improvement (two)
3. Retention Ponds (two; 48 ha ea.)
4. Pumping Stations (two; 2 m3/sec ea.)
3.9 Layout of Public Facilities

“Neighborhood Unit” shall be formed by 10,000 population.
Layout of Main Utilities

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(2) Outcome of Protection

INSIDE the Study Area

- Canal Improvement with tree lining on the banks
- Retention ponds to be integrated to urban parks
- Protected against 5 year flood, with water level below 0.3 m +MSL

OUTSIDE the Study Area

- The flooding condition would not be worse than the present condition (no adverse effect)
Chapter 4 Strategic Development Plan
4.1 Principles for Strategic Planning

What BMA can do now?

• Development of infrastructure by BMA budget
• New development (Direct procurement, Land readjustment)
• Improvement by regulatory control (regulation under urban planning and/or architectural codes)

Basic Principles

• Regional infrastructure by BMA with annual capital budget
• Ordinary and existing residential communities by improvement by regulatory control
• Non-residential development by New Development
Three New Development Areas

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4.2 Conditions for Applicability Check of Land Readjustment

- Regional infrastructure by BMA with separate budget
- Focus only the primary infrastructure in the Land Readjustment areas
  - Includes only the major road network
  - Excludes land grading (embankment)
- Assume land prices before/after the land readjustment following the sub-contracted land price evaluation results
(1) **Area A: Lat Krabang Station Area**

Area A: Lat Kraang Station Area
Case 1: Development only north side of SRT tracks – minimum cost scenario
Could accommodate Inter Modal function on north side of SRT
Area A: Lat Kraang Station Area
Case 2: Development north & south sides of SRT tracks – maximum benefit scenario
### Area A: Major Land Readjustment Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Case 1</th>
<th>Case 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>98,900m²</td>
<td>279,800m²</td>
</tr>
<tr>
<td>Public Area</td>
<td>36,500m²</td>
<td>111,200m²</td>
</tr>
<tr>
<td>Percentage of Public Area</td>
<td>36.9%</td>
<td>39.7%</td>
</tr>
<tr>
<td>Applicability of land readjustment</td>
<td>Possible – some public sector involvement will be necessary such as land procurement/ subsidy for Station Plaza etc.</td>
<td></td>
</tr>
</tbody>
</table>
(2) Area B: Soi Wat Lanboon Station Area
## Area B: Major Land Readjustment Indicator

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>132,000m²</td>
</tr>
<tr>
<td>Public Area</td>
<td>57,000m²</td>
</tr>
<tr>
<td>Percentage of Public Area</td>
<td>43.2% (high)</td>
</tr>
<tr>
<td>Applicability of land readjustment</td>
<td>Unlikely – cooperation between private sector and public sector (BMA) will be crucial. There is uncertainty about the Red Line Station.</td>
</tr>
</tbody>
</table>
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### Area C: Major Land Readjustment Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>4,592,600m2</td>
</tr>
<tr>
<td>Public Area</td>
<td>1,501,400m2</td>
</tr>
<tr>
<td>Percentage of Public Area</td>
<td>32.7%</td>
</tr>
<tr>
<td>Applicability of land readjustment</td>
<td>Possible with some public sector involvement necessary such as land procurement/subsidy, but because of many land owners, detailed project planning will be necessary</td>
</tr>
</tbody>
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### 4.3 Pilot Project

<table>
<thead>
<tr>
<th>Zone</th>
<th>Total Area</th>
<th>Characteristic</th>
</tr>
</thead>
</table>
| Area A | 28.0 ha     | • High potential for development  
             | (Case A2)  
             | • Convenient location  
             | • Suitable for Land Readjustment  |
| Area B | 13.0 ha     | • Uncertainty of Red Line station  
             |  
             | • Suitable for public and private sector cooperation for development  |
| Area C | 458.3 ha    | • High necessity for core of subcenter  
             |  
             | • Large area / many owners  
             | • Need long term efforts and phasing  |
Zoning for Pilot Project

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4.4 Strategic Development Plan

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New Urban Development
Public Private Partnership

Urban Management
by Regulation and
Inductive Measures

New Development
by Land
Readjustment

Community Development
with Focus on Tourism
4.5 Development Plan - 2005

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4.5 Development Plan 2006-2010

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- Inter-modal development in progress
- Land readjustment for subcenter
- Trunk roads (NS1, NS2, EW1) completed
- Water front improvement
- Trunk roads (NS1, NS2, EW1) completed
4.5 Development Plan 2011-2015

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in the Kingdom of Thailand (Case of Lat Krabang)
4.5 Development Plan 2016-2020

Canal Improvement

Subcenter Urban Development (Phase 2)
4.5 Development Plan 2021-2025

- Mass Transit in progress
- Subcenter Urban Development (Phase 3)
- Canal Improvement
- Inter-modal development In progress
4.5 Development Plan 2026-2030

- Mass Transit completed
- Feeder transport in progress
- Inter-modal development completed

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4.5 Development Plan - 2031-2035

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Feeder transport completed
4.6 Institutional Framework

- Role of Public Sector important in early stage as the overall development initiator
- Public sector needs to complete infrastructure development in early stage
- The overall developer role shall be held by BMA under the name of Krungthep Thanakom, a public company for land development under BMA
- Important to get involvement of private sector developer for land development subsequently
4.7 Environmental Considerations
Environmental / Social Impact / Benefit by Pilot Project

- Land Readjustment Phase
  - Minimization of land acquisition impact owing to adoption of land readjustment method
  - Actualization of orderly development considering living environment

- Construction Phase
  - Necessity to consider accumulative impact with relevant construction work

- Operation Phase
  - Necessity to consider accumulative impact with Suvarnabhumi Airport
Environmental and Social Consideration Survey (pre-EIA level) under JICA Guideline

- Assessment of residual impacts which cannot be avoided by adoption of land readjustment method
- Proposal of mitigation measures on negative impact

- Physical Environment
  - Land condition
  - Air quality
  - Water quality
  - Noise
  - Flooding

- Social Condition
  - Land acquisition
  - Local society
  - Economic Activity
  - Security
  - Tourism

- Public Service
  - Land use
  - Transportation
  - Water supply
  - Waste collection

- Natural Environment
  - Terrestrial Ecosystem
Thank you very much for your kind attention.

Lat Krabang Project HP Open!