Designing Low Carbon Farming and Challenges for Its Implementation

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Thailand's Low Carbon City Approach: A pilot project at Muangklang Municipality
Muangklang Municipality is a small-size municipality located in Rayong province.

Objective: Develop Muangklang Municipality as a pioneer small-size municipality towards low carbon city approach, and enhance the city’s good practice as a replication in other cities.

Thai model guidelines for Low Carbon City:

- Set up city’s target and action plan on GHG emission reduction
- List activities and relevant stakeholders

Follow up and evaluation

City area: 14.5 km²
Population: 17,197
Households: 3,309
Communities: 13
Nine-step approach to Thai Low Carbon City

1. Survey
2. GHG Inventory
3. Technology analysis
4. Technology selection
5. Projection
6. Targeting
7. Action plan
8. Implementation
9. Review
AFOLU - Emission by Sources

Livestock

Manure Management

Rice Cultivation

Agricultural Burning

Agricultural Soil
AFOLU - Removal by Sink

Forest

Green Space

Planted Woody Crop – Rubber or Orchard
Data Collection

Primary Data

Secondary Data

Land Use Master Plan

Survey

Statistics
AFOLU - Emission by Sources

Livestock

Manure Management

Rice Cultivation

Agricultural Burning

Agricultural Soil
Removal Capacity by Land Use

Old LU Master Plan: (27 km²)
Forest/Green Space/Orchard

New LU Master Plan: (66 km²)
Forest/Green Space/Orchard
Development of Emission/Removal Projection

Approach Based on Development of New LU Master Plan

Settlements will be developed only on lands part of the old LU Master Plan

Approach Based on Municipality’s Development Plan 2011-2014

Plant additional 3,000 Trees/Year
Development of Mitigation Measures: Enhancement of Removal
Option 1: 14.4 km² Rice Field + 1.1 km² Green Space

![Graph showing CO2 removal and emission over years 2553, 2558, and 2563.]
Production From Planned Rice Cultivation

<table>
<thead>
<tr>
<th></th>
<th>Production (t)</th>
<th>Consumption (t)</th>
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</thead>
<tbody>
<tr>
<td>13</td>
<td>8/73</td>
<td>6/64</td>
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<tr>
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Brainstorming Meeting – Card Technique

Thai model guidelines for Low Carbon City

- Set up city’s target and action plan on GHG emission reduction
- List activities and relevant stakeholders
- Follow up and evaluation

1st meeting
2nd meeting
3rd meeting

Low Carbon City
### Action Plan to Implement Option 1

**AFOLU**

<table>
<thead>
<tr>
<th>Aspects</th>
<th>Actions</th>
<th>Entities</th>
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</thead>
<tbody>
<tr>
<td>Financial support</td>
<td>• Provide budgets/ provide seedlings for rice cultivation</td>
<td>Financial institute/ Ministry of Agriculture and Co-operative/ Private sector</td>
</tr>
<tr>
<td>Policy and measure</td>
<td>• Initiate a community reforestation program</td>
<td>Municipality</td>
</tr>
<tr>
<td>Management</td>
<td>• Set up evaluation and monitoring program</td>
<td>Municipality /Land owner/ Private sector/Communities</td>
</tr>
<tr>
<td>Social awareness</td>
<td>• Raise awareness of the public &amp; business</td>
<td>School/ Communities/ community leaders/ Industry sector</td>
</tr>
<tr>
<td>Local regulations</td>
<td>• Local ordinances on greenspace</td>
<td>Municipality</td>
</tr>
</tbody>
</table>
Outcomes of the study/pilot project

9-step approach towards Thai Low Carbon City:
- City’s GHG inventory and stakeholders participation
- People view that low carbon approach can generate co-benefits for their community

City’s stakeholders participation in mitigation goals:
- Need information and scientific data supported
- City’s voluntary mitigation goal/target set up

Bottom-up approach mitigation measures:
- Stemming from strong public involvement
Thank You for Your Kind Attention

ขอบคุณค่ะ
สวัสดีค่ะ