The Vetiver Grass Cultivation Campaign and Promotion for Land Resources Rehabilitation in Thung Kula RongHai Plain: Case study in Chumphon-Buri District, Surin Province, Thailand

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✓ Introduction
✓ Objective
✓ Methodology
✓ Summary
Introduction

Thung Kula RongHai Plain

Maha Sarakham

Roi Et

Surin

Yasothon

Sri Sa Ket
Thung Kula RongHai Plain

The deterioration of soil resources

- drought in the dry season
- floods in the rainy season
Surin province

Chumphon-Buri District
64,064 ha

Tha Toom District
28,094.8 ha
Chumphon-Buri District,
Surin Province
Thailand.
Vetiver Grass

Prevent soil erosion

Increase soil moisture

Land Resources Rehabilitation
Objective

The aim of this paper was to demonstrate the outcome of the campaign and promotion of vetiver grass cultivation in Chumphon-Buri District, Surin Province Thailand.
Methodology
Methodology

training and workshops
→ farmer build
→ Successful farmers
→ disseminate to member group
→ sustainability
Methodology

1. Targets group and Site description

Farmers in Nanongphai Sub-District, Chumphon-Buri District, and people in the nearby areas.
2. Framework for project implementation

- Study area at learning center
  Address: Home ID 246, sub-district No. 3, Kra-Buang Village, Nanongphae Sub-district, Chumphon-Buri District, Surin Province, Thailand

- The project implementation was started at learning center since 2012 until now.
3. Project implementation

Mission of Land Development Department

- Soil and water conservation.
- Soil rehabilitation and improvement.
Surin Land Development Station plan organized for campaign and promotion green manure cropping and vetiver seedlings, soil and water conservation systems.

<table>
<thead>
<tr>
<th>Project / Event</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>quantity</td>
<td>time</td>
<td>quantity</td>
</tr>
<tr>
<td>Soil analysis (sample)</td>
<td>100</td>
<td>Jan–May</td>
<td>150</td>
</tr>
<tr>
<td>Construction of pond (pond)</td>
<td>17</td>
<td>Jan–May</td>
<td>19</td>
</tr>
<tr>
<td>soil and water conservation systems (ha)</td>
<td>144</td>
<td>Jan–May</td>
<td>112</td>
</tr>
</tbody>
</table>
Locations of implementation area and learning center point in at Nanongphai Sub-district, Chumphon-Buri District, Surin Province Thailand.
4. The success of the project

The concept of developing master farmer to under "The rice agricultural settlement project" by constructing the learning center model.
STUDY AREA MAP

Na Nong Phai sub-district, Chumphon-Buri District,
Surin province, Thailand.

Legend

LEARNING CENTER

NANONGPHAI BOUNDARY

Scale 1:97,000

Meters
**Soil Taxonomy**: Fine, mixed, semiactive, isohyperthermic Aeric (Plinthic) Endoaqualfs

### Soil properties before study

<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>OM (%)</th>
<th>Avail.P (mg kg⁻¹)</th>
<th>Avail.K (mg kg⁻¹)</th>
<th>pH</th>
<th>Texture</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25</td>
<td>0.7</td>
<td>2.6</td>
<td>11.5</td>
<td>4.8</td>
<td>Sandy loam</td>
</tr>
</tbody>
</table>
Problem

- Soil texture is sandy loam
- Low soil fertility
- Soil degradation from chemical fertilizers
- high production costs
How to fix the problem for development in this study area
Growing of Vetiver for improves soil and soil and water conservation
• Composting by Leaves of vetiver grass
Sustainability of farmers to utilize the vetiver grass (knowledge transfer and Acceptance)
the learning center before start project
The learning center after start project
This learning center have been Regional Awards "Contest of Vetiver grass cultivation excellent" organized by Land Development Department in 2014
Her Royal Highness Princess Maha Chakri Sirindhorn visited here. And she met the farmers, that produce royal rice seeds. on 27 October 2014
This learning center produce royal rice seeds for the Chaipattana foundation
On 27 October, 2014, Dr. Sumet Tantivejkul, Secretary - General of the Chaipattana Foundation, visited here.
Director of Land Development Department visited here and materials delivered in the production of organic fertilizers to member of farmers this here on 13 February 2015
Training and knowledge sharing for students, farmers, Governments and Organizations visited this here
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</thead>
<tbody>
<tr>
<td>0-25</td>
<td>1.1</td>
<td>10.5</td>
<td>16.6</td>
<td>5.8</td>
<td>Sandy loam</td>
</tr>
</tbody>
</table>
## Production costs for rice seed

<table>
<thead>
<tr>
<th></th>
<th>Transplanted rice</th>
<th>Seed rice</th>
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</thead>
<tbody>
<tr>
<td><strong>Production cost</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>before (USD)</td>
<td>737.5</td>
<td>656.3</td>
</tr>
<tr>
<td><strong>Production cost</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>after</td>
<td>525.0</td>
<td>481.3</td>
</tr>
<tr>
<td><strong>Reduce (USD)</strong></td>
<td>212.5</td>
<td>175.1</td>
</tr>
<tr>
<td><strong>Rice yield</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ton/ha)</td>
<td>3.3</td>
<td>2.3</td>
</tr>
</tbody>
</table>
SUMMARY

- Vetiver grass help to adjust soil structure and soil moisture
- Vetiver grass has been propagated and distributed to farmers and members
- The learning center accepted for interested public
Thank you for your kind attention
Participatory action research process has three major steps

1) **Preparing a coordinated community.** Qualifying for the community and build better relationships with the community,

2) **Pay attention to the community** to acknowledge the problems and needs of the community, and

3) **Community solutions. The process of implementation, evaluation and development.**
**Soil Taxonomy**: Fine, mixed, semiactive, isohyperthermic Aeric (Plinthic) Endoaqualfs

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