CHALLENGES FOR AGRICULTURAL DEVELOPMENT IN THE LMB

1 MAY 2012

AGRICULTURE AND IRRIGATION PROGRAMME OF MRC SECRETARIAT
DEVELOPMENT IN FOOD & NUTRITION

**POPULATION**

- Cambodia
- Lao PDR
- Thailand
- Vietnam

**CALORIE SUPPLY**

- Cambodia
- Lao PDR
- Thailand
- Vietnam

**RICE PRODUCTION**

- Cambodia
- Lao PDR
- Thailand
- Vietnam

**PROTEIN AND FAT**

- Cambodia
- Lao PDR
- Thailand
- Vietnam
IRRIGATION IN THE LMB

EXISTING IRRIGATION SYSTEM IN THE MEKONG RIVER DELTA - VIETNAM
IRRIGATION IN THE LMB
### RICE FIELDS IN THE DRY SEASON

<table>
<thead>
<tr>
<th>Country</th>
<th>Present Dry vs Wet Rice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>16%</td>
</tr>
<tr>
<td>Laos</td>
<td>58%</td>
</tr>
<tr>
<td>Thailand</td>
<td>11%</td>
</tr>
<tr>
<td>Vietnam</td>
<td>133%</td>
</tr>
<tr>
<td>Total</td>
<td>72%</td>
</tr>
</tbody>
</table>

*Note: The table compares the proportion of rice fields in the dry season to those in the wet season across Cambodia, Laos, Thailand, and Vietnam.*
TRENDS & SCENARIOS OF IRRIGATION DEVELOPMENT

- **Total**
  - Ave Growth of Irrigated Area 2010-2030 BDP TN7: 2.1%
  - Ave Growth of Irrigable Area 2010-2030 BDP TN7: 2.5%
  - Ave Growth of Irrigated Land 1990-2003 WDR2008: 0.9%

- **Vietnam**
  - Ave Growth of Irrigated Area 2010-2030 BDP TN7: 0.2%
  - Ave Growth of Irrigable Area 2010-2030 BDP TN7: 0.3%

- **Thailand**
  - Ave Growth of Irrigated Area 2010-2030 BDP TN7: 1.3%
  - Ave Growth of Irrigable Area 2010-2030 BDP TN7: 4.6%

- **Laos**
  - Ave Growth of Irrigated Area 2010-2030 BDP TN7: 2.1%
  - Ave Growth of Irrigable Area 2010-2030 BDP TN7: 2.8%
  - Ave Growth of Irrigated Land 1990-2003 WDR2008: 0.6%

- **Cambodia**
  - Ave Growth of Irrigated Area 2010-2030 BDP TN7: 2.7%
Satellite Imagery of Flooding in the Lower Reaches of the Mekong [taken in August 2001]
## ADDITIONAL THREAT: CLIMATE CHANGE

### Consecutive Dry Days in the Wet Season

<table>
<thead>
<tr>
<th></th>
<th>LMB</th>
<th>Upper Kratie</th>
<th>Lower Kratie</th>
<th>Delta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>7.7</td>
<td>8.7</td>
<td>6.8</td>
<td>7.1</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>4.4</td>
<td>5.6</td>
<td>3.0</td>
<td>2.7</td>
</tr>
<tr>
<td>90% Exceedance</td>
<td>13.0</td>
<td>15.0</td>
<td>11.0</td>
<td>10.0</td>
</tr>
<tr>
<td><strong>CC-B2 (2010-2050)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>10.4</td>
<td>11.5</td>
<td>9.4</td>
<td>9.4</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>6.5</td>
<td>6.5</td>
<td>6.4</td>
<td>6.5</td>
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<tr>
<td>90% Exceedance</td>
<td>18.0</td>
<td>20.0</td>
<td>16.0</td>
<td>17.0</td>
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<tr>
<td><strong>Change</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>2.7</td>
<td>2.8</td>
<td>2.6</td>
<td>2.2</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>2.1</td>
<td>1.0</td>
<td>3.5</td>
<td>3.8</td>
</tr>
<tr>
<td>90% Exceedance</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>7.0</td>
</tr>
</tbody>
</table>
RICE FIELDS IN THE DRY SEASON ALONG A CANAL
MRC PROCEDURES AND GUIDELINES

AGREEMENT

PROCEDURES

GUIDELINES

AIP RELEVANCE
DSF Introduction by MRCS Modeling Team

Hydrological model

Simulation model

Hydrodynamic model

MRC MODELS
MRC FIELD WORK
MEASUREMENT OF IRRIGATION EFFICIENCY
a) Institution mapping
b) AEZ, land use, & soil mapping
c) Food security projection
d) Update of Irrigation DB
e) Appraisal of GW use...

5 YR PROGRAMME OF AIP
a) Analysis of irrigation inventory
b) BDP scenario interpretation
c) Technical harmonization in irrigation projects
d) Bulk water monitoring
e) Develop scenarios for BDP ...

2 Synergy between national planning & MRC IWRM-BDS developed and harmonized
3 Capacity needs assessment
b) Road map for trans-boundary aquifer management
c) Pilot project for trans-border water use in Mekong Delta...