MRC Fisheries Programme 2011-2015

On-going study:

Socio-economic Impacts and Social Implications from reduced Capture Fisheries in the Lower Mekong Basin

2nd MRC-ESCIR Symposium
HCMC, Viet Nam, 1-2 July 2015
The Objective of the Fisheries Programme 2011-2015 is:

Regional and national fisheries organizations successfully implement measures for sustainable fisheries development and improved rural livelihoods.
MRC Fisheries Programme 2011-15 (2)

1. Decision-makers have a science-based understanding
1.1 Effective FP Implementation
1.2 Information re-packaged & disseminated
1.3 Effectiveness of communication evaluated

2. Monitoring systems work and provide the information needed
2.1 Status/Trends & Valuation Info
2.2 Capture fisheries and aquaculture info improved
2.3 Development impacts described & mitigation evaluated
2.4 Climate change impact assessed

3. Stakeholder dialogue helps to maintain fisheries sustainability
3.1 Regional & international Networking
3.2 LMB-wide Cooperation Framework

4. Agencies have sufficient capacities
4.1 Technical & Administrative Skills
4.2 Institutional strengthening

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The four MRC Member Countries, Cambodia, Lao PDR, Thailand and Viet Nam, have been implementing these **123 projects**, with technical and financial support from the MRC FP:

- **Capture fisheries**: 35 projects
- **Aquaculture**: 19 projects
  - Regional guidelines for good stock enhancement, with FAO
  - Regional code of practices for transboundary movement of aquatic organisms, with NACA
- **Fisheries management and governance**: 17 projects
- **Cross cutting**: 52 projects
For this study: it is under Outcome 3: Key stakeholders maintain a high level of regional and national dialogue, & dialogues b/t sectors and programmes relevant to fisheries within a basin-wide IWRM framework, and guide the implementation of suitable measures to maintain fisheries sustainability.

- Output 3.1: Platforms for regional and international dialogue and consultation on sustainable Mekong fisheries management and development are supported, maintained and functioning well
- Output 3.2: A LMB-wide cooperation framework for fisheries management and development is prepared.

Activity (3.2.1.1) the study of “socio-economic impacts and social implications from reduced capture fisheries” – a milestone (FP03) in MRC SP 2011-2015.
Controversy between water development and its potential impacts on fisheries and rural livelihoods

⇒ High potentials for hydropower generation and needs for electricity generation
⇒ Fish is largely regional transboundary resource and is affected
⇒ High dependency of rural households on fisheries

THUS: Competition for water requires balancing among social, environmental and economic needs in the LMB
Overall research question:

How would future changes in the LMB hydrological conditions affect the economic situation and distribution of benefits between households and communities that are affected by changes in capture fisheries yield?
Specific research questions:

• What are the economic effects of environmental change and how do they vary among households and villages that utilize capture fisheries?

• How does the magnitude and distribution of economic effects vary under different scenarios of future development and environmental change?

• What are the determinants of households’ willingness and capacity to adopt specific adaptive practices?

• What is the economic effect of increasing village-level resilience in the LMB? (i.e., how good of an investment are resilience-building initiatives?)
Sampling strategy (1)

- Use SIMVA 2014 sample (mainstream corridor & flood plain villages)
- Select sub-sample from SIMVA 2014:
  - Randomly 25%
  - Proportional to original sampling coverage across sub-zones
- Analysis will make use of SIMVA 2014 village profiles allowing for regression against factors such as "dependency on fisheries"
1. **Collect data on household fisheries and farming production, revenue and costs**
   - Why farming as well? Households will diversify activities or switch focus between fishing and farming

2. **Collect data on perceptions of environmental change**
   - Changes in behaviour require motivation – we want to understand the likelihood of adaption (i.e., link perceptions of threats to actual adaptive behavior)

3. **Assemble secondary data on social and environmental factors**

4. **Analyze data**
   - Standard descriptive analysis
   - Ricardian analysis - marginal economic effects on households
   - Likelihood of specific household adaption to environmental change
Sampling strategy (2)

SIMVA
- Village Profile
  - Social aspects
    - Shocks & Trends
  - Samples
- Fishery Survey
  - Economic Impacts
  - 25%

More fishery dependency
Less fishery dependency

Analysis

Socio-economic Impacts & Social Implications from Reduced Capture Fisheries in the LMB

Other data sets:
- National stats
- GIS
- Etc.

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### Sampling strategy (3)

**FP sampling sites (village level):**

<table>
<thead>
<tr>
<th>Count of HHs</th>
<th>Cambodia</th>
<th>Column Labels</th>
<th>Must cover</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td></td>
<td>Top 25%</td>
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<tr>
<td>Row Labels</td>
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<tr>
<td>Cambodia</td>
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<tr>
<td>Zone 4 - Cambodia - Kratie to Vietnam border</td>
<td>23</td>
<td>24</td>
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<tr>
<td>Zone 4 A Subzone Cambodia - Khone Falls to Kratie</td>
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<td>Zone 4 B - Subzone Cambodia - 3S</td>
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<tr>
<td>Zone 4 C - Subzone Cambodia - Kratie to Vietnam border</td>
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<td>4</td>
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<tr>
<td>Zone 5 A - Subzone Cambodia - Tonle Sap river</td>
<td>6</td>
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<tr>
<td>Zone 5 B - Subzone Cambodia - Tonle Sap lake</td>
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<td>Lao PDR</td>
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<tr>
<td>Zone 2 - Mainstream Lao</td>
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<tr>
<td>Zone 3 A - Mainstream Subzone Lao</td>
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<tr>
<td>Thailand</td>
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<tr>
<td>Zone 2 B Lower Subzone Thailand</td>
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<td>Zone 2 B Upper Subzone Thailand</td>
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<td>Zone 3 A - Thailand - Songkhram</td>
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<td>Zone 3 B - Mainstream Subzone Thailand</td>
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<tr>
<td>Vietnam</td>
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<tr>
<td>Zone 6 A - Subzone Vietnam - Mekong Delta - freshwater</td>
<td>22</td>
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<tr>
<td>Zone 6 B - Subzone Vietnam - Mekong Delta - saline</td>
<td>11</td>
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</tbody>
</table>

**Grand Total:** 91 1 92

Note: This assumes that a budget approximately 25% that allocated for SIMVA 2014 is directed to quantitative surveys conducted in villages comprising about 25% of the overall SIMVA sample (i.e., per unit survey cost is comparable to SIMVA 2014)
Developed to measure the impacts of CC on agriculture (Mendelsohn et al., 1994).

Used in Ethiopian fisheries study: focusing on economic effects of changing rainfall and water levels on fishing households.

Can captures responses under real environmental conditions.

Has the ability to capture the adaptation that households make in response to local environmental conditions.

Householders across LMB decide what/where/when to fish, based, in part, on fisheries productivity and local environmental conditions they live in.

The basic assumption of Ricardian is that people make choices of how to earn income and doing subsistence activities according to the environmental conditions of the area in which they fish/farm.
• **Computer Assisted Personal Interviewing (CAPI)**
  - i.e. no traditional paper copy of questionnaire
  - Questionnaire is filled in notebook, tablet

• Questionnaire designed using SAWTOOTH software

• SAWTOOTH is also used for database management, data analysis and data generation for reporting
### Progress to date

<table>
<thead>
<tr>
<th>Output</th>
<th>Implementation schedule (from Aug 2014)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Output 1: Project proposal is developed</td>
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<tr>
<td>- WA/TOR discussed and agreed.</td>
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<td>Output 2: Riparian capacity for research data generation, management</td>
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<td>and analysis strengthened</td>
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<td>Output 3: Field data are collected</td>
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<td>Output 4: Field data are analyzed:</td>
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<tr>
<td>- Standard database developed</td>
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<tr>
<td>- The database is populated</td>
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<td>Output 5: Study report finalised</td>
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</tbody>
</table>
1. Overall Basin Development Planning

2. Strategic Planning for water resource use across sector to achieve for optimizing environmental, social and economic sustainability

3. Inform national policies and action plans in
   3.1 Fisheries management
   3.2 Other water sectors’ management & development
   3.3 Adaptation options to situations of reduced capture fisheries
Thank You!

ขอบคุณมากครับ

Chân thành cám ơn

Thank You!