



Living with uncertainties: Tonle Sap and social vulnerability to potential changes in the Mekong's Flow Regime

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Structure of Presentation

- Poverty and Vulnerability in Cambodia
 - PDS
- Significance of Mekong River Basin
- Possible Impacts of Changes in the Mekong's Flow Regime
- Evaluating the Impacts
 - Cost Benefit Analysis
 - PDS as a tool for analysis

Poverty and Vulnerability in Cambodia

- Growth in recent periods
 - GDP per capita
 - Income distribution
 - Land distribution
 - Poverty and Vulnerability
 - Poverty ratio over 30%
 - Majority close to poverty line
 - CDRI studies on poverty and vulnerability
 - MOPS/PDS

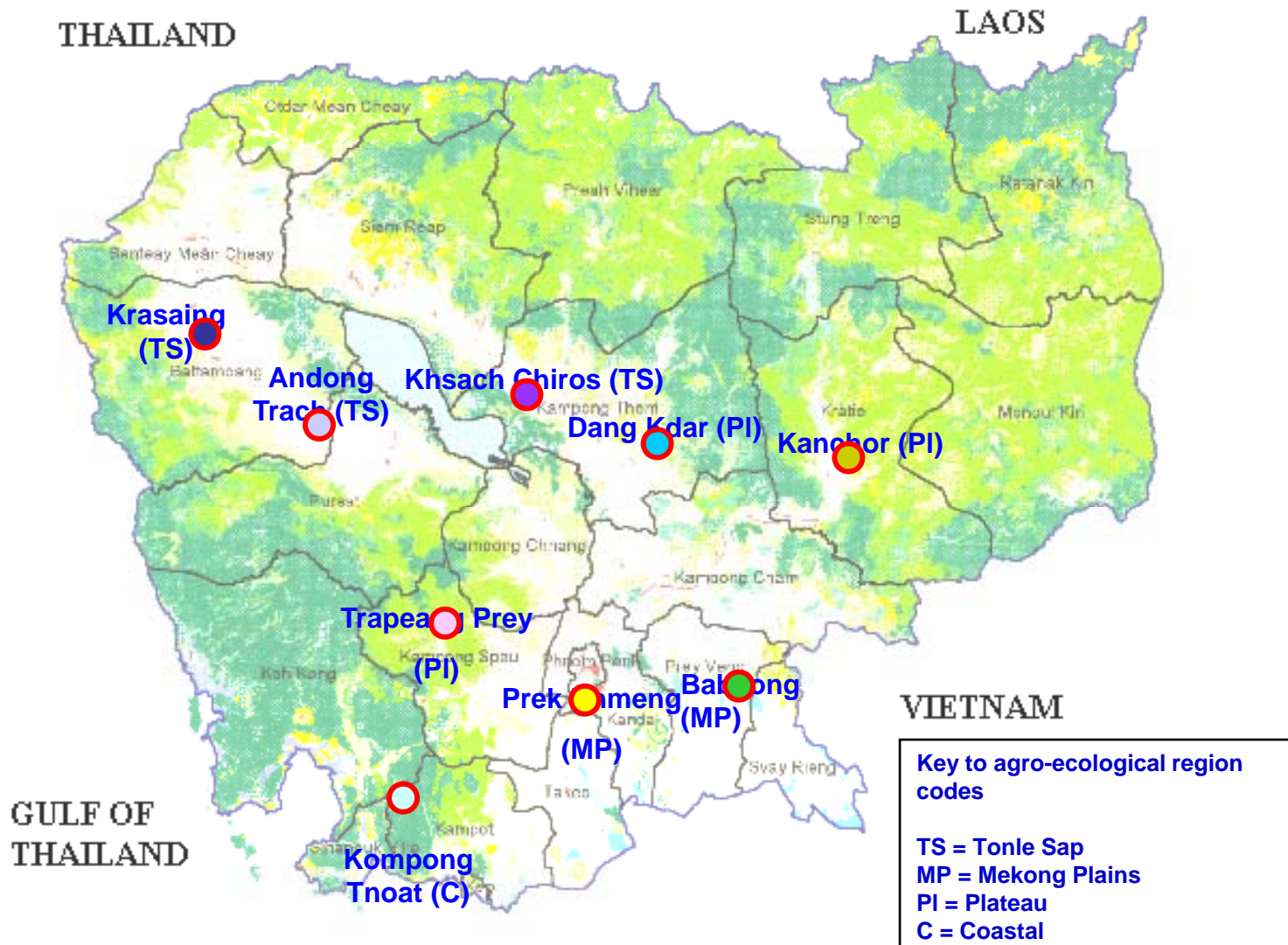
Objective of MOPS/PDS

- *Explore poverty dynamics and factors that explain movement into and out of poverty*
- Mixed methods
 - Quantitative
 - Qualitative

Coverage of MOPS/PDS

- Six rounds of surveys over 8 years
 - 2001, 2004, 2008
- Levels of analysis
 - Community
 - Household
 - Individual
- Data Coverage
 - Economic
 - Social
 - Institutional and local governance
 - Power, freedom and rights

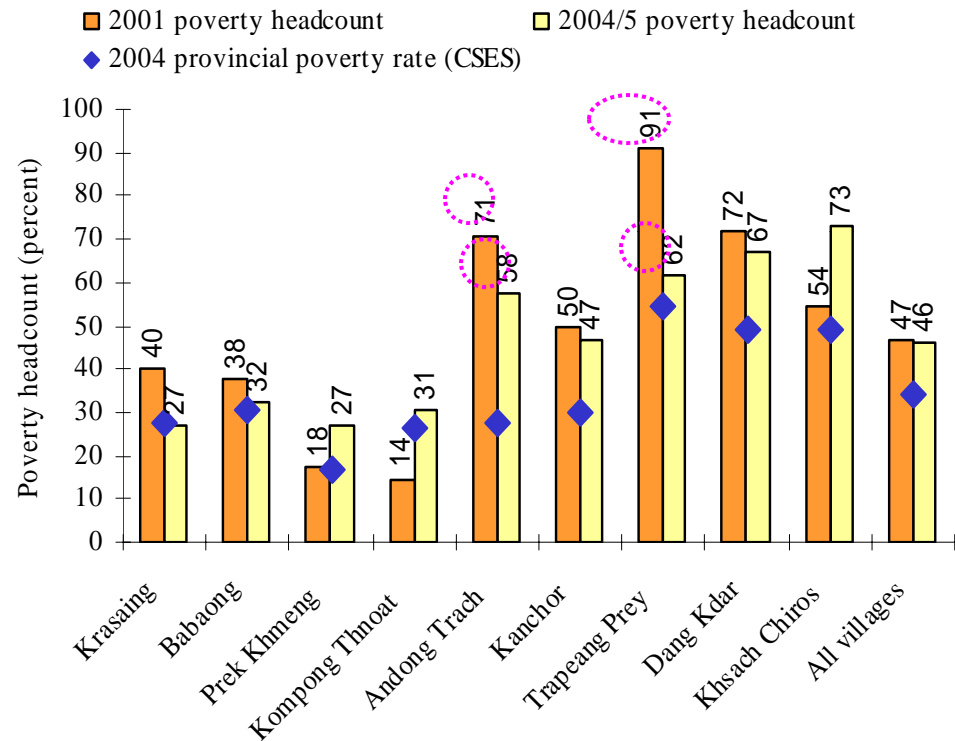
Study Sites



Findings: Poverty

- Villages experienced different rates of poverty reduction.
- Six villages experienced poverty reduction while other three experienced reversed trends.
- Poverty rates remained high in many villages in 2004/5.

Figure 2.02 Change in poverty headcount 2001-2004/5 and comparison to 2004 CSES provincial poverty rates

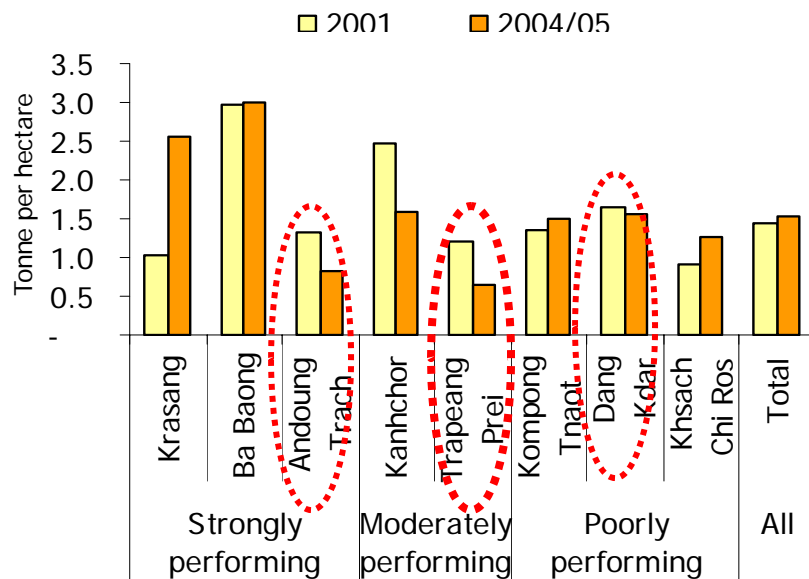


Source: proportion of households below village poverty lines in 2001 and 2004/5 (890 panel households) and CSES 2004 data.
 Note: rate for all villages is the 2004 CSES rural poverty rate - 34%

Findings: Vulnerability

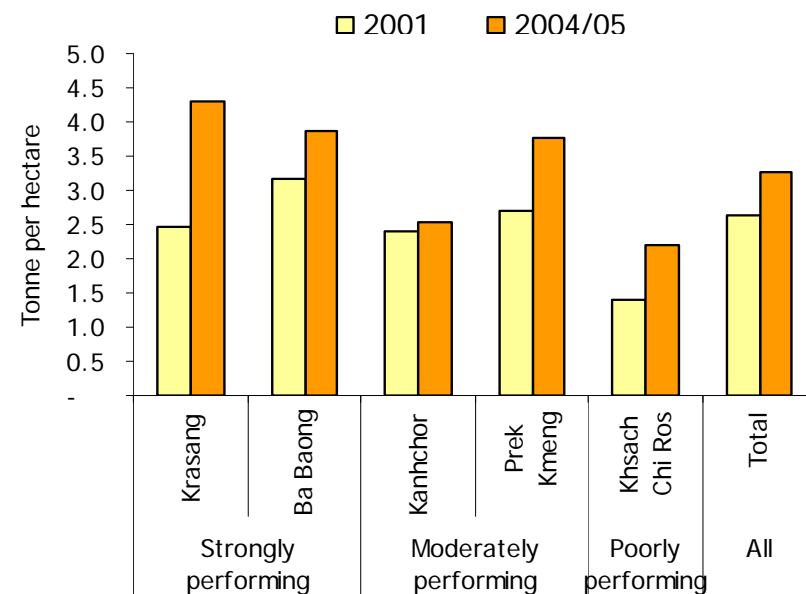
- Flood and drought affecting harvests; becoming more prevalent since the mid-1990s.
- The villages heavily reliant on wet season rice cultivation suffered the most hardship.

Figure 3.01a: Wet Season Rice Yield by Village, 2001 & 2004/05 (tonnes/ha)



Source: 493 of 1005 households cultivating wet season rice in 2001 and 492 of 1010 households cultivating wet season rice in 2004/5.

Figure 3.01b: Dry Season Rice Yield by Village, 2001 & 2004/05 (tonnes/ha)



Source: 277 of 1005 households cultivating dry season rice in 2001 and 318 of 1010 households cultivating dry season rice in 2004/5.

Significance of Mekong Basin

- Covers around 85% of Cambodia
- Ecological factors
- Biodiversity
- Economic and Social factors
 - Fishing
 - Quarter of a million tones per year
 - Half of all Catch in Cambodia
 - Agriculture Production and productivity
 - Variation in the size of Tonle Sap
 - Dry Season: 160 km long and 25 km wide
 - Wet Season: 250 km long and 100 km wide

Possible Impact of Changes in the Mekong's Flow Regime

Cost:

- Ecological and biodiversity
- Economic and Social
 - Increased poverty and hardship?
 - Loss in livelihood
 - Fishing
 - Land productivity
- Benefit:
 - Reduced flood
 - Increased and more stable land use
 - Irrigation
 - Fertilizer

Evaluating the Impacts: Cost Benefit Analysis

Level of analysis: GMS

- **Benefits:**

- Energy

- Economic and Social impacts

- Environmental

- Agriculture and Fishery

- **Costs:**

- Environmental and biodiversity

- Social

- Economic

Evaluating the Impacts: Cost Benefit Analysis

- **Decision Rule:**
 - Accept if NET BENEFIT is positive
- Distribution of net benefit:
 - Hicks-Kaldor Welfare Criterion
 - Implementation

PDS as a basis for analysis of Change in Mekong's flow

- Rich Panel data extended over 8 years
- Allows running various scenarios assessing the impacts on:
 - Poverty
 - Vulnerability
 - Cost-benefit analysis