



# A nexus of adaptation

## Climate change implications on the water –food-energy nexus of the Lower Mekong Basin

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- Implications of climate change for LMB countries
  - Climate change in the LMB: observed and projected
  - Implications on water, food and energy
- Adaptation needs, actions, and gaps
  - What need to be done
  - What have been done
  - What needs to be done more

# Climate change in the LMB Observed



Country	Temperature	Rainfall	Sea level	Others
Cambodia	0.8°C (1965-2005)	No consistent trends		More rapid in drier season
Lao PDR	0.1- 1.0°C (1901-2002)	Significant changes, varied		
Thailand	0.8-1.2°C (1951-2000)			
Vietnam	0.5-0.7°C	in South, in whole country	~ 2 cm in 100 years	More rapid in dry winter season; More storms

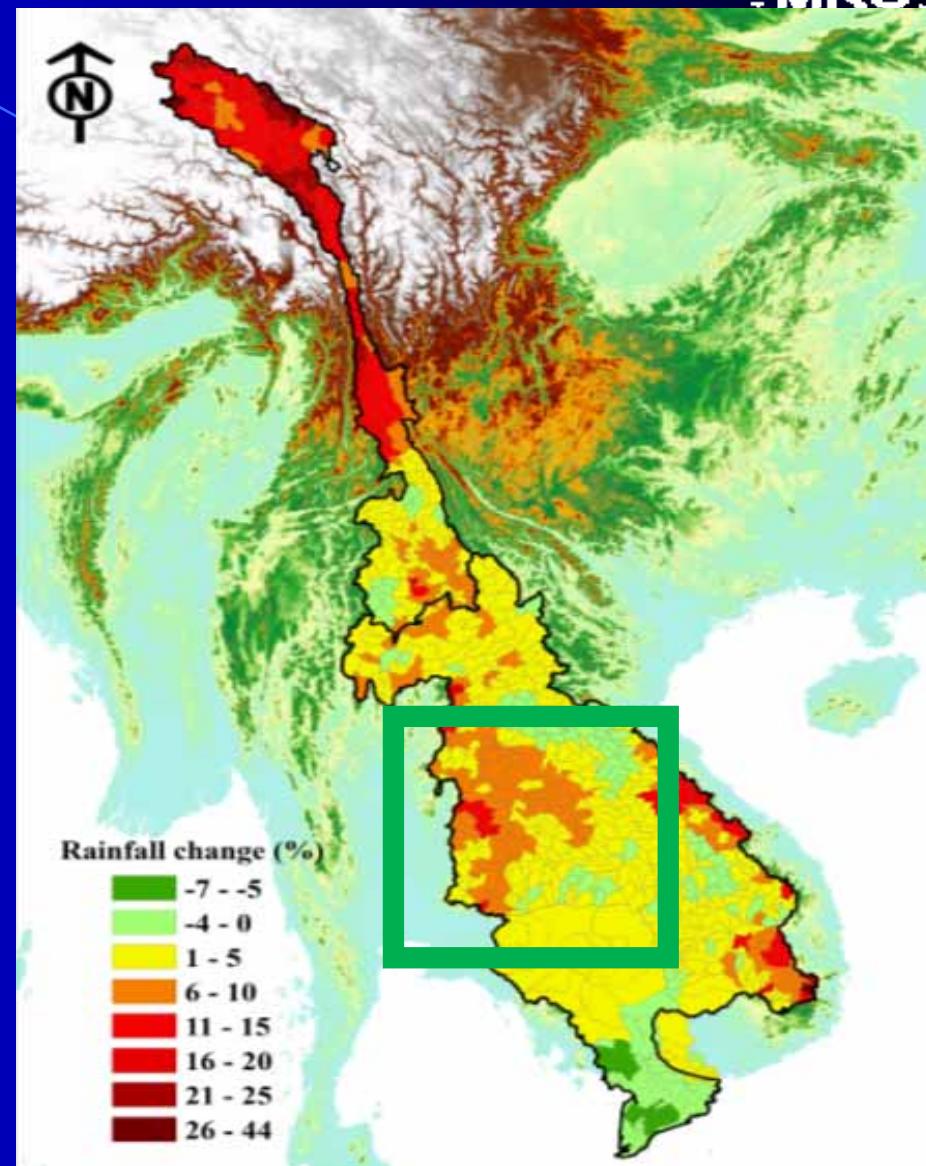
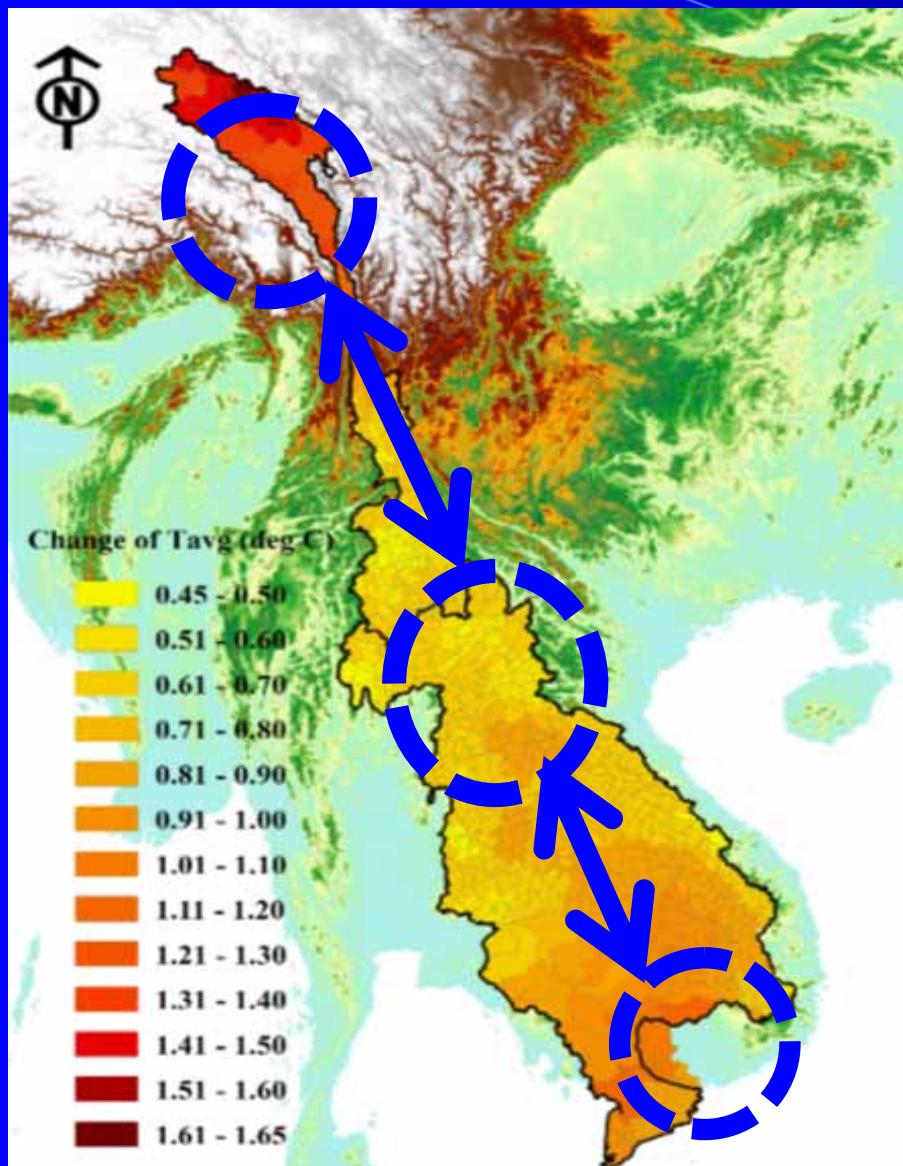
Cambodia: McSweeney et al. 2008, MOE / Lao PDR: Salazar et al. 2009 / Thailand: Meteorological Department of Thailand / Vietnam: MONRE 2009, McSweeney et al. 2008, Schaefer 2002 / LMB: MRC 2010



# Climate change in the LMB Projected

- Modeling of future climate at regional and national levels show some regional ***trends***
  - Increasing variability
  - Wetter wet season
  - Less rain during dry season
  - More extreme weather events
  - Change in summer monsoon monsoon
  - SLR between 16cm by 2030 and 45cm by 2070 is expected.

change in winter



Source: MRC (2010)

# Climate change in the LMB

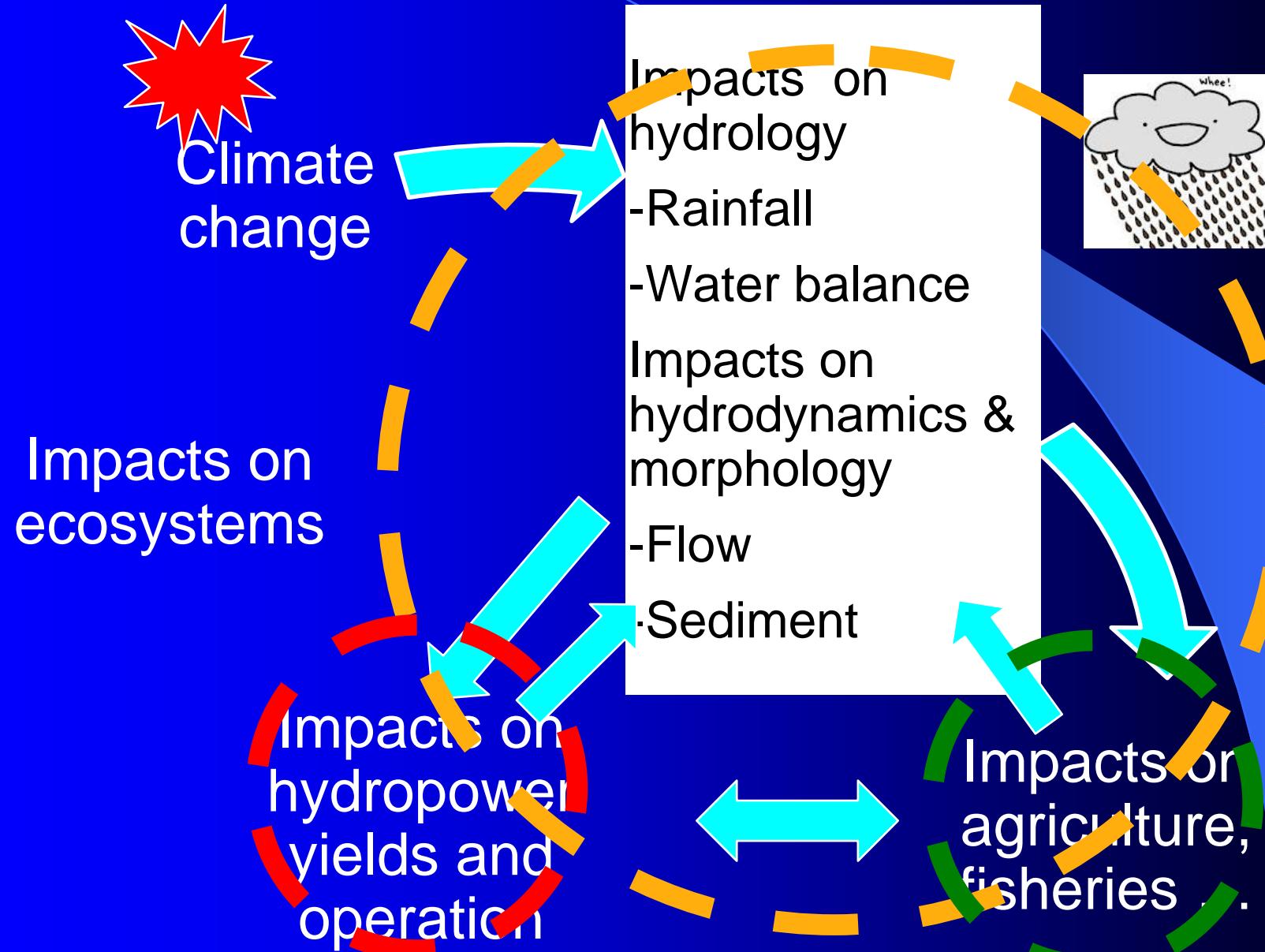
## Conclusions



Do we know for sure?

- Warmer? ➤ Yes
- How much warmer? ➤ No
- More rainfall ? ➤ Yes, with uncertainty
- Sea level rise? ➤ Yes
- Pace and spatial distribution of change ➤ No

# Implications for water, food and energy in the LMB



# Adaptation needs in the LMB



## More understanding

- The change of climate
- The impacts of climate change
- How to adapt: options, timing, cost/benefit, prioritization

## Taking actions

- Adaptation planning
- Adaptation implementation
- Monitoring and assessment of adaptation
- Revising adaptation options

# Adaptation actions in the LMB

## Types and levels



- Projects
  - Networks and Partnerships
  - Programmes and Initiatives
  - Action plans
  - Policies
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- Community
  - Village/district
  - Province/City
  - Sub-national
  - National
  - Cross-border (transboundary)

# **Adaptation actions Approaches**



# 1990s

- Assessment of climate risks
  - Adaptation actions aim to “cancel out” climate change impacts
  - Sector approach and location specific

# 2000s

- Assessment of climate risks + uncertainty
  - Theory moves faster than policy and practice
  - Still sector-based but mainstream into sector planning

# 2010s

- Assessment of climate risks + impacts with socio-economic changes
  - Mainstreaming climate change adaptation into development
  - Trans-sector and transboundary approaches started

# **Adaptation gaps and further actions in the LMB**



- Adaptation approaches are evolving, more linkage to development but trans-sector and transboundary consideration is limited.
  - CCAI/MRC is for trans-sector and transboundary adaptation of the LMB
- Insufficient information for decision making
  - CCAI/MRC is developing
    - Climate and adaptation monitoring system
    - 3-yearly status report for LMB
    - Regional Mekong climate change scenarios
    - Regional Mekong climate change adaptation action plan ...

# **Adaptation gaps and further actions in the LMB (continued)**



- Modeling of climate change and its impacts is in early stage?
  - CCAI/MRC is going to conduct an assessment and then capacity building activities on this
- Capacity to conduct adaptation planning and implementation are being enhanced but at slow speed.
  - CCAI/MRC is defining the capacity building needs and conduct capacity building plan in collaboration with other partners



*Thank you!*

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