Introduction to group discussions

1st Rhine-Mekong Symposium
“Climate change and its influence on water and related sectors”
8-9 May 2014, Koblenz, Germany

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Working groups

WG 1: Climate and hydrological change

- Trend analysis
- Observed data
- Literature review
- Water balance model
- Re-analysis data
- Climate projections
- Hazard

WG 2: Impacts

- Impact model
- Impact assessment
- Vulnerability
- Exposure

WG 3: Policy issues

- Risk assessment
- Adaptation strategy
- Pilot studies
- Mitigation
- Residual risk

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WG2: Impacts

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WG 3: Policy issues

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Working groups

iterative process
Working groups

• WG1: Climate and hydrological changes and assessment including flood and drought
• WG2: Addressing climate change impacts and assessment in water related sectors
• WG3: Transboundary and policy issues in climate change adaptation
Climate and hydrological changes and assessment including flood and drought

- What has been done so far?
- What is currently happening?
- Which starting points/ideas exist for cooperation?
WG1: Climate and hydrological changes

Climate and hydrological changes and assessment including flood and drought

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**Purpose:** reduce the geographical scope so that resolution can be improved

1. **Statistical**
   - Assumes local climate is conditioned by large-scale (global) climate but does not try to understand physical causality
   - GCM output is compared to observed information for a reference period to calculate period factors
   - Period factors are then used to adjust GCM times-series

2. **RCM (Regional Circulation Models)**
   - Most sophisticated way to downscale GCM data
   - Physically based
   - 25-50km resolution
   - Computationally intensive
   - Requires detailed understanding of regional atmospheric and ocean processes

3. **Pattern-scaling**
   - Uses high resolution observation data to scale GCM data to small areas or monitoring points
   - Suitable when there is extensive observation data
   - Cannot correct for statistical bias so should only be used to assess relative changes
Climate and hydrological changes and assessment including flood and drought

- What has been done so far?
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- How can SRES and RCP scenarios be jointly assessed?
- How should challenges of climate projections be handled?
  - Downscaling? Bias-Correction? Reliable observed data?
  - Selection of suitable ensemble members? Usage of ensemble mean projection?
  - Consideration of outliers?
- Which hydrological models are suitable? How can uncertainties of hydrological models/basin development be taken into account?
- Which indicators are meaningful and basin-wide obtainable?
WG2: Climate change impacts

Addressing climate change impacts and assessment in water related sectors

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Addressing climate change impacts and assessment in water related sectors
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– What kind of impact modelling is necessary? Do we have to wait until water balance models perform better?
– How are most relevant impacts identified?
– How are uncertainties considered?
– How to integrate the water-food-energy nexus under climate change?
– Does climate change also have positive impacts?
WG3: Climate change adaptation

Transboundary and policy issues in climate change adaptation
• What has been done so far?
• What is currently happening?
• Which starting points/ideas exist for cooperation?

Adaptation Pathway - addressing the adaptation deficit

- Response to CLIMATE CHANGE - addressing additional threat
- Response to CLIMATE VARIABILITY - addressing extreme weather events
- Response to REGULAR CLIMATE - addressing existing development challenges

ADAPTATION PATHWAY
1. Addressing the adaptation deficit
2. Reinforcing successful coping mechanisms
3. Taking new high priority adaptation action

Action at any level will build resilience to climate change
WG3: Climate change adaptation

Transboundary and policy issues in climate change adaptation
- What has been done so far?
- What is currently happening?
- Which starting points/ideas exist for cooperation?

- How is adaptive capacity assessed?
- How can effective adaptation occur despite large uncertainties?
- How are different assets “traded off” against each other?
- What are examples of successful adaptation?
- How to come to a flexible and no regret strategy?
- How can the river commissions effectively communicate their adaptation strategies to the member countries? How to mainstream adaptation into basin development?

