

# Economic benefits of transboundary cooperation assessed and facilitated by the Mekong River Commission

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# Mekong - Top 10 in terms of size and length

Physical Characteristic	Total	Upper MK	Lower MK
Length (km)	4,800	2,200	2,600
Catchment area (km <sup>2</sup> )	795,000	189,000	606,000
Flow (mcm)	493,590	83,530	410,060

Area	Flow
21%	16.5%

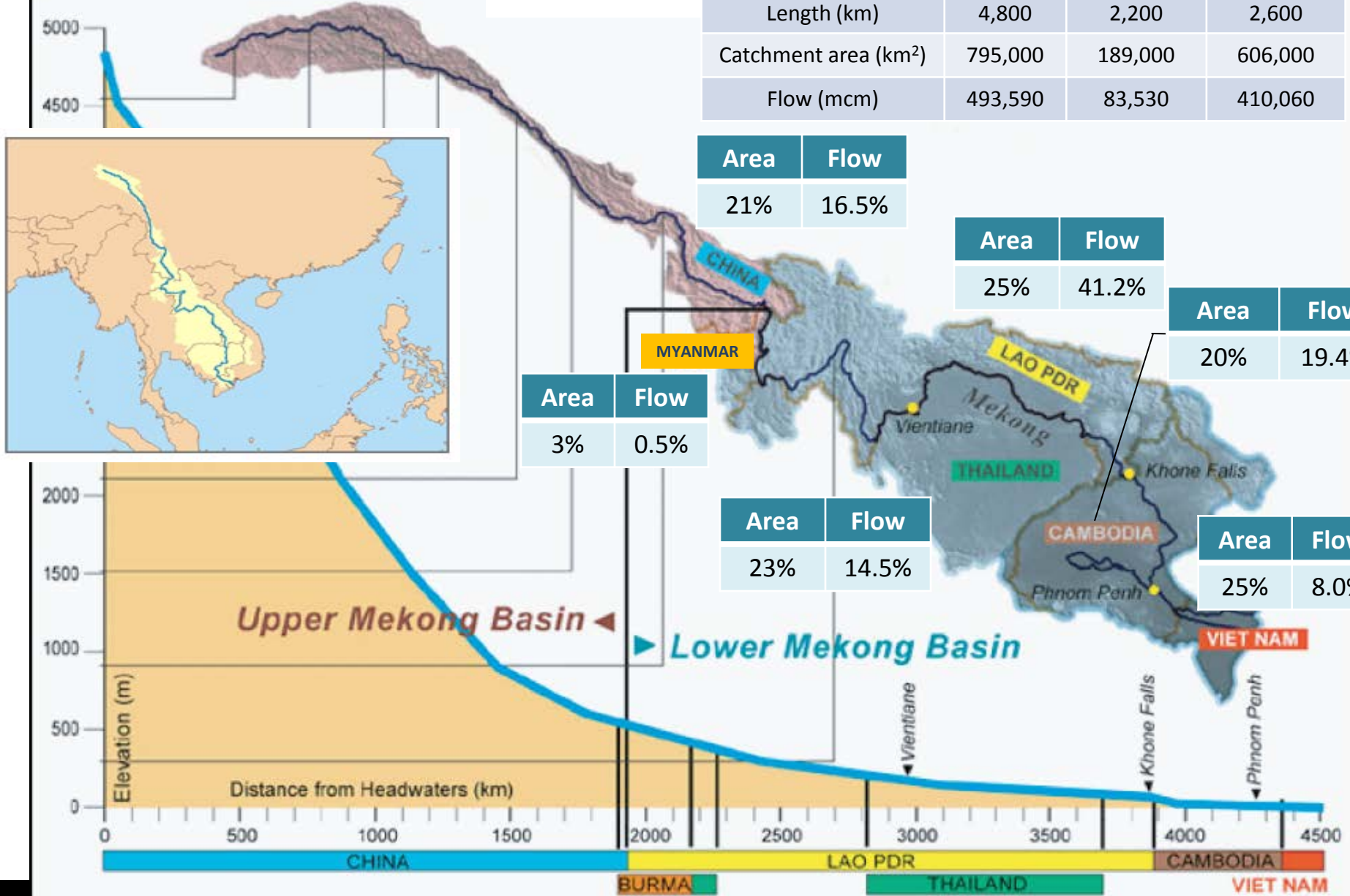
Area	Flow
25%	41.2%

Area	Flow
20%	19.4%

Area	Flow
3%	0.5%

Area	Flow
23%	14.5%

Area	Flow
25%	8.0%



Source: Presentation on flow contribution to the Mekong Mainstream (1985-2000-using DSF), The 7<sup>th</sup> Meeting of the Technical Working Group, 3-5 October 2007

## Vision of the Mekong River Basin

“An economically prosperous, socially just and environmentally sound Mekong River Basin”.

## Mission of the MRC

“To promote and coordinate sustainable management and development of water and related resources for the **countries’s mutual benefit and the people’s well-being**”.

### Mekong River Commission Governance Structure



\* *Summits of Prime Ministers every four years*

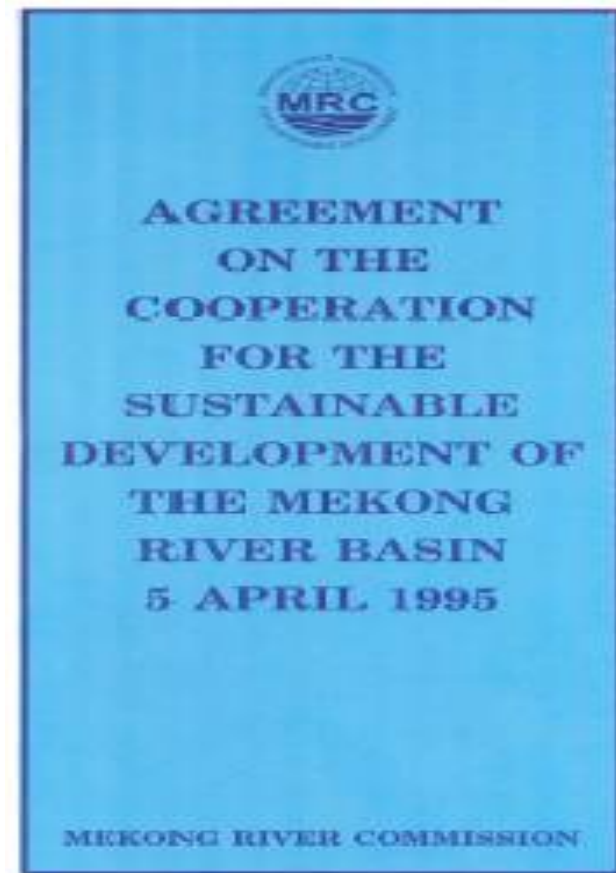
\* *Council of ministers – every year*

\* *Joint Committee of Heads of departments – twice a year*

\* *Implementation by the MRC Secretariat and government line agencies*

# Clear mandate in 1995 Agreement: *cooperation, mutual benefits, joint development*

Article 1: to cooperate in all fields of sustainable development, utilisation, management & conservation of water and related resources of Mekong..... to optimise multiple-use & mutual benefits of all riparians...



Article 2: ...with emphasis & preference on joint &/or basin-wide development through formulation of basin development plan, that would be used to identify, categorise & prioritise the projects & programmes to seek assistance for and to implement at basin level



# Basin Development Planning and implementation process



- Brings planned and potential developments into an ***integrated basin-wide assessment*** to define opportunities and risks
- Facilitates ***joint decisions*** on appropriate level(s) of water resources development that is *sustainable* and *brings mutual benefits* to riparian countries and their people
- The basin process is ***participatory*** and rolling
- Designed to ***increase cooperation*** on water development to capture regional gains and reduce adverse transboundary impacts and risks
- Reduces relevant and important knowledge gaps and capacity building needs

# First step done:

## Cumulative basin-wide scenario assessment (2008-2009)



### Key Results include:

- **Considerable scope for further basin development**
- **Redistribution of seasonal flows from the wet season to the dry season** by hydropower developments will be sufficient for all planned consumptive water demands (e.g. irrigation expansion)
- **Water quality in the mainstream may deteriorate** but is expected to remain within international standards
- **Overall incremental economic benefits** of all new and planned water resources developments would generate an added US\$ 33,386 million NPV (mostly in **hydro** but also **irrigated agriculture**, **reservoir** and **rice field fisheries** and some in **navigation**)
- **Main negative impacts** are in loss of capture fisheries (25% basin-wide), wetland area production, biodiversity, and recession rice: a total of US\$ 3,041 million
  - About half of these negative environmental impacts will occur as a result of ongoing and already committed development (the 'definite future scenario'). The 'inevitable' losses amount to US\$ 1,556 million

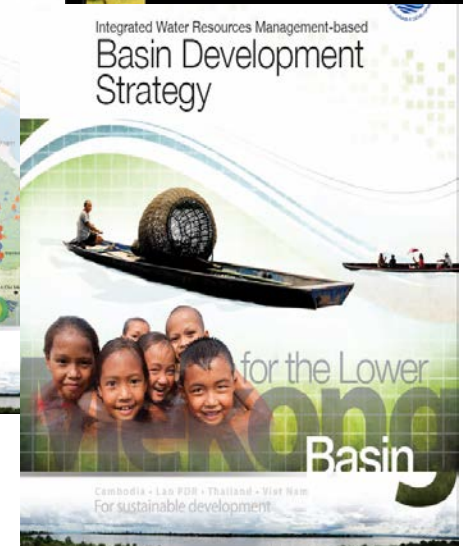
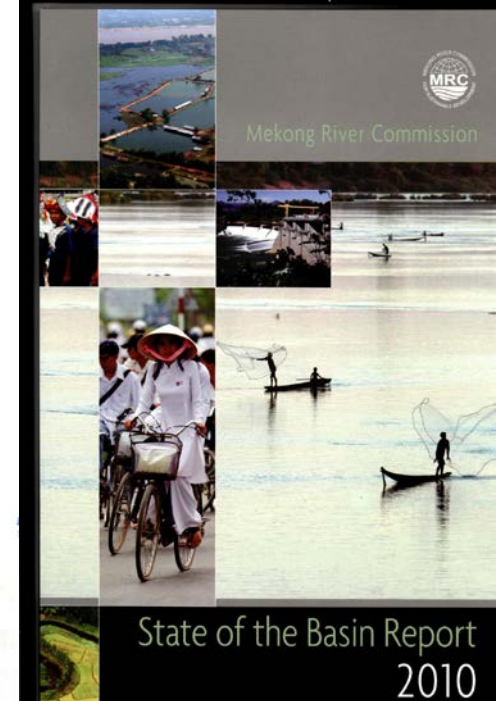
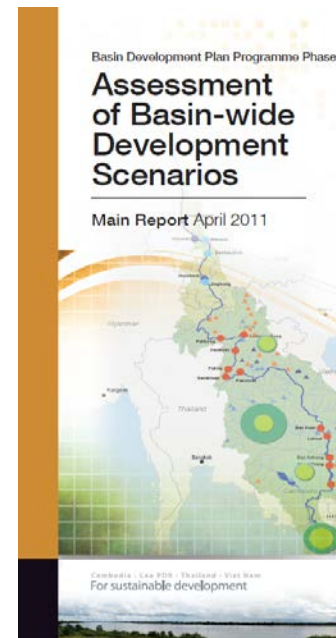


# Limitations

- Scenario assessment has been made against a baseline that represents the existing water infrastructure in the year 2000. Thus the benefits (and impacts) to different countries of the considerable water resources development in the last century have not been assessed as yet.
- The impacts are assessed against the 2008-2009 economic, social and environmental situation. For example, socio-economic situation of vulnerable people in 2030 are assumed to be those of 2008-2009
- Mitigation measures to reduce negative impacts, such as fish passages, have not been considered in the assessments.
- Autonomous and exogenous conditions are not included

# Some major achievements so far

- Established a powerful knowledge base (the best in the developing world)
- Protection of the natural dry flow regime of the mekong (for a range of benefits)
- Negotiated and adopted the **IWRM-based Basin Development Strategy** (by the Council of ministers)
  - One of the strategic priorities is to: *“seek options for sharing the potential benefits and risks of development”*
- Implementation of the resulting **Basin Action Plan 2011-2015**



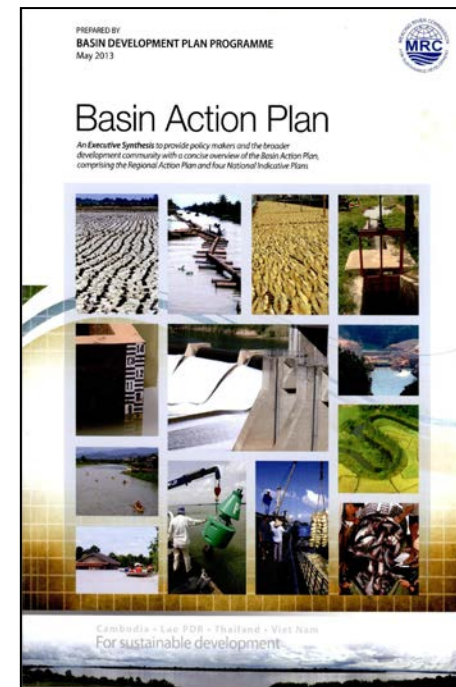


# Basin Action Plan - investments leveraged by transboundary cooperation under the Mekong River Commission



The Basin Action Plan 2011-2015 to implement the Basin development Strategy is well underway, it comprises

- *Some 110 national structural and non-structural 'projects of basin-wide significance', valued at about US\$ 900 million*
- *Regional studies and activities with a value of US\$ 100 million*
- *Some potential joint projects, yet to be established, with a value of US\$ 2 - 4 billion*



# Regional benefit sharing is integrated in MRCs five-year planning cycle

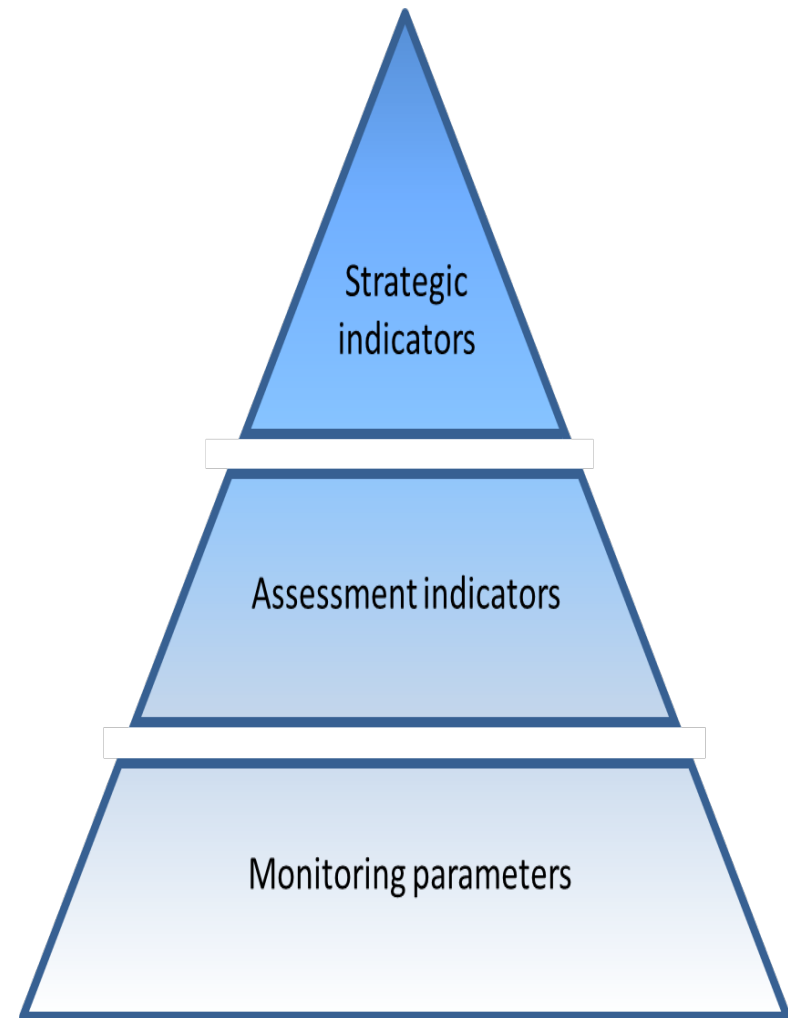
- The challenge in the next planning cycle (2016-2020) is to explore whether there are further opportunities to enhance the benefits to be gained
- A recent scoping study demonstrates that opportunities exist for:
  - ✓ increasing national benefits by coordinated national planning of national projects of basin-wide significance (expand DOS & create opportunities elsewhere)
  - ✓ reducing the regional costs of moving towards optimal development through further joint projects (2 or more countries).

# Approach to assess options for increasing regional benefit sharing

- **Exploratory long-term sector scenarios (2060)**, which will simulate the longer-term opportunities on how the full potential of the Mekong Basin can be realised, including
  - ✓ *Flood management scenarios*
  - ✓ *Environmental scenarios*
  - ✓ *Hydropower optimisation scenarios*
  - ✓ *Navigation scenarios*
  - ✓ *Irrigated agricultural scenarios*
- Based on the insights gained, the potential for adapting current national development plans will be investigated through the formulation and assessment of **alternative scenarios for medium-term plans (2030)** aimed at increasing regional and national benefits and reducing adverse transboundary impacts and risks

# Assessment methodology

- Each scenario is being assessed against the agreed MRC Indicator Framework
- The assessment considers **the total national benefits and costs** accruing to each country under current and future plans, as well as **the transboundary benefits and costs** (a sub-set of total benefits and costs) arising (by default) **from:**
  - **national projects of basin-wide significance and**
  - **joint projects**



# MRC Indicator Framework



The five dimensions of the MRC Indicator Framework have led to 15 strategic indicators and **65 assessment indicators**

- Social dimension**      *... social development and the well-being of all riparian States*
  
- Environment dimension**      *... to protect, preserve, enhance and manage the environmental and aquatic conditions and maintenance of the ecological balance exceptional to this river basin*
  
- Economic dimension**      *... to promote economic development and the well-being of all riparian States*
  
- Climate change dimension**      *Recognizing that this has great bearing on the long term sustainable development, utilization, conservation and management of the Mekong River Basin water and related resources for navigational and non-navigational purposes*
  
- Cooperation dimension**      *Reflecting the extent to which the Member Countries are effectively cooperating to mutual advantage*



# Economic assessment indicators include:



<b>Economic performance of MRC sectors</b>	<ul style="list-style-type: none"><li>▫ Net economic value of irrigated agriculture</li><li>▫ Net economic value of savings from hydropower generation for domestic consumption</li><li>▫ Net economic value from hydropower generation for export</li><li>▫ Net economic value of savings from hydropower imported</li><li>▫ Net economic value of mainstream navigation</li><li>▫ Net economic value of flood damage</li><li>▫ Net economic value of capture fisheries</li><li>▫ Net economic value of reservoir fisheries</li><li>▫ Net economic value of aquaculture</li><li>▫ Net economic value of Tonle Sap forests</li><li>▫ Net economic value of losses in areas affected by salinity intrusion</li><li>▫ River bank erosion: Net economic value</li><li>▫ Net economic value of wetlands and key habitat and conservation areas</li></ul>
<b>Contribution to national economy</b>	<ul style="list-style-type: none"><li>▫ Proportion of MRC sectors economic value to overall GDP</li><li>▫ Food security: Percent of national food grain demand met from basin resources</li><li>▫ Food security: Percent of national protein demand met from basin resources</li><li>▫ Energy security: Percent national demand met from HEP (in-country and imported from within basin)</li></ul>
<b>Total econ. benefits</b>	<ul style="list-style-type: none"><li>▫ Aggregate economic benefits from above</li></ul>

# Anticipated results of the new scenario assessments



- Common understanding of what transboundary impacts and risks may be considered acceptable (“lines in the sand” which will help shape the “development opportunity space” outlined in the updated Basin Development Strategy)
- A range of proposed projects of basin-wide significance
- The identification of the first truly joint investment projects
- The identification of nationally planned controversial projects (high adverse transboundary impacts and/or high uncertainty)
- ‘Deals’ between countries based on negotiations of benefits and trade-offs

# Implementation arrangements

**Responsibilities have been distributed among:**

- MRC and its Programmes
- National line agencies and RBOs
- Multi-disciplinary assessment team
- Regional Technical Working Group
- National working groups and consultations
- Regional forum of broader stakeholders
- High level briefings and guidance from MRCs governing bodies

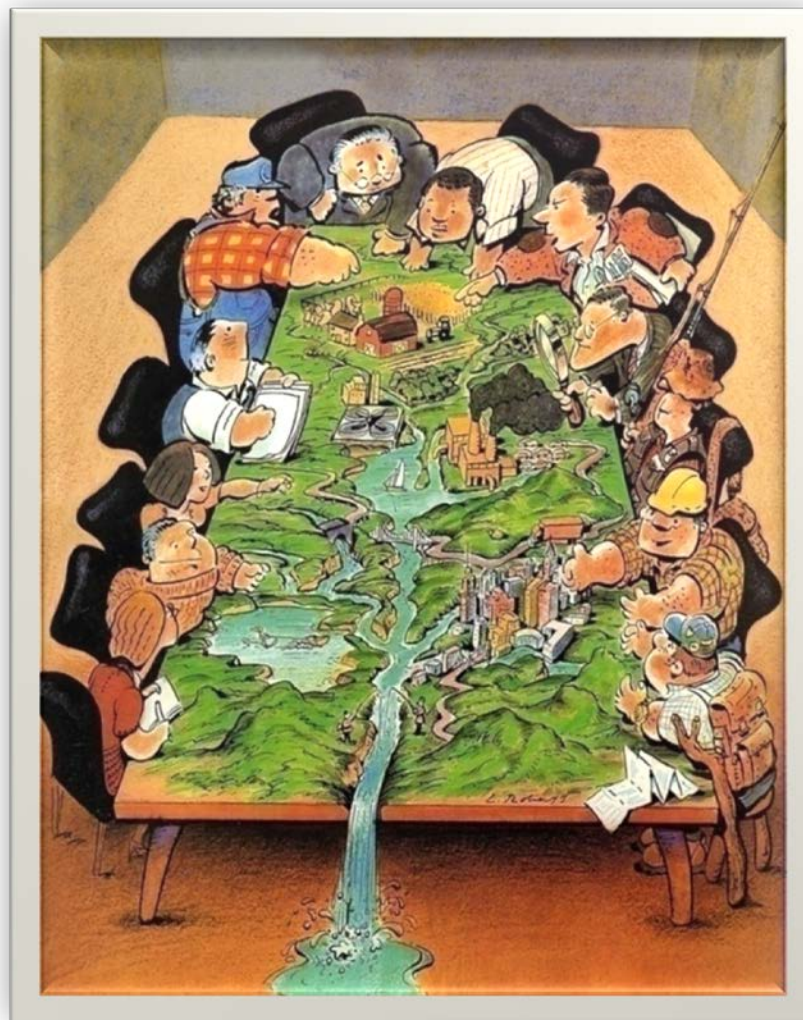


# In conclusion ...



- ❑ The MRC basin planning process is already leveraging considerable investments (about US\$ 1 billion) for Mekong Basin development and management
- ❑ The benefits of transboundary cooperation will be further increased by the recently initiated scenario-based process for the **identification of new opportunities to accelerate and optimise development** through increased cooperation and benefit sharing
- ❑ Important mechanisms for regional benefit sharing are **national projects of basin-wide significance** and **joint projects**, which will lead to further adaptation of national plans to increase national benefits and reduce adverse transboundary impacts and risks

**Thank you**





# Additional information



# Continuum of cooperation

- Joint monitoring
- Communication and notification
- Information sharing
- Regional assessments
- Joint preparation of basin plans
- Adapt national plans to capture regional gains and mitigate regional costs
- Identify, negotiate and implement national investments that capture cooperative gains
- Joint institutions
- Joint project assessment and design
- Joint investment
- Joint ownership of assets



*Case study examples*

# Scenario Assessment approach



Scoping and formulation

Based on **the concept of IWRM** that holds the promise of reconciling goals of economic efficiency, social equity, and environmental sustainability

Collection of input data

Build new databases and used **transparent data sets, proven models and impact analytical tools** and a **multi-disciplinary expert team**

Modelling of hydrological changes

**Stakeholder participation has been carried out along the whole process** at sub-area, national and regional levels

Assessment of transboundary environmental, social and economic impacts

The scenarios were assessed on **hydrological changes** and results fed into the assessment of the **transboundary economic, social and environmental impacts**

The results were discussed at national level and broader stakeholder

Evaluation and discussion of preferred scenarios

Scenarios that are beneficial to all LMB countries and sustainable from a basin perspective, were considered as **preferred scenarios**