

*The MRC Regional Stakeholder Forum*

*14<sup>th</sup> – 15<sup>th</sup> December 2017*

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# The Study on Sustainable Management and Development of the Mekong River, including Impacts by Mainstream Hydropower Projects- The Council Study



# Outlines of Presentation

1. Background
2. The Integrated Impact Assessment Approach
3. Key Progress and Achievements
4. Main Outcomes
5. Road Map for the Completion of the Project
6. Key Lesson Learned
7. Conclusions



# 1. Background

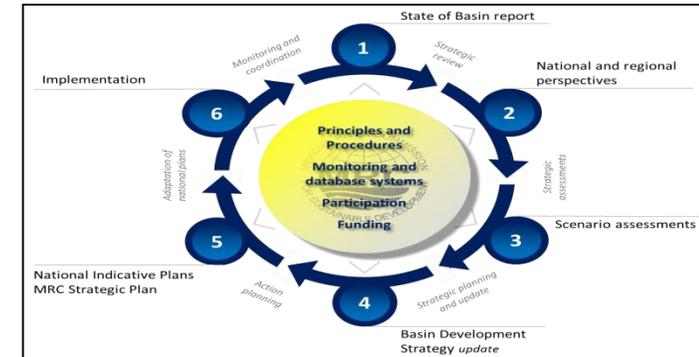
- ❖ Initiated by Member countries' Prime Ministers at the 3rd Mekong-Japan Summit, Nov 2011
- ❖ 18th Council Meeting agreed to implement this study, Dec 2011

## Key Objectives:

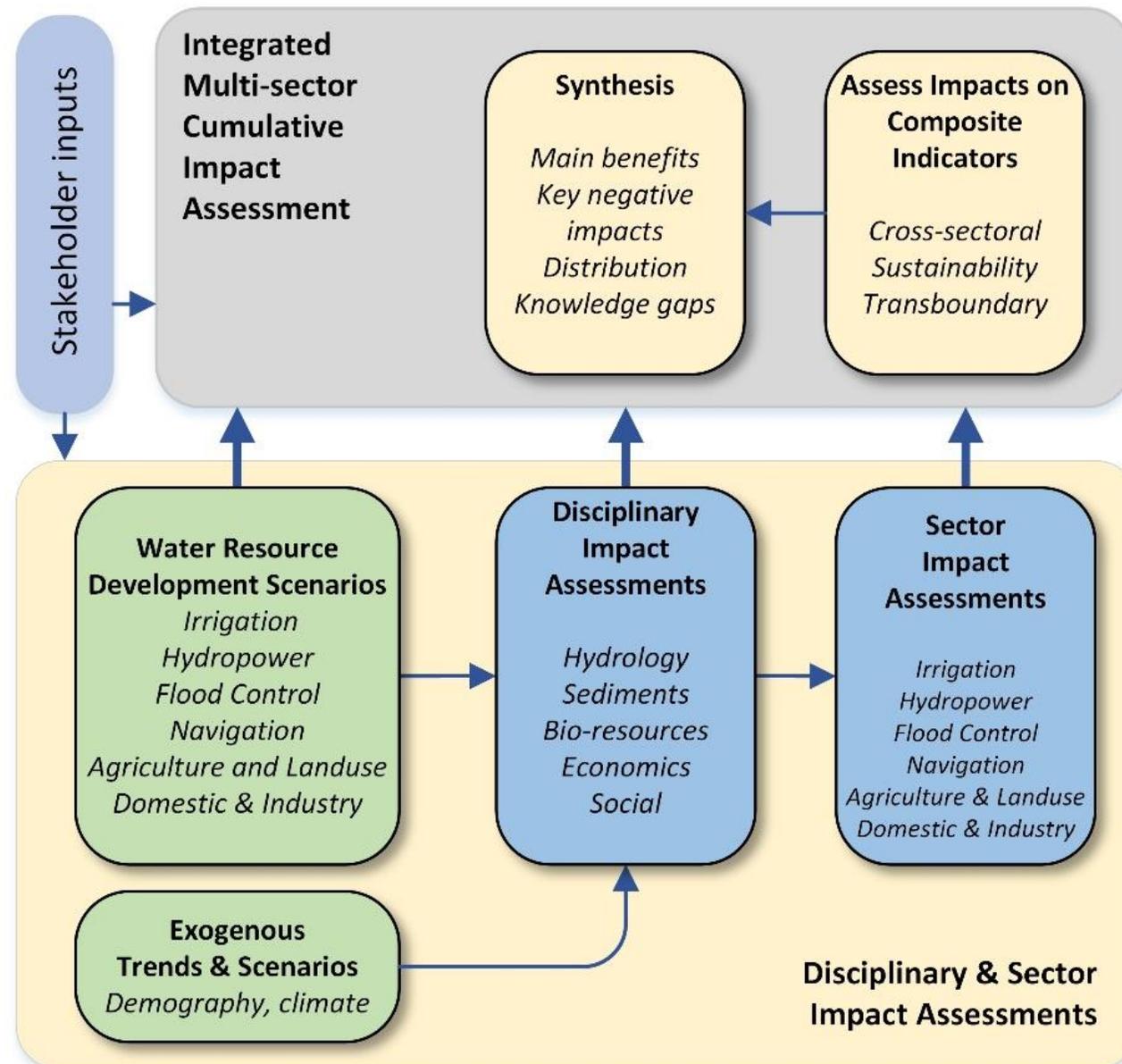
- ❖ Further develop/establish a reliable scientific evidence of positive and negative environmental, social, and economic impacts of water resources development
- ❖ Integrate results into the MRC knowledge base to enhance the BDP process
- ❖ Promote capacity and ensure technology transfer to Member Countries

## Key Deliverables:

- ❖ 6 thematic report + 5 Discipline reports and 1 cumulative Impact assessment
- ❖ Seminal achievement for guiding Mekong sustainable development in the future

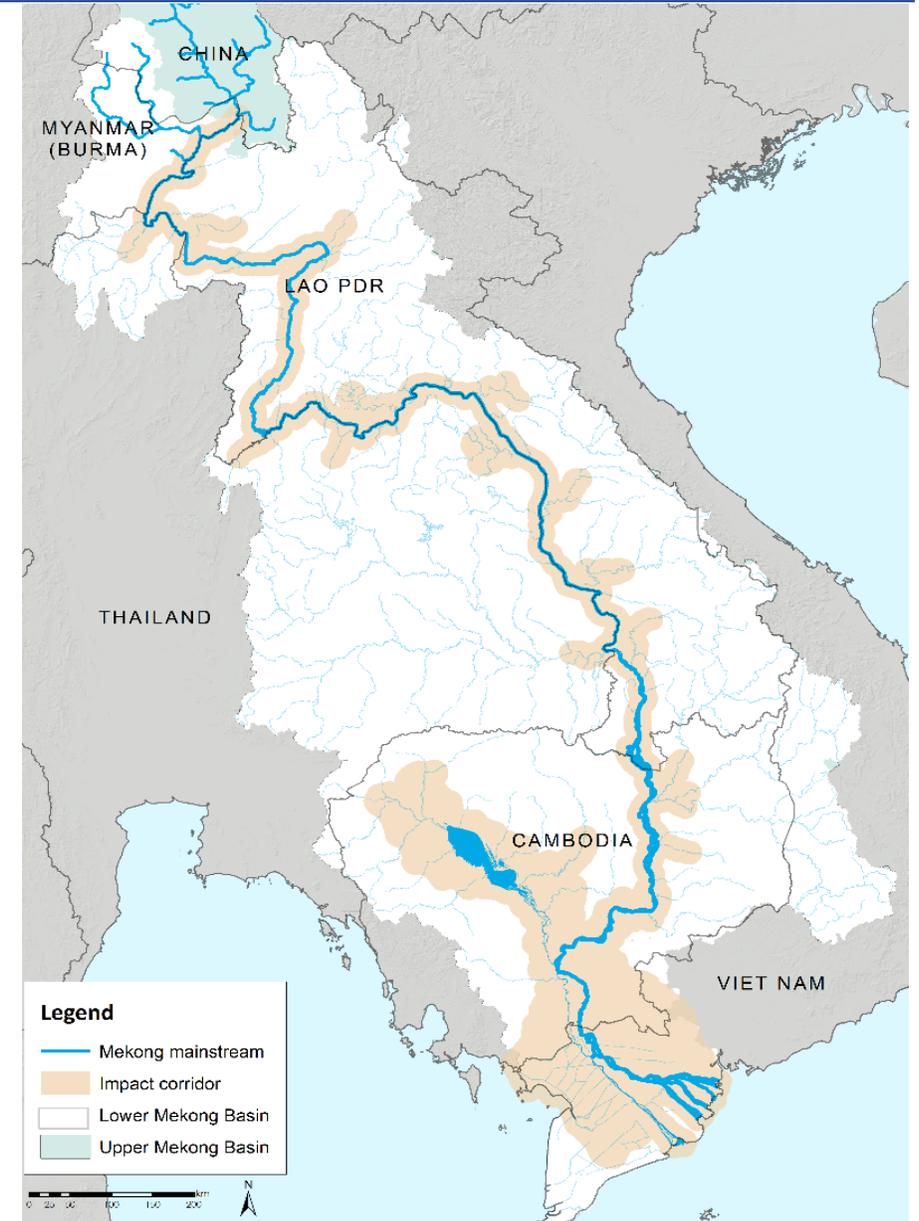


## 2. The Integrated Impact Assessment Approach



# Data Requirement and Scope of Assessment

- ❖ Data and information used for Council study
  - ❑ Types of data: All types of spatial, non-spatial and time series data
  - ❑ Period requirement: 1985-2008
  - ❑ Plan development Level: 2007, 2020 and 2040
- ❖ Scope of Impact Assessment
  - ❑ Cumulative Impact Assessment (+/- CC)
  - ❑ Main development scenarios (2007, 2020 and 2040) for all Sectors
  - ❑ 2040 Sub-development scenarios
    - Agriculture & Land use: 2 Scen.
    - Irrigation: 2 Scen
    - Flood protection: 3 Scen.
    - Hydropower: 3 Scen.
    - Climate change: 2 Scen.
  - ❑ Coastal impact assessment



# 3. Key Progress and Achievements

## Phase 1

- Phase 1 completed by Oct 2016
- Budget expenditure in Phase 1 ~ USD 3.6 M
- Finalized inception report and data preparation

## Phase 2

- 6 thematic sectors, 5 disciplines and 1 Cumulative teams as **CS core team**.
- 4 main and 12 Sub-development scenarios
- 260 assessment indicators for thematic and discipline assessment

## Man-power of project in 2017

- 8.72 person-year spent
- 1.8 person-year spent- internal staff
- 6.9 person-year spent- external experts

## Budget expenditure in 2017

- Total expenditure as of Nov 2017 USD 957,352.1
- International experts: USD 642,268.49
- International Experts: USD 439,369.90
- Regional Experts: USD 158,448.91
- National Experts: USD 44,449.68
- National meeting: USD 83,233.87
- Regional meeting: USD 136,930.09

**Main Development Partners:** USAID, SDC, GIZ, DFAT, Luxemburg

## Final database management system and storage

- Overall CS database size- 1.2 TB
- Total data files: 1,250,000 files
- Total data folders: 3,900 folders

## Assessment tools:

- DSF, WUP-Fin, eWater Source
- DRIFT, SEA, MEA and CIA

## Reports & Document: > 3,600 pages

- Bio-resources Assessment
- Climate Change
- Cumulative Impact assessment
- Domestic and Industrial water use
- Flood Protection
- Hydropower
- Agriculture and Land use
- Irrigation
- Macroeconomic Assessment
- Hydrologic Assessment
- Navigation
- Socioeconomic Assessment

# Progress on the Completion of the study

- Pre-Final Draft of the Council Study Reports for thematic and disciplines and completed all planned deliverables
- Key finding and recommendation for high level leader and Technical levels.
- All final documents are being reviewed by all member countries before finalization.

# List of Product Deliverables

Sector/Discipline	Reports
Project Reference document and work plan	Concept Note
	Terms of Reference
	Inception Report
	Phase 2 Implementation Plan
Irrigation	A Thematic Report on the Impacts and Benefits of Irrigation Development in the Lower Mekong River Basin Including Recommendations for Impact Avoidance and Mitigation Measures.
	Working Paper on Development Scenarios
Agriculture and Land-use Change	A comprehensive land-use/land cover map for the council study
	Working Paper on Development Scenarios
	A Thematic Report on Impacts of Non-irrigated Agriculture Development and General Trends in Major Land-Use Categories in the Lower Mekong River Basin Including Recommendations for Impact Avoidance and Mitigation Measures.
Domestic and Industrial Water Use	Working Paper on Development Scenarios
	A Thematic Report on Impacts and Benefits of Domestic and Industrial Water Use in the Lower Mekong River Basin including Recommendations for Impact Avoidance and Mitigation Measures.
Flood protection and flood plain infrastructure	Working Paper on Development Scenarios
	A Thematic Report on Impacts and Benefits of Flood Protection Structures and Floodplain Infrastructure and Impact of other Developments on Flood Risk Including Recommendations for Impact Avoidance and Mitigation Measures.
Hydropower	Working Paper on Development Scenarios
	A Thematic Report on Impacts and Benefits of Hydropower Development in the Lower Mekong River Basin Including Recommendations for Impact Avoidance and Mitigation Measures.
Navigation	Working Paper on Development Scenarios
	A Thematic Report on the Impacts and Benefits of Navigation Infrastructure Development in the Lower Mekong River Basin Including Recommendations for Impact Avoidance and Mitigation Measures.

# List of Product Deliverables

Sector/Discipline	Reports
Hydrology, Sediment and Nutrient	A disciplinary technical report on hydrological modelling.
	A disciplinary technical report on sediment transport.
	A disciplinary technical report on Nutrient transport.
Modelling technical report	Report on modeling status
	ISIS in LMB
	ISIS in Upper mekong
	Analysis of Measured Sediment and Nutrient Loads in the Mekong Basin
	Report_SWATBaseline2007
	Report_SWATBaseline2007_Sediment and Nutrient
	Report_IQQMBaseline
	Report_eWater Source Model Baseline
	Report WUP-FIN Baseline301016
	Report on Modeling result for main development scenario (M1, M2 and M3)
Report on modeling results for sub-development scenarios including 1960 and 2000	
Coastal assessment	A coastal assessment report
Climate change	A Climate Change Assessment report
Biological Resources	Technical report outlining changes in selected ecological and environmental parameters
	Summary of Environmental impact assessment for thematic sectors reports
BioRA Specialist reports	Council Study_BioRA Interim Technical Report 1 _VOLUME 1_Specialists' Report
	Council Study_BioRA Interim Technical Report 1_VOLUME 3_Preliminary Calibration
	Council Study_BioRA Interim Technical Report 2_Guide to the BioRA DSS
	Council Study_BioRA scenarios assessment Report Volume 4

# List of Product Deliverables

Sector/Discipline	Reports
Social	Working paper on social assessment method and approach
	A report documenting the social assessment including socio-economic or livelihood analyses
Economic	Working paper on Economic assessment method and approach
	A report documenting the economic assessment including a resource economics and macro-economic perspectives.
CIA Design & methods & Final Combine Report	A report summarizes main features of the Assessment Design and Methods
	A final CS integrated report for all thematic and disciplines
Council study Key messages	High Level key message for prime minister
	Public key messages

# Technical Achievements

- Utilize of all **available** data and information and also be able to implement **data gaps filling** → Model setup and calibration
- Fully **integrated assessment** framework: from bio-geo-physical characteristics of the Mekong Basin up to the **policy level**
- Large economic, social and environmental values are involved → **evidence based and quantitative**
- Based on **MRC knowledge base** and integrated modelling



## 4. Main Outcomes

- Fulfilled the **mandate** of MRC to implement the initiative of four **MRC government leaders** on water resources development in LMB
- Assessment of **costs** and **benefits** of water resources development **plans** in Mekong Basin
- **Recommendations** and **key messages** to the Member Countries
- Strengthen **Capacity** of MRC on i) complex **integrated** impact assessment and ii) Information and Knowledge Management Processes
- **Integrated** Impact Assessment Approach and methodology



# 5. Road Map for the Completion of the Project

- 10<sup>th</sup> RTWG meeting held on 07-08 Dec 2017 → Comments on thematic, discipline and CIA reports.
- Submission of official final comments from MCs no later than 15 Dec 2017.
- 2<sup>nd</sup> Regional stakeholder forum on 14-15 Dec 2017, Vientiane → final comments from public stakeholder on CS results and reports.
- Uptake the comments and improve the reports → Final version should be ready by 29 Dec 2017.
- Exit and clearance of the project.



## 6. Key Lesson Learned

- Effective **Coordination and Management** and **better planning** are the key **successes** of the project
- **High commitment** from **MRCs senior management** and **effective coordination** with **MCs** are very **important** and the **key success** of the project.
- Building a **solid team work** with strong **team spirit** are significant to the success of **all hard works** and **challenges** in such short time frame.
- Established the **Integrated** Impact assessment tools is very **challenging**, however, it is very **powerful** for scientific-based **complex impact assessment** in such diversities of river system as **Mekong**.
- **Well-prepared** in the early starting of project is very **critical** and **significant** for **cost effective** and **high quality** of the ending product.
- **Quality** and **availability** of data and information for **assessment** are the most important for such study. To address **limitation** of data for future study, MRC **short** and **long term** data **collection** and **generation strategies** should be developed to cope with **future** requirements- **any strategic studies**



# 7. Conclusions

- Project will be completed **on time** as agreed schedule and **achieved** milestones with **all expected deliverables**
- All **cost** and **benefit** of the planned development have been assessed based on **evident** and **scientific** based approach.
- Key messages for Higher level **leaders** and **technical** messages were prepared.
- Identified **Few Initiatives** on future **uptake** after completion of this study.



# Thank you

