The Story of Mekong Cooperation

1. The Story of Mekong Cooperation
2. Vision and Mission
3. Outline of the MRC
4. MRC Strategic Plan 2016-2020
5. Management of the Mekong River Basin
6. Issues and Challenges of Management of the Mekong River Basin
7. Recommendations for Sustainable Management of the MRB
8. Cooperation with Development Partners, Dialogue Partners, and other River Basin Organizations and Regional Organizations
9. Expectations for further Cooperation with Japan

62+ Years of Mekong River Cooperation

- MRC builds on long history of Mekong river cooperation dating back to 1957 – the Mekong Committee, with extensive knowledge base in terms of monitoring data, studies, basin plans, etc. (62+ yrs.)
- The 1995 Mekong Agreement (MA) gives the MRC a strong legal foundation – the only one as a treaty based organization
- MRC has four members (Cambodia, Lao PDR, Thailand and Viet Nam) and two dialogue partners (China and Myanmar)
- The MA provides the MRC with a mandate: to promote and coordinate sustainable development and management of water and related resources of the Mekong River Basin
- This mandate has been reaffirmed at the highest levels (3 Summits of prime ministers) with increasing financial contribution from countries year by year (50% by 2021, 75% by 2025, 100% 2030)
- The mandate is also operationalized through successful implementation of the MA for the past 24 years
VISION AND MISSION

VISION for the Mekong River Basin
- An economically prosperous, socially just and environmentally sound Mekong River Basin

VISION for the Mekong River Commission
- A world class, financially secure, International River Basin Organization serving the Mekong countries to achieve the basin Vision

MISSION of the Mekong River Commission
- To promote and coordinate sustainable management and development of water and related resources for the countries' mutual benefit and the people's well-being

OUTLINE OF THE MRC

MRC GOVERNANCE STRUCTURE
MRC SECRETARIAT STRUCTURE

Office of CEO

- Strategic & annual work planning
- Organizational reform & initiatives
- Organizational Monitoring & Evaluation
- Partnerships & Fund mobilization
- Communications and outreach
- Support stakeholder engagement
- Support Governance meetings

MRC PROCEDEURES

Analysis, modelling and assessment
- Water & climate monitoring, incl. sediment
- Databases & Information System
- Modeling & Tools
- Flood & Drought Forecasting & early warning
- Navigation support

FIVE MRC CORE RIVER BASIN MANAGE FUNCTIONS

- Data acquisition, exchange and monitoring
- Dialogue and cooperation
- Basin Planning
- Forecasting, warning, and emergency
- MRC Procedures

MRC STRATEGIC PLAN 2016-2020

MRC’s water & related sectors

- Fisheries
- Navigation
- Hydropower
- Agriculture & Irrigation
- Drought
- Flood
- Environment
The plan has been developed based on:
- The updated IWRM-based Mekong Basin Development Strategy 2016-2020;
- MRC’s organizational reform agenda; and

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<thead>
<tr>
<th>STRATEGIC PLAN 2016-2020 OBJECTIVES (1)</th>
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<tr>
<td><strong>Key Result Areas</strong></td>
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<tr>
<td><strong>Key Result Area 1:</strong> Enhancement of national plans, projects and resources based on basin-wide perspectives</td>
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<td><strong>Outcome 2:</strong> Environment management and sustainable water resources development optimized for basin-wide benefits by national sector planning agencies</td>
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<tr>
<th>STRATEGIC PLAN 2016-2020 OBJECTIVES (2)</th>
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<tr>
<td><strong>Key Result Areas</strong></td>
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<td><strong>Key Result Area 2:</strong> Strengthening regional cooperation</td>
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<td><strong>Outcome 5:</strong> Effective dialogue and cooperation between Member Countries and strategic engagement of regional partners and stakeholders on transboundary water management</td>
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<th>STRATEGIC PLAN 2016-2020 OBJECTIVES (3)</th>
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<tr>
<td><strong>Key Result Areas</strong></td>
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<td><strong>Key Result Area 3:</strong> Better monitoring and communication of the Basin conditions</td>
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<td><strong>Key Result Area 4:</strong> Leaner River Basin Organization</td>
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Management of the Mekong River Basin

The Mekong River Basin

- The Mekong River rises in the Himalayas in PR China at an elevation of about 5,000 m, where it is known as the Lancang River.
- It is the world's 12th longest river, flowing for almost 4,763 km through Myanmar, Lao PDR, Thailand and Cambodia into the East Sea (referred to also as the South China Sea) in Viet Nam.
- It has the world's 8th largest flow, with a mean annual discharge of approximately 446 km³, and its basin is the world's 21st largest by area, draining 810,000 km².
- The Mekong River is closely linked with the culture and development of the countries through which it flows.
- For millennia, the river's abundant resources have nurtured a unique and rich ecosystem as well as sustained the livelihoods of those living in the basin.

The 1995 Mekong Agreement and its Procedures

1. The 1995 Mekong Agreement: the Agreement for the Cooperation on the Sustainable Development of the Mekong Basin, signed in April 1995.; and
2. Its Five Sets of Rules or Procedures for water utilization:
   - Procedures for Data and Information Exchange and Sharing: aim to operationalise data and information exchange among the MRC Member Countries. Technical Guidelines (TGs)
   - Procedures for Water Use Monitoring: aim to provide a comprehensive and adaptive framework and process to support effective monitoring of intra-Basin water use and diversion. TGs
   - Procedures for Notification, Prior Consultation and Agreement: aim to provide steps for the MRC Member Countries to support the establishment of the Rules for Water Utilisation and Inter-Basin Diversions. TGs
   - Procedures for the Maintenance of Flows on the Mainstream: Aim to maintain minimum monthly flows in the Mekong mainstream by the 4 MCs. TGs.; and
   - Procedures for Water Quality: are designed to establish a cooperative framework for the maintenance of acceptable/good water quality to promote sustainable development in the Mekong River Basin. TGs

Key Relevant Strategies and Guidelines

3. Guidelines for Transboundary Environmental Impact Assessment, final version
4. Drought Management Strategy, final version to 49th JC Meeting;
5. Flood Management Strategy, being finalized;
6. Strategy for Basin-wide Environmental Management for Regional Important Environmental Assets, being prepared;
7. Sustainable Hydropower Development Strategy, being updated; &
8. The Preliminary Design Guidance for Mainstream Hydropower Projects, being updated.
Five MRC’s Water and Environmental Monitoring Programmes

- **Hydrology** (since 1900)
  - HYCOS (2008-Date)
  - 58 stations
- **Discharge & Sediment**
  - DSMP 2009 – Date
  - 17 sites
- **Water Quality**
  - WQN 1993 - Date
  - 22 sites
- **Aquatic Ecology**
  - EHM 2003 - Date
  - 41 sites
- **Fisheries**
  - FADM + others 1994 – Date
  - 38 sites

Mekong-HYCOS network (15 minutes)

- The Hydromet system established in 2005 and updated to HYCOS telemetry system in 2008
- **58** telemetry stations: 17 on the mainstream, 30 on tributaries, 2 tidal stations in the Mekong Delta
- Parameters: rainfall and water level
- Drought management project supported by Japanese Govt. over the past 10 years added some more stations for DMF

Mekong-HYCOS network (15-min)

http://monitoring.mrcmekong.org/

Joint Environment Monitoring Programme - **started in 2016**

- Basin
- Country
- Dam Projects
- Maximise benefits, e.g. more effective data sharing
- Minimise risks, misinformation

Joint Environmental Monitoring – standard/complementary methods
**MRC Contribution to the achievement of SDGs**

- **Alignment** of MRC IF Assessment Indicators with Goals/Targets identifying both primary and secondary linkages.

- **Primary linkages** are to:
  - **SDG 6**: Clean water and sanitation
  - **SDG 2**: Zero hunger
  - **SDG 7**: Affordable and clean energy
  - **SDG 13**: Climate action
  - **SDG 14**: Life below water
  - **SDG 15**: Life on land

**Issues and Challenges: Environment**

- **Mainstream flows**:
  - Increase in dry season minimum flows; and
  - Flood season flows in both the upper and lower reaches of the LMB appear to be declining.

- **Water quality and sediments**:
  - Total Phosphorous frequently exceeds threshold; and
  - With watch points for pesticide and fertiliser use; and
  - Suspended sediment concentrations have declined considerably; erosion increase

- **Environmental assets**:
  - Wetland decline remains a concern; and
  - Channel and riparian habitat has declined; and
  - Signs of over-fishing with CPUE declining and fish size getting smaller; and
  - Forested area has improved, although questions remain about biodiversity values given the use of plantation forests; and
  - Area affected by salinity increased; Salinity intrusion in the Mekong Delta.

**Issues and Challenges: Organization**

- A mismatch between ambition in MRC SP 2016-2020 and resources
- Concerns by external stakeholders on the limited influence of MRC
- MRC products are not yet integrated into national systems
- Recognition of the implicit influence that MRC has had due to its existence and the evolution of basin-wide thinking over the years
- Differing perspectives on what is meant by approval of MRC products and specific concerns that are seen as supra-national or quasi-regulatory instruments
- Communications and dissemination of material continues to improve
- Recognition of different capacities among Member Countries
- Data and knowledge gap remains
Key Recommendations for Sustainable Management of the Mekong River Basin

Key Recommendations (1)

- **Sustainable water resources development in the LMB** will not be achieved by a singular reliance on unilateral investment decisions of the Member Countries.
- The *transboundary connectivity*, mutual dependencies, shared resources, opportunities of scale and cooperation necessities require a set of supra-national development and planning policies to advance sustainable and beneficial projects.
- The **management of trade-offs between hydropower and fisheries** is more efficiently achieved by cross-sector benefit sharing than by the compensation of losses between countries.
- Member Country consideration of **emerging energy technologies** that are competitive with hydropower.

Key Recommendations (2)

- Continue and enhance monitoring of **flow conditions and water quality**.
- Develop and implement an MRC **Data Acquisition and Generation Action Plan**.
- Address the problem of **reduced sediment concentrations**.
- Address the need to **take urgent action to preserve and protect** remaining environmental assets, including fish and forests.
- Adopt a **more proactive approach** to basin planning and the management of trade-offs between sectors and countries.

**COOPERATION WITH DEVELOPMENT PARTNERS**
MRC DEVELOPMENT PARTNERS

MRC Strategic Plan 2016-2020
by May 2019
- Australia*
- Belgium
- European Union*
- France
- Germany*
- Japan

$ Reduced funds by at least 50% compared SP 2011-2015
* Basket Fund contributors

DP Troika
Germany – chair
France – past chair
Australia – next chair

The JICA – MRC Joint Project

Japan International Cooperation Agency (JICA) and MRC co-initiated the new project on “the Study on Data Collection Survey on the Basin Management and Environmental Conservation in Mekong River Basin” since March 2018. The Project will be successfully completed by August 2019.

COOPERATION WITH CHINA

- The 2nd Riparian CEO, upon assuming his office, has met with the permanent representative of China to ESCAP and Chinese focal point for MRC in February 2019 on ongoing MRC-China cooperation.
- The CEO will visit Beijing officially in July 2019 to meet senior Chinese officials and follow up on the above
- China has nominated a JRP from the Lancang Mekong Water Res. Cooperation Center to work with MRCs.

Joint Research on extreme events. The draft report of the joint research on the hydrological impacts of Lancang dam cascade on extreme floods and droughts, a collaboration between MRC, China and IWMI, has been prepared, and consultation took place on 14 June 2019 at the MRC RFDMC.


COOPERATION WITH DIALOGUE PARTNERS

CHINA AND MYANMAR
COOPERATION WITH MYANMAR

• Myanmar (Ministry of Natural Resources and Environment Conservation) had reviewed and provided comments on the State of Basin Report – Upper Mekong (Myanmar) chapter through official letter on 15 March 2019.

• Myanmar has nominated a young professional to be the JRP from Myanmar.

COOPERATION WITH OTHER RIVER BASIN ORGANIZATIONS AND REGIONAL ORGANIZATIONS

Mississippi River Commission (MiRC) and US Army Corps of Engineers (USACE) will be inviting MRC for the “Lower Water Inspection” on 12-16 August 2019. In addition, the USACE is supporting the MRC in terms of further understanding the Council Study results through shared vision planning and dam safety forum.

Murray Darling Basin Authority (MDBA). Australia (DFAT) and MDBA renewed their existing MOU for another five years during the Australia-Mekong Renewable Energy Dialogue hosted by Australian DFAT in early June 2019.
COOPERATION WITH OTHERS

NGOs/CSOs

- MRC and the IUCN held a joint workshop on the results of the IUCN/ICEM/IWMI Nexus assessment of the Sekong, Sesan, and Strepek (3S) sub-basins in Cambodia, Lao PDR, and Vietnam in March 2019 at the MRCS.

- The MRCS CEO and management team met with the Save the Mekong Coalition (SMC) on 20 March 2019 to share information on the progress of key MRC works of their interest, to re-emphasize the role and mandate of MRC, to increase their understanding about the importance and value of continuing constructive engagement, and to demonstrate that MRC procedures and activities result in positive contributions.

EXPECTATIONS FOR FURTHER COOPERATION WITH JAPAN

- **New and practical technology** on sustainable watershed and forest management in the LMB.

- **Revision and dissemination** of the blueprints or frameworks for sustainable watershed management to the relevant users in the MCs.

- **Application** of the MRC Strategy for Basin-wide Environmental Management (SBEM) for Environmental Assets (EAs) with regional importance in the MCs.

- **Maintenance of good network** of Watershed Committees (RBO/RBCs) to continue exchange experiences and lessons learnt on WSM.

- **Capacity building and establishment of knowledge transfer center** of sustainable watershed and forest management in national level.

EXPECTATIONS FROM MRC

- **New and practical technology** on sustainable watershed and forest management in the LMB.

- **Revision and dissemination** of the blueprints or frameworks for sustainable watershed management to the relevant users in the MCs.

- **Application** of the MRC Strategy for Basin-wide Environmental Management (SBEM) for Environmental Assets (EAs) with regional importance in the MCs.

- **Maintenance of good network** of Watershed Committees (RBO/RBCs) to continue exchange experiences and lessons learnt on WSM.

- **Capacity building and establishment of knowledge transfer center** of sustainable watershed and forest management in national level.
Thank you
1. Outline of the Survey

Project Information

Project Name:
Data Collection Survey on the Basin Management and Environmental Conservation in Mekong River Basin

Target country: Cambodia, Lao PDR, Thailand, Viet Nam and Myanmar

Main counterpart:
Mekong River Commission (MRC) and 4 National Mekong Committees (NMCs)

Objectives:
1) To understand forest cover areas in Lower Mekong Basin (except for China)
2) To clarify triggers of deforestation and issues of forest management
3) To propose effective countermeasures and to recommend effective basin management policy focusing on forestry sector in LMB

Project period: Dec 2017 to September 2019

Project period: Dec 2017 to September 2019

1. Outline of the Survey

Work Procedure

Collect satellite images

Predict the future forest cover area*

Prepare historical forest cover maps in Lower Mekong Basin (LMB)

⇒ Identify deforestation areas as hot spot 1

Prepare input data (land use data considering future deforestation)

Set the climate change scenario (sea level rise etc.)

⇒ Identify potential vulnerable areas as hot spot 2

Step 1

Step 2

Location Map

Data source: JICA
1. Outline of the Survey

**Work Procedure**

**Step 3-1**
- Clarify deforestation areas and its drivers (by field/interview surveys and literature search, etc.)
- Find activities for against deforestation (by interview survey, literature search, etc.)
- Verify relations between drivers and "hot spot 1"
- Evaluate actual or potential effectiveness of the activities
- List up effective countermeasures against deforestation

Focus on private promotion and business partnership

**Step 3-2**
- Analyze potentially vulnerable areas ("hot spot 2") from viewpoint of water resources management
- Analyze detail negative impacts by deforestation (by RRI Model), if needed
- List up effective countermeasures
- Evaluate impacts of deforestation on flow regime

**Step 4**
Propose effective countermeasures and to recommend effective basin management policy focusing on forestry sector in LMB based on the output from Step 3

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**(1) Historical Land Cover Maps**

**Land Cover Maps**

Land Cover Classification: Total 18-class
1. forest (6 class types)
2. urban area
3. cropland
4. rice paddy
5. others (8 class types)
6. unknown

**Fig- Land Cover Map by ADPC**

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**Result on Image Analysis (1)**

- The map indicates decrease/increase of provincial tree cover area.
- By using global observation data such as satellite images, change of forest cover area can be examined even for broad study area.
- Deforestation rates and areas can be calculated.

**Fig- Tree Cover Residual Rate in LMB (from 1988 to 2017)**
(1) Historical Land Cover Maps

Result on Image Analysis (2)

- Hotspot criteria
  - Forest cover ratio at province >= 50% in 1988
  - Deforestation >= 0.22% / Year
  - Correlation <= -0.7
  * Forest area and Agricultural Area

Fig- Hotspot Provinces in LMB (from 1988 to 2017)

(1) Impact by Deforestation on Flow Regime

Scenarios

[Scenario 1]
Based on the historical forest cover maps, future deforestation in 2040 is predicted at Step-1. Most of forest areas are expected to decrease.

[Scenario 2]
Forest cover area which will recover up to past maximum forest areas from 1987 to 2018 was prepared as ideal case (scenario 2).

(1) Impact by Deforestation on Flow Regime

Changes of Forest Cover Area

- At Scenario 1 set by historical forest cover areas, forest cover area decreases in whole LMB, especially, middle of Mekong River in Lao PDR

Fig- Increase/Decrease rate of forest cover area from baseline (scenario 1).
(1) Impact by Deforestation on Flow Regime

Changes of Forest Cover Area

- At Scenario 2, forest cover area could be recovered up to past maximum forest cover area.
- Forest cover areas in Thailand increases dramatically, which suggests that deforestation of Thailand in 1980's was serious.

Fig. Increase/Decrease rate of forest cover area from baseline (scenario 2).

(2) Extraction of “Hot spot 2”

Increase in Runoff volume (+% vs Baseline)

(1) Mitigations of Deforestation

Interviewed Provinces

<table>
<thead>
<tr>
<th>Country</th>
<th>Interviewed Provinces</th>
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<tbody>
<tr>
<td>Cambodia</td>
<td>Kompong Speu, Siem Reap, Otdar Meanchey, Preah Vihear, Kampong Thom, Kratie</td>
</tr>
<tr>
<td>LAO PDR</td>
<td>Savannakhet, Khammouan, Bolikhamsai, Vientiane Province, Luang Prabang, Oudomxay, Luang Prabang, Attapeu, Salavan</td>
</tr>
<tr>
<td>Thailand</td>
<td>Khon Kaen, Chaiyaphum, Mukdahan, Udon Thani</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>Ca mau, Lam dong, Kon Tum</td>
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Fig. Interviewed Provinces in LMB
(1) Mitigations of Deforestation

Driver of deforestation and forest degradation in the LMB

- Dam Development
- Road Development
- Mining
- Agricultural Expansion
- Illegal Logging
- Fuelwood collection
- Forest Fire
- Coastal Erosion
- NTFPs Collection

Proposed Approach

- Procurement of Fund
- Strengthen of Monitoring in the LMB level
- Involving Private Sector
- Spread and introduction of Eco DRR
- Strengthening of forestry in the LMB
- Sustainable Energy use

1. Draft Final Report

Draft Final Report on Step-4

(1) Recommendations for Future Watershed Management
(2) Propose of Effective Forest Management
As the results of examination on the impacts, the following 4 topics are concluded as the major concerns of the watershed management for the LMB.

1. Securing Ecology and Morphology of Mekong River
2. Securing Food Security of the LMB
4. Adaptation of Climate Changes

As of March 2019, it is deemed that Xayaburi Dam and Don Sahong Dam are nearly completed judging from satellite images.

(1) Recommendations for future watershed management

(2) Proposal of Effective Forest Management

Proposed Approach

- Procurement of Fund
- Strengthen of Monitoring in the LMB level
- Involving Private Sector
- Spread and introduction of Eco DRR
- Strengthening of forestry in the LMB
- Sustainable Energy use
(2) Proposal of Effective Forest Management

Mobilization of the private sector

- Forest definition
- Local People
- Contact
- Access to the product produced sustainably
- Data
- Transparency

(3) Private Promotion and Business Partnership

Types of the Business Targeted

- Deforestation Driver related
- Non-Timber Forest Products: NTFPS related
- Enhancing Added-Value related
- Timber Value Chain related
- Alternative Energy related
- Disaster Prevention Technology related
- Eco-Tourism related
- CSR, SDGs related
- Others

Deforestation Driver related
- Non-Timber Forest Products: NTFPS related
- Enhancing Added-Value related
- Timber Value Chain related
- Alternative Energy related
- Disaster Prevention Technology related
- Eco-Tourism related
- CSR, SDGs related
- Others
(3) Private Promotion and Business Partnership

Wood extraction –before–

Mondulkir 1984
East Cambodia close to Vietnam border

Private Promotion and Business Partnership

Wood extraction –after–

Mondulkir 2016
East Cambodia close to Vietnam border

Private Promotion and Business Partnership

Costal Erosion

Monitoring more detailed hydrological/hydraulic condition including sediment and forest conditions in Mekong River Basins focusing more on climate change and biodiversity.

気候変動と生物多様性を更に勘案した流域の河床・森林状況を含むより詳細な水文・水理状況の観測の実施

Active delivering of possessed/analyzed information to public/private sector.

公共・民間セクターへの積極的な情報公開

Conducting Campaign for enhancing the consciousness of forest.

森林への関心を高めるキャンペーンの実施

Recommendation to MRC