The MRC Regional Stakeholder Forum
14th – 15th December 2017
Vientiane, Lao PDR

Review and Update – Sustainable Hydropower Development Strategy (SHDS2018)
Outlines of Presentation

1. Background and Content of Past Hydropower Strategies

2. The Need for Review and Update of SHDS, Objectives and Principles

3. Scope, Approach and Timeline of the SHDS Review and Update
I. Background and Content of Past Hydropower Strategies
I.1 Role of MRC in SHD as per MA 1995

➢ Before first SHDS2001 – investigation and assessment of individual projects and DOS for hydropower development (engineering, economics, less focus on environment and social)

➢ Facilitate co-operation in hydropower sector as guided by Articles of MA 1995:

• **Article 1:** Areas of Cooperation – in all fields including hydropower
• **Article 2:** Projects, Programs and Planning
• **Article 3:** Protection of the Environment and Ecological Balance
• **Article 4:** Sovereign Equality and Territorial Integrity
• **Article 5:** Reasonable and Equitable Utilization
I.2 Experience: MRC Sustainable Hydropower Framework

Mekong Agreement 1995

Sustainable Hydropower Development Strategy

Guiding Principles for Sustainable Hydropower
(Article 3, 7, 10+)

General Principles
Strategic Planning Guides
Preliminary Design Guidelines for Mainstream Dams
Economics (ISH02) Ecologically Sensitive (ISH01)
Risk Mitigation Guidelines/Manual
Joint Cascade Operations and Community Safety
Other...

Hydropower Sustainability Dialogue and Assessment
(Rapid Basin-wide Hydropower Sustainability Assessment Tool (RSAT))

National Application
MRC Strategy 2001

- Increasing demand for affordable electric energy in MRC member countries is met with minimal negative impacts on environment and local people → promoting economic growth for mutual benefit.

Strategy of MRC Intervention within a new Hydropower Component

The efficient and socio-economically and environmentally appropriate generation and distribution of hydropower in the riparian countries, in a cooperative and well co-ordinated way, is promoted.
I.3. HP Strategy 2001 – Some Progress

**Strategic Area 1: Consideration of Integrated Water Use, Environmental and Socio-economic Factors**

1.1 Prepare a Sector EIA for hydropower development in LMB and give assistance to the riparian countries in developing their own EIA systems, considering the planning proposals proposed by the Water Commission on Dam Safety.

1.2 Study cumulative effects of reservoirs for seasonal storage and inter-basin diversions for hydropower and irrigation on downstream physical changes in river flow and water quality.

1.3 Clarify potential negative side effects of hydropower dams on fisheries and the environment and assess possible mitigation measures.

**Strategic Area 2: Efficient Hydropower Generation and Distribution Mechanisms**

2.1 Study the potential for improved efficiency, reduced power demand and savings in investments in the power sector in the riparian countries through Demand Side Management (DSM) and other options.

2.2 Study practices and obstacles for private participation in hydropower development in the riparian countries; develop and propose efficient and fair principles for private participation.

**Strategic Area 3: Information System and Capacity Building**

3.1 Review and disseminate best practices, for example with respect to least-cost generation expansion planning and public participation.

3.2 Make a quality assessment of the existing basic data files and the current programmes for data collection and storage of relevance for development planning and consequential socio-economic and environmental impacts.

3.3 Review and update existing studies of potential hydropower development projects in LMB and establish a tentative ranking of the projects in a regional context.
II. The Need for Review and Update of SHDS, Objectives and Principles
II.1 Basin Concerns, Needs and Challenges

- Support the **economic development** objectives of member countries (including navigation)
- Protect and enhance **water, food and livelihood security**
- Increase **resilience against Climate Change** including drought and flood management
- Ensure continued **energy security** for all member countries
- Protection of valued **ecosystems**
- Further develop **trans-boundary cooperation**
II.2. Why do we need an updated Hydropower Strategy?

1. Very rapid HP development in the Basin
   - 2001 = 17 projects (1400MW)
   - 2017 = 40 Projects (6500MW) --> +14 by 2020 (3000MW)

2. Mainstream and Tributaries

3. BDP2 showed high economic value of hydropower NPV of over B$40 to 50++ (Thailand 42%, Laos 32%, VN 15%, Cam 11%)
II.2. Why do we need an updated Hydropower Strategy?

4. BUT: Some issues:

- **System inefficiencies** – coordination of operations is needed
- **NPV B$10-20** loss in fisheries sector – loss of livelihoods, food security
- **Loss of biodiversity**, globally important enviro assets
- **Uneven distribution** of benefits and costs
II.3 Council Study Results

• **MRC Council Study** (2012-2017) arose from **mainstream concerns** (outcome of Xayaburi PNPCA Prior Consultation)

• Emerging results reinforce the need for a sustainable basin-wide hydropower development strategy to:
  - address the difficult trade-offs
  - design more optimal and sustainable hydropower development pathways

• Hydropower is the **most important sector economically**, but also has the **biggest transboundary impact** - *fish and sediment with their own economic impacts and food security issues*
II.4. The MRC-BDS and SP for 2016-2020

- **Outcome 2**: Environmental management and sustainable water resources development optimized for basin-wide benefits by national sector planning agencies

- **Output 2.1**: Basin-wide Strategy for Sustainable Hydropower Development updated and approved

- **Objective**: “Optimal and sustainable hydropower development alternative pathways are explored, proposed and discussed — taking into account opportunities to enhance benefits beyond national borders and minimise adverse transboundary impacts while supporting water, food and energy security”
II.5 Principles on Hydropower Cooperation (SHDS2019)

1. Sharing of Data and information among MCs and GMS

2. Close co-operation with international institutions

3. Focus on IWRM based planning for HP to meet objective:
   - Improvement of national sector energy and water sector planning
   - Improvement of national plan towards the Basin Development Strategy
   - Informing regional energy/transmission planning as appropriate

4. Guided by:
   - “Good Practice” CIA (e.g. Council Study, BDP2, SEA),
   - Design Guidance (e.g. PDG and ISH0306), and
   - Stakeholder participation

5. Encourage private sector involvement in Sustainable HP practice
II.6 Link between Water and Energy Sectors

- SHDS is only one part of the Energy Strategy of a given country
- SHDS to be considered with all sectors in context of national plans/ASEAN development of power grid
II.7 Part of the Planning Cycle

Iteration of Alternative Hydropower Scenarios Test against Basin Vision
III. Scope, Approach and Timeline of the SHDS Review and Update
III.1. Scope and Implementation Approach

Connection to and use of, past (and future) studies

- **The previous studies** forms the basis to the SHDS work
  - Council Study and BDP2 will provide major inputs
- **Strategic assessment** of **Alternative Pathways** will be needed to deal with energy/water sector integration matters
- **Alternative Pathways** will provide input to the Basin Strategy Process (2021-2025)
Definition:

- **Development Pathways** are intended to be more exploratory in nature;
- **Choices and options** are intended to remain open. Trade-offs can be discussed for later evaluation.
- **Objective** of SHDS has been set that:
  
  “.... development alternative pathways are explored, proposed and discussed...”
Alternative pathways may include:

- **Alternative regional energy generation, integration and interconnection options** to respond to regional demand and optimise the use of existing and planned hydropower.

- **Alternative siting, design and operations for hydropower projects** in the planning stage.

- **Inclusion of potential flood and drought management options** for existing and planned projects.

- **Alternative governance, coordination and optimisation of mainstream and tributary hydropower cascades**.

- **Avoidance, Mitigation and Compensation options** to be built into LMB SHDS.

- **Strong linkage to the Strategies and Masterplans for other sectors**.
Connection to and use of, past (and future) studies

Interactive Planning

- National Plans (PDP, Irrig)
- HP Status and flexibility
- Regional Interconnection
- Gather data and existing Scenarios/planned pathways
- Regional Planning Workshops consider options
- Report on Final recommended pathway options input to Basin Strategy
- SHDS 2019- Negotiation, Joint Actions, cooperation Nat/Reg
- Input to National Plans
- Input to Regional Processes, Sector Masterplans

CIA -baselines
- Council Study
- BDP
- Delta Study
- SEA

New Ideas

Evaluation

Regional Sector Masterplans/Strategies

April to Nov 2018  Dec. 2018  2019++
III.4 Interactive Planning Sessions

- Facilitated Interactive Planning Workshops are proposed to explore the development pathways
- Facilitated discussion on trade-offs and options
- MCs may propose alternative sustainable hydropower development pathways or sector strategies
- Relevant costs, benefits and indicator outcomes to be strategically assessed by technical team
- Selected options for development pathways, with their impact on basin Needs, Opportunities and Challenges (using Basin Indicator Framework) put to the Basin Strategy process (2021 to 2025).

This is a critical part of the work and needs senior sector participants (energy and water)
III.5. SHDS2019 - Outputs

• **Documented alternative sustainable hydropower development pathways** for more optimal development for hydropower resources of the Mekong mainstream and its tributaries;

• A **description of opportunities to enhance benefits beyond national borders and minimise adverse transboundary impacts; and**

• **Inputs to crosscutting strategies of other sectors to benefit the Basin Planning process for 2021 to 2025.**

• **Agreed set of follow-up Strategic Actions** detailed to ensure the delivery of the SHDS.
III.6. Overall Progress During September – November 2017

✓ Concept Note (CN) prepared, discussed and finalized through national and regional consultations:
  - Cambodia: 18th September
  - Thailand: 20th September
  - Lao PDR: 25th September
  - Viet Nam: 13th October
  - Regional: 6th November, HCM City

✓ Overall confirmation of **high priority** by MCs in 2018

✓ JC **took note** of Concept Note to guide the preparation of TOR and implementation in 2018 (24th MRC Council Meeting)
III.7. Work plan and timeline – Year 2018

- Agree on Objective & Scope; inform stakeholders  Nov.-Dec. 2017
- Strategic Assessment and Interactive Planning  April - Oct. 2018
- National Consultations  Oct./Nov. 2018
- Draft Final SHDS  Dec. 2018
- JC Endorsement / Council Approval  Q1/2019
Thank you