



# RSAT

Rapid Basin-wide Hydropower  
Sustainability Assessment Tool

## Consultation and dialogue in planning, design and operation

4th Hydropower Forum

Vientiane: 10 – 11 August 2017



RSAT is a joint initiative by



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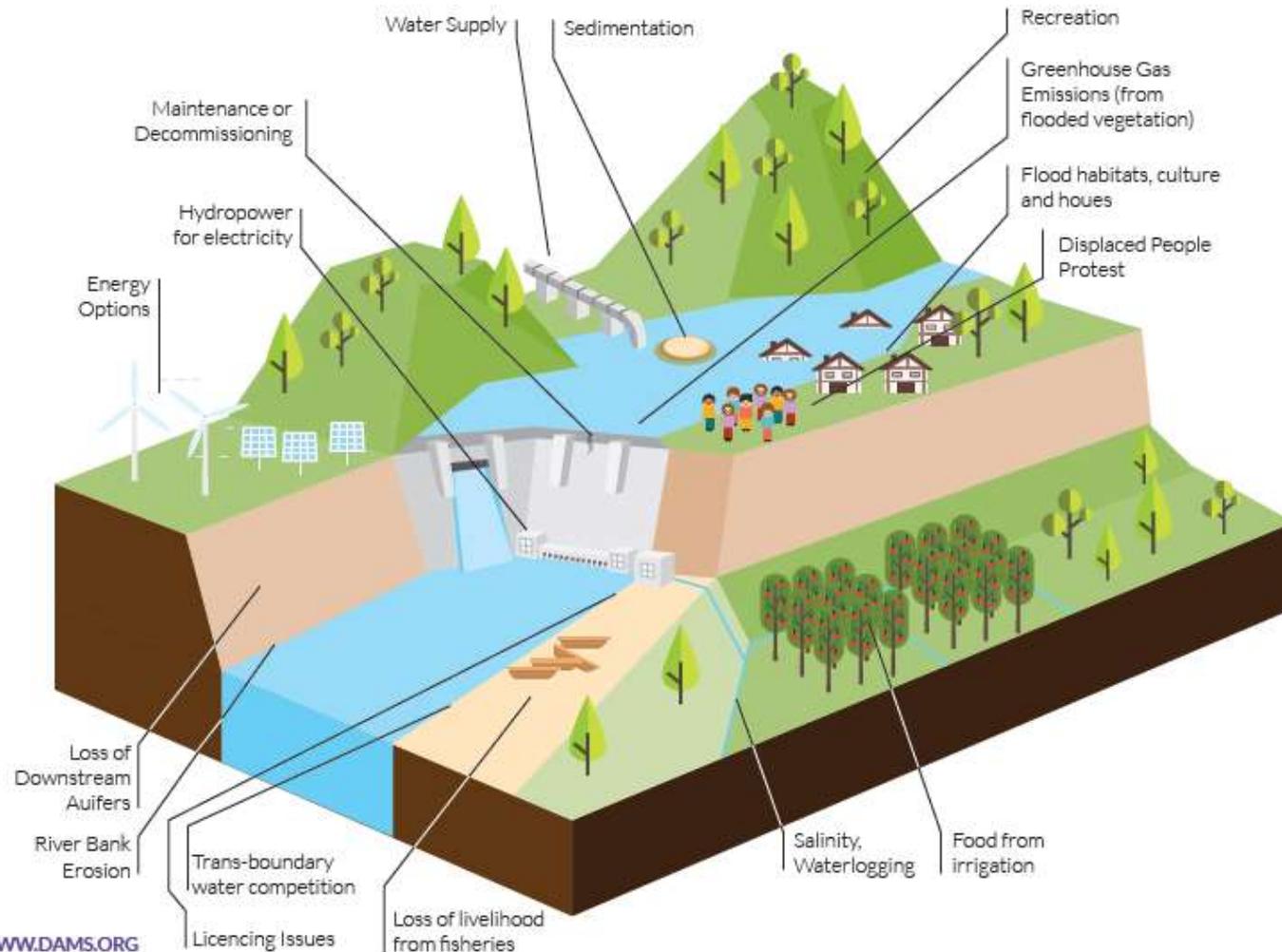




**RSAT**  
Rapid Basin-wide Hydropower  
Sustainability Assessment Tool

# Sustainability aspects of hydropower are well known from decades of experience – 10 Topics of RSAT

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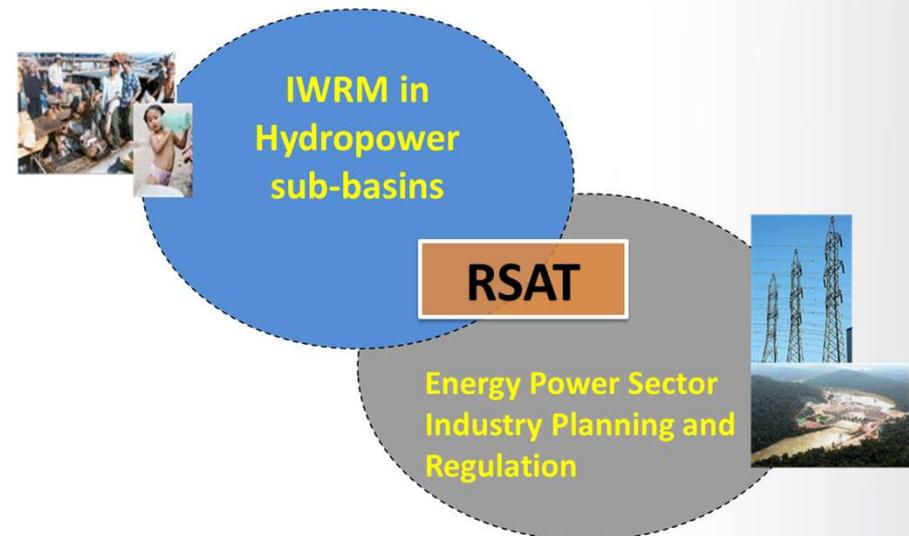
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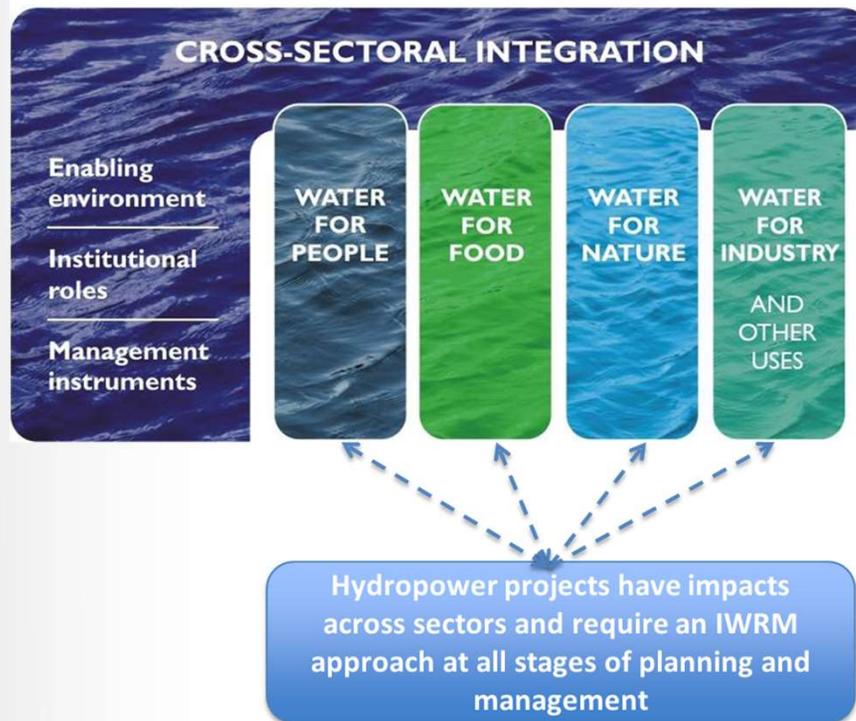
# In other words, RSAT

- Promotes basin thinking and addresses basin wide issues
- Assesses the sustainability of hydropower in an entire basin and not only in project-specific view
- Analyzes the current situation against a set of criteria
- Enables prioritisation of issues and identification of collaborative strategies
- Opens a dialogue between key stakeholder groups
- Creates understanding of hydropower issues in a rapid process
- Is an open source free tool

RSAT bridges the gap between river basin planning and energy sector planning



## IWRM and its Relations to Sub-sectors



- A framework of **10 topics and 27 sub-topics** for basin wide hydropower sustainability.
- A set of **four criteria** are used to analyse the RSAT topics and sub-topics and form the basis of the assessment
- Each criterion of each sub-topic has a Performance Statement, which represents **best practice for sustainability**

# RSAT Topics and Criteria

No.	Topic
Topic 1	Institutional capacity
Topic 2	Options assessment, siting and design
Topic 3	Economic contribution of hydropower
Topic 4	Equitable sharing of hydropower costs and benefits
Topic 5	Social issues and stakeholder consultation
Topic 6	Environmental management and ecosystem integrity
Topic 7	Flows and reservoir management
Topic 8	Erosion, sediment transport and geomorphological impacts
Topic 9	Management of fisheries resources
Topic 10	Dam and community safety

**Four criteria are used to analyse the RSAT topics**

**River basin planning and management**

Planning, management, basin wide baseline data, institutions

**Energy planning**

Power sector planning and its relationship to river basin planning

**Hydropower projects**

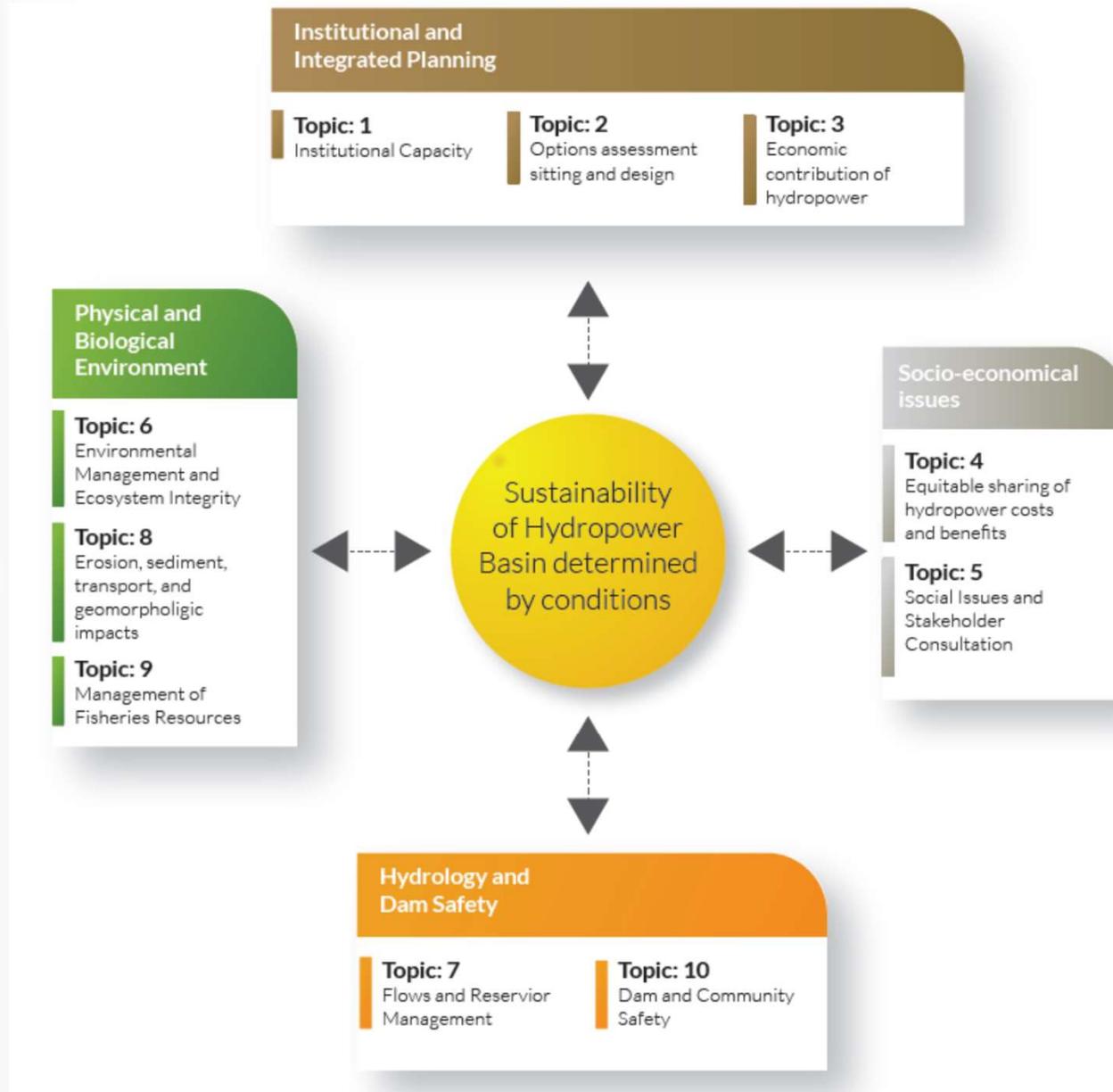
Plans, studies and management actions of all hydropower projects in the basin

**Regulatory and governance**

Regulatory and institutional framework for hydropower development and water resources



# Grouping of RSAT Topics





## EXAMPLE:

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## 6.2 Biodiversity conservation and ecosystem integrity

Criteria

Sub-topic

### A. River basin planning

Basin-wide baseline data includes aquatic and terrestrial species abundance, biodiversity, habitat range, reproductive behaviour, and critical habitats. The impact of habitat modification and fragmentation and flow regulation on biodiversity is assessed. Strategies are developed in the hydropower planning processes to site, design and operate projects to maintain ecosystem connectivity at the basin level.

### B. Energy / power sector planning and regulation

Hydropower options and ranking studies aim to avoid project sites and designs that have significant negative impacts on biodiversity, environmental hot spots or protected areas.

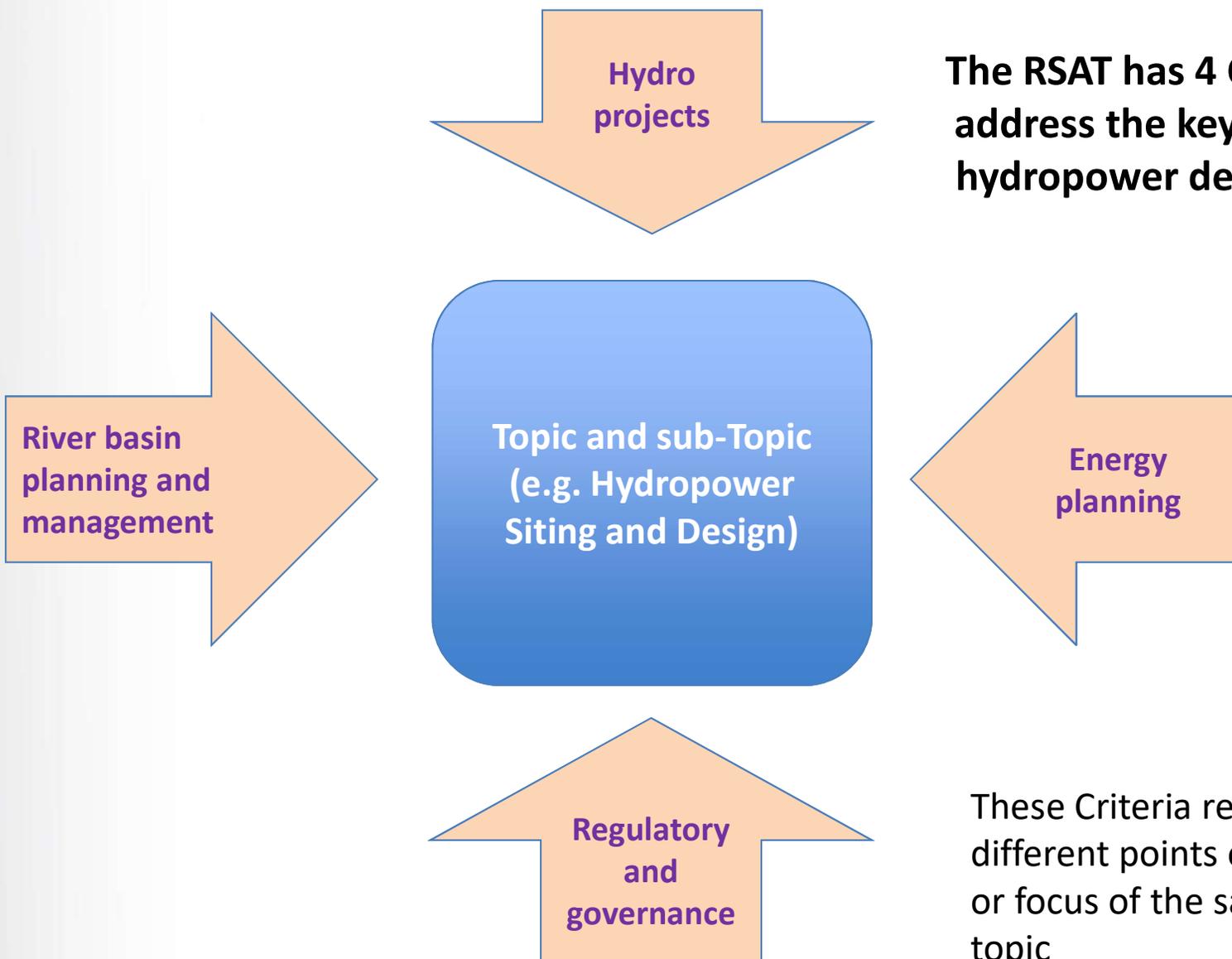
### C. Hydropower projects

Biodiversity and ecological baseline data informs hydropower EIA studies. Project siting and design includes provisions for basin wide ecosystem connectivity and the avoidance and mitigation of significant impacts. Biodiversity off-set programs are implemented and include the protection of areas with equivalent values to those lost.

### D. Regulatory and governance

Policy and regulations for environmental protection exist and are enforced. Biodiversity conservation zones are legally protected from negative impacts. Compliance with off-set, management and compensation plans is enforced and action is taken to address issues that arise.

Performance statements



**The RSAT has 4 CRITERIA to address the key aspects of hydropower development**

These Criteria represent different points of view or focus of the same topic

# Topic descriptions

Each topic has:

- Statement of intent
- Brief explanation of what is included in the topic
- Description of the sub-topics
- **Performance statements of each sub-topic for each of four criteria**
- Guidance notes and definitions, including examples of evidence

Performance statements are the heart of RSAT –  
they represent good sustainability practice



# RSAT dialogue method

## 5 main steps

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1. Collect and present information for 10 topics and 4 criteria
2. Gap analysis
3. Structured dialogue on each topic amongst stakeholders
4. Determine basin priorities and make recommendations for improvement in the basin
5. Identify the priority capacity building needs in the basin

## RSAT facilitates a dialogue

- Allows stakeholders from different sectors to discuss sustainability issues in a structured process
- Allows sharing of different view points
- Builds understanding and relationships and consensus on **actions** to be taken

RSAT is Action-oriented - the process identifies actions that need to be taken to make hydropower **more sustainable**

## ***Who are the key Stakeholder Groups?***

1. National energy, water, environment and other sectoral Ministries, agencies and regulators
2. Government power utilities
3. Private hydropower developers and operators
4. Provincial and local government agencies and administrative bodies across different sectors
5. River basin organisations
6. Representatives of affected communities and water user groups
7. NGO's
8. Transboundary and regional institutions
9. Investors and funding organisations

# Different uses for RSAT

- Raising awareness about sustainable hydropower
- Stakeholder and public consultation
- During EIAs, SEAs and CIAs
- Hydropower risk assessment
- Providing a comprehensive framework for analysis of sustainable hydropower in a river basin
- Developing strategies for action and advocacy
- Capacity needs assessment of an organisation
- Transboundary dialogue – hydro-diplomacy

# What RSAT can not do

- Replace impact assessments for hydropower – EIAs, CIAs, SEAs
- Replace technical assessments for design and operations
- Guide in choice of sites, or optimisation of hydropower in cascade
- Does not at the moment ask critical questions e.g.
  - effectiveness of implementation of policies or
  - enforcement or compliance with regulations
- Can not be used as a sustainability audit of hydropower

Note that RSAT is a different tool to the IHA Hydropower Sustainability Assessment Protocol.

# Users of RSAT





# New Edition of RSAT Guide

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- Based upon experience and feedback, the RSAT guide has been improved with additional sections
- The structure and content of the topic performance statements is exactly the same
- There are 5 parts to 2016 Edition
  1. RSAT Overview
  2. RSAT Topics
  3. RSAT Assessment Guide
  4. RSAT Applications – “How to Guides”
  5. RSAT Toolbox

New



1. RSAT for River Basin Organisations
2. RSAT for Transboundary Rivers
3. RSAT for Cumulative Impact Assessment and Strategic Environmental Assessments (CIAs and SEAs)
4. RSAT for Capacity-Building
5. RSAT for NGO's Hydropower Strategy development
6. RSAT as a Protocol Supplement
7. RSAT for Water Stewardship

## RSAT for Cumulative Impact Assessment and Strategic Environmental Assessments (CIAs and SEAs)

### Rationale

Cumulative Impact Assessments (CIAs) and Strategic Environmental Assessments (SEAs) are well understood in the LMB and in other parts of the world. They are key tools to identify, analyse and underpin planning for river basin scale issues relating to development. CIAs and SEAs have been undertaken in a number of river basins in the LMB. Increasingly, the issues arising from hydropower development are of a cumulative nature. RSAT can provide a good complement to CIA and SEA approaches with its hydropower-specific identification of issues and the participatory approach to tap into local knowledge and obtain stakeholder including community views.

### Purpose

To demonstrate a participatory and multi-stakeholder process of consideration of key cumulative and strategic issues in a hydropower-intensive river basin.

### Method of Application

RSAT would be applied during one or several workshops run by independent consultants, to value add to CIA or SEA assessments by

obtaining local knowledge and community views.

If used for several applications, the initial workshop could be to help scope the CIA or SEA, understand key issues to investigate, and start to identify and connect with key stakeholders. This workshop would run through all RSAT topics and flag the status of development in the basin and where the issues and areas of concern are.

A follow up workshop, and the workshop to be conducted if there is only one, would be based on the information collected during the CIA and SEA. It would present this information in a structured process aligned with RSAT topics, and aim to test and refine findings and build practical and meaningful recommendations.

### Potential lead agency

ADB and IFC have supported CIA and SEA processes in the LMB in particular river basins.

### Reports

The RSAT workshop(s) and outcomes would be embedded within the CIA or SEA reports as chapters and appendices.

### Report author

CIA or SEA consultants

### Target Participants

Diverse representation of key stakeholder groups. Participants would be middle ranking technical officers bringing with them their own specific expertise and experience relevant to the topics being discussed.

### Discussion

Attachment 3 showed the distinction of RSAT to SEAs. From a market development perspective, clarifying the complementarity

# Recent discussions with EGAT

Possible uses being considered:

- As a checklist for review of sustainability compliance of hydropower projects from which EGAT may buy power e.g. from Laos
- For stakeholder discussions to help resolve long standing issues with existing hydropower projects in Thailand, e.g. Sirikit and Pak Mun dams
- Suggestions for EGAT associated companies developing HPPs to use RSAT for consultation during planning, EIAs and design.



# Transboundary RSAT

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- First transboundary RSAT Dialogue between Vietnam and Cambodia held in December 2016
- River Basin – Upper and Lower Sre Pok
- Uses earlier dialogues in 2013/14 on the Sre Pok in each country
- Guidelines have been developed and agreed by NMCs

## Uses by MRC

- As checklists for PNP/PCA process, e.g. for socio-economic review for Pak Beng
- In developing the MRC's strategy for sustainable hydropower development in the basin – providing its sustainability principles and components

# Training of RSAT Facilitators

**A challenge for RSAT development and use –  
No facilitators able to lead national dialogues in regional languages**

- 3 x 1 week trainings of RSAT facilitators completed -
  - 1<sup>st</sup> module at Thakhek (NT2) September 2016,
  - 2<sup>nd</sup> module in Phitsanoluk, Thailand, January 2017
  - 3<sup>rd</sup> module in Kunming/Jinghong, China, May 2017
- 9 facilitators trained from all six countries of the GMS, including China and Myanmar
- A cadre of facilitators trained in all topics and dialogue facilitation skills

