



RSAT

Rapid Basin-wide Hydropower Sustainability Assessment Tool

The **RSAT** is designed as an integrative tool to assess hydropower development in a basin wide context



IRRIGATION



POVERTY ALLEVIATION



NAVIGATION



FLOODS



Integrating, Dialogue, Resolving



ENERGY DEMAND



ENVIRONMENT



HYDROPOWER



FISHERIES



RECESSION AGRICULTURE



MRCs, WWF and ADB have formed a partnership since 2006 to provide interested stakeholders in the Mekong region with information, knowledge and tools to better manage hydropower. The aim of the partnership is to ensure that the ecological functions of rivers, the natural resources they provide to other economic sectors and the livelihoods of people that depend on them are maintained acceptably and appropriately as hydropower resources are developed.

The RSAT was developed to assess hydropower in a basin wide context based on IWRM principles. It has been under development since 2010 including a series of trials and national and regional consultations in the Lower Mekong region including government, industry and civil society groups. RSAT assessments have been completed or are currently in progress in nine hydropower sub-basins in the Lower Mekong region.

Joint Initiative





RSAT Introduction

The RSAT is a multi-stakeholder dialogue and assessment tool designed to consider hydropower sustainability issues in a river basin context. Placing hydropower in a basin wide context requires looking beyond individual projects to take a broader integrated approach to planning and management. The application of tools such as the RSAT can assist to identify development strategies, institutional responses and management measures that can be deployed to optimise the benefits of hydropower development and reduce the risks.

The RSAT provides 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.

Four criteria are used to analyse the RSAT topics and sub-topics

1. River Basin Planning and Management

Focuses on the IWRM-based principles and practices in river basin planning and management and the collection of basin wide baseline data to inform these processes. The aim is to consider the different aspects of hydropower in a river basin perspective.

2. Energy / power sector planning and regulation

Focuses on power sector planning, emphasizing hydropower planning and regulation.

3. Hydropower Projects

Focuses on the plans, studies and management actions of all hydropower developers and operators in the basin at all stages of the project cycle (project identification, selection, planning, design, construction and operation).

4. Regulatory and governance

Focuses on the regulatory and institutional framework for hydropower development and water resource management and enforcement at different levels from local to national.

Summary of RSAT Topics and Sub-Topics

TOPIC 1 Institutional capacity

- 1.1 Transboundary institutional capacity
- 1.2 National to local institutional capacity
- 1.3 Water and energy sector integrated planning

TOPIC 2 Options assessment, siting and design

- 2.1 Demonstrated need and options assessment
- 2.2 Siting and design for basin wide sustainable development

TOPIC 3 Economic contribution of hydropower

- 3.1 National economic and financial analysis
- 3.2 Transboundary economic analysis

TOPIC 4 Equitable sharing of hydropower costs and benefits

- 4.1 Transboundary benefit sharing
- 4.2 National to local benefit sharing
- 4.3 Financing ecosystem protection and other measures

TOPIC 5 Social issues and stakeholder consultation

- 5.1 Stakeholder identification and consultation
- 5.2 Assessment and management of basin wide social impacts
- 5.3 Food security and poverty alleviation
- 5.4 Indigenous peoples and ethnic minorities

TOPIC 6 Environmental management and ecosystem integrity

- 6.1 Assessment and management of basin wide environmental impacts
- 6.2 Biodiversity conservation and ecosystem integrity

TOPIC 7 Flows and reservoir management

- 7.1 Multiple water use optimisation and efficiency
- 7.2 Reservoir planning and management
- 7.3 Co-ordinated hydropower operations
- 7.4 Downstream and environmental flows
- 7.5 Flood and drought management

TOPIC 8 Erosion, sediment transport and geomorphological impacts

- 8.1 Sediment baseline and impact assessment
- 8.2 Management of impacts and sediment resources

TOPIC 9 Management of fisheries resources

- 9.1 Baseline and impact assessment
- 9.2 Management of impacts and fisheries resources

TOPIC 10 Dam and community safety

- 10.1 Dam safety
- 10.2 Community safety and emergency response