SPLASH

Fact Sheet 16.

Research and Capacity Building for Sustainable Hydropower in the Lower Mekong Basin

Introduction

Hydropower is the most important energy source in the Lower Mekong Basin (LMB). The sector is characterized by strong private sector involvement and relatively weak regulatory frameworks. Although it is seen as a clean energy source, hydropower still has negative impacts on the environment, and on some social and health issues. Research to generate new knowledge on these links and capacity building are necessary to promote sustainable energy solutions.

The purpose

The fact sheet gives an overview of hydropower development in the LMB and recommendations for improving the research and capacity in the region in order to contribute to sustainable hydropower.

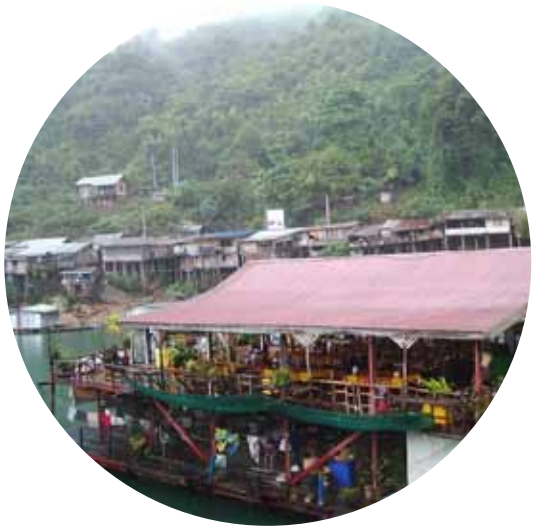
Headline facts

- The Mekong River Commission (MRC) estimates a potential for hydropower development in the Mekong Basin of 53,000 MW, with 30,000 MW located within the LMB. 74% of projects are in Lao PDR, and 10% in Cambodia and Vietnam. There are no plans for additional hydropower plants in Thailand.

- Hydropower plants producing 3,235 MW are now in operation, with further projects producing 3,574 MW under construction on LMB tributaries. Twelve large-scale hydropower schemes have been considered for Laos, Lao–Thailand and Cambodian mainstream reaches, by investors from Asia, and particularly China.
- A gap exists in Cambodia between the required political will, energy needs, and capacities to achieve sustainable hydropower development. Research capacity is also limited. Private sector involvement is underway although results are yet to be seen.
- Laos has the greatest potential for hydropower development, but there is a lack of understanding about the water-hydropower-development link, as well as its links to the environment.
- Thailand has comprehensive education/research programmes related to hydropower development. There is still limited potential for new plants, with most currently run by private companies.
- In Vietnam, research is needed on environmental management, pollution control, knowledge aspects, and administration. The use of cost-benefit analysis and environmental impact assessment tools is limited.

Recommendations

Areas for further research in the LMB have been identified as:



- risk and impact assessments of hydropower;
- impacts of climate change and regional mitigation and adaptation measures;
- benefit sharing and trade-offs between different management options;
- integrated and life-cycle assessments on economic and environmental sustainability of energy solutions;
- new hydropower technologies and alternative clean energy options; and
- conditions, solutions and impacts related to hydropower and development.

Findings from international research demonstrate that investments in research and water management contribute to poverty reduction. It is therefore recommended that these activities are strengthened, together with the communication of results and research uptake.

Linkages and communication in the water sector are weak. The private sector should be involved in the whole project cycle from design to implementation and evaluation.

To increase inclusion of stakeholders in research, researchers and practitioners need to understand each other better. The application of research results to policy and practice levels is also poor.

Recommendations to improve this are:

- to identify targets groups among developers, researchers, policy makers and others and engage them early in the research design;
- to improve mutual understanding, dialogue, and institutional structures to connect researchers and users, e.g. workshops targeted to decision makers and private sector; and
- to develop communication strategies for applicable and clear messages. Translate findings into local languages and identify champions to promote the use of research.

Further information

This is one of a series of SPLASH fact sheets available on the SPLASH website **www.splash-era.net**

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SPLASH is funded under the EC 6th Framework Programme (FP6)
The factsheet is sponsored by the Ministry for Foreign Affairs, Finland

Photographs by Kyung Shik Chung, UN Cote D'Ivoire and Miriam Feilberg, Danish Water Forum (DWF)