

SUMMARY FOR DECISION-MAKERS

Towards a more sustainable hydropower development

Hydropower is expected to remain a dominant worldwide player in the energy sector, given the rapidly growing energy demand of low- and middle-income countries. The need for a transition towards climate neutral energy production, and the necessity for pumped storage and grid stability when highly fluctuating wind and solar power generation become prominent, further influence the role of hydropower.

Negative impacts of individual hydropower projects can (partly) be avoided, mitigated and compensated, and positive impacts can be enhanced, by making use of ESIA. However, most impacts are the result of the location of a hydropower project, for instance tributaries located in a national park may be more sensitive to the effects of a hydropower project, than those outside a park. Furthermore, cumulative impacts of a number of projects in a river basin can be considerable, which may go unnoticed in the ESIA for an individual project. Cumulative and negative impacts can be avoided or mitigated by applying SEA to support strategic planning for hydropower.

Strategic Environmental Assessment (SEA) is a decision support tool aiming to integrate environmental and social considerations into government policies, plans and programmes. Since 2019, SEA has been legally adopted in 106 countries and this number is expected to grow. Since 1995, globally, 37 SEAs have been conducted to support strategic planning and decision-making in the hydropower sector, mainly in low and middle-income countries, predominantly in Asia. Of this list, five cases in Pakistan, India, Myanmar, Viet Nam and Rwanda, have been analysed in detail.

Influence of SEAs evaluated

The evaluation showed that the five SEA cases have proven to be influential in the following areas:

- The SEAs contributed to more awareness on the environmental and social impacts of hydropower plans for all stakeholders: the general public as well as investors and planners of hydropower projects.
- The SEAs contributed to cooperation and exchange between different ministries, in particular those concerned with environment and energy.

- The SEAs provided clarity to project developers concerning go and no-go areas and the environmental and social issues associated with certain sites.
- The SEAs influenced decision-making profoundly and also had other important spin-off impacts such as new legislation or easing of social tensions. Examples are the exclusion of sensitive areas from hydropower development and avoidance of investments in hydropower projects at sites with high social and environmental risks.

In conclusion, SEA can be an effective and efficient tool to support more sustainable development of hydropower.

Lessons for future SEAs supporting hydropower development

The following lessons have been drawn that can be applied to future SEAs in support of the hydropower sector.

Lesson 1 - Regulatory framework

SEA can be applied in regulated and unregulated situations as sufficient international guidance and expertise is available.

Lesson 2 - Plan or SEA in the lead

SEA is generally applied in support of formal decision-making as part of a predefined policy, plan or programme. However, it can also be used to inform governments of potential development pathways in situations where no government policy, plan or programme is in place.

Lesson 3 – Alternatives

Developing and comparing alternatives are best practice in SEA; the type of alternatives to examine cannot be prescribed; they are case and context specific.

Lesson 4 - Stakeholder involvement

Stakeholder involvement is essential in SEA and is highly case and context specific. Scope and geographic range of the plan, issues at stake and legacy of earlier experiences determine the way stakeholders are involved.

Lesson 5 – Limited availability of data is no bottleneck

Methodologies can be adapted to available data, stakeholders can assist in filling gaps, access to former planning and assessment studies greatly facilitates new studies. Of course, it remains important to be transparent on gaps in information in the assessment.

Lesson 6 – Government commitment and funding required

Government commitment is a condition for influential SEA. In low-income countries external / international budget is required to implement good practice SEA.

Lesson 7 – Patience needed to see results

An overall observation is that it takes many years to be able to see the actual impacts of planning, assessment and decision-making processes. In this respect it is a pity that so little ex-post evaluative studies are being carried out for the hydropower sector. There is little information on the effectiveness of SEAs, CIAs and ESIA's to address sustainability of the sector.

Supporting the SEA agenda

Government decision-makers can support the application of SEA in the following manner:

- Develop guidelines for strategic planning of the hydropower sector, including SEA. To secure application, these guidelines should be adopted by platform organisations such as the International Hydropower Association, International Commission

on Large Dams, International Association for Impact Assessment, and governments and international finance institutes.

- Provide river basin authorities with the necessary knowledge to use SEA jointly with Integrated Water Resources Planning and Management to balance different interests in a river basin management plan;
- Collect and share examples of how SEA can lead to economically efficient outcomes, while reducing environmental and social risks.
- Emphasise the importance of SEA to stakeholders as an effective tool for conflict resolution.
- Spend time on the evaluation of planning, assessment and decision-making processes to determine whether procedures, impacts and plan outcomes are according to expectations.

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