Making hydropower more sustainable? A sustainability measurement approach led by International Hydropower Association

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The purpose of this brief is to increase stakeholder understanding about the HSAF Sustainability Assessment Protocol. It will be translated into selected regional languages such as Chinese, Laotian, and Thai for release in 2009. We welcome all comments on the draft and encourage readers to comment by 15 July 2009 (e-mail tira@sea-user.org)

Large hydropower dams tend to produce not just energy, but large volumes of debate. Governments and energy companies view the ability to transform flowing water into electricity as a precious economic resource. Critics argue that large dams in the Mekong region are associated with serious and often unresolved negative impacts on ecosystems and vulnerable people (Molle et al. 2009).

In contexts where state regulation is still weak, or where clear economic incentives to improve environmental and social performance are lacking, what can be done? One approach is to begin by inviting project developers and other actors to assess the sustainability of hydropower development, in an objective manner. This brief introduces a new protocol for hydropower assessment, sponsored by the International Hydropower Association (IHA).

The IHA's sustainability assessment project is an attempt at a multi-stakeholder process. In 2007, IHA established a multi-stakeholder "Hydropower Sustainability Assessment Forum" (HSAF). In 2009, the Forum includes representatives from industry, government, as well as four international NGOs.[1] Members work together to refine the assessment methodology, with the aim of developing an objective and broadly useful tool.

As of April 2009, the Forum's effort has attracted both support and useful criticism from a range of actors. In this brief we review the HSAF's approach to sustainability. We compare it against the World Commission on Dams (WCD) framework, and highlight areas that need ongoing work.

Background

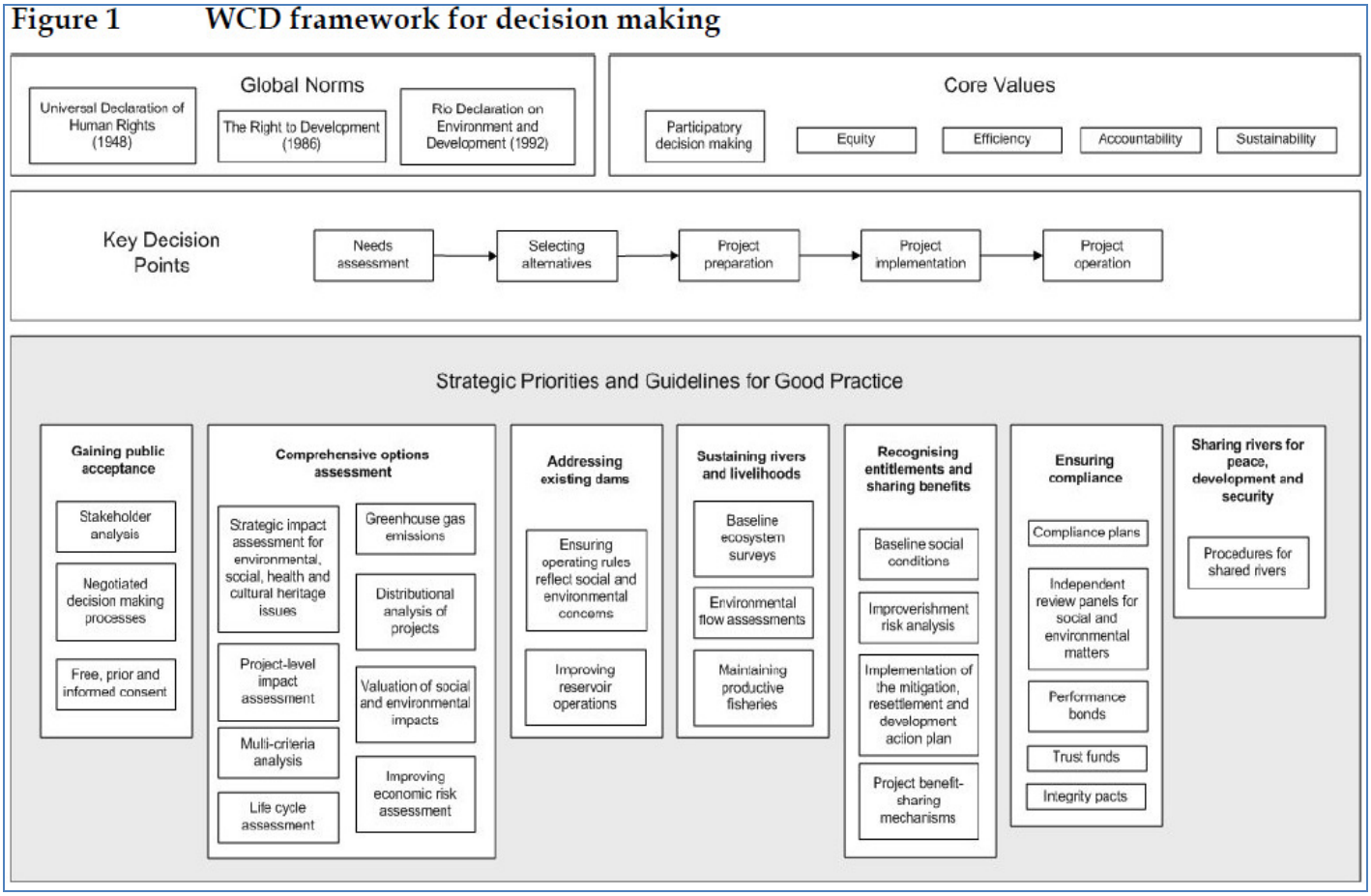
Probably the most comprehensive, substantive, and ambitious framework for water and energy projects is that developed by the World Commission on Dams. To understand the HSAF's current approach and its implications, it is helpful to first review the WCD. WCD was a large multi-stakeholder process that ran from 1998–2000. It reviewed the effectiveness of large dams in terms of achieving economic and social development objectives.

WCD consisted of a twelve-member expert panel, including representatives of the hydropower industry, civil society, affected people, government, and academia. The commissioners were supported by a professional secretariat of ten staff members, and reported their progress to a stakeholder forum consisting of 68 organizations (one of which was the IHA).

WCD studied seven dams and three dam-building countries in depth, and also published 130 technical papers. It carried out consultations in different parts of the world with 1,400 participants, and accepted 950 submissions from experts and the interested public (World Commission on Dams 2000). By late 2000, it had produced the world's most comprehensive and substantive framework for water and energy projects, backed by an accessible knowledge base.

The framework drew on the Commission's findings about the effectiveness of large dams. A key finding was that large dams too often failed to deliver a fair distribution of benefits and impacts. WCD anchored its new framework for decision-making in an approach to economic and social development in which the rights of affected people and citizens took center stage. This was consistent with U.N. development discourse at the time (Dubash et al. 2001: 100). Peoples' right to development as well as their fundamental human rights could be protected, WCD argued, by observing a set of seven development objectives. These "strategic priorities" include gaining public acceptance, comprehensive options assessment, sustaining livelihoods, and sharing benefits (see Figure 1). To help implement its seven strategic priorities, WCD issued a more detailed set of 26 "guidelines for good practice".

Figure 1 WCD framework for decision making



Source: Dore et al. (2004).

The WCD's framework has become the world's leading benchmark for assessing the sustainability of large dam projects. Any large dam project that wants to sell carbon credits in the EU carbon trading system must comply with the WCD framework (International Rivers 2008). The World Bank, export credit agencies and the IHA all endorse the WCD Strategic Priorities, but take different positions regarding specific WCD guidelines.

One important criticism of the WCD is that its framework makes it more time consuming and difficult for countries to build dams that may be urgently needed. The WCD, for example, calls for "demonstrable public acceptance" of all key decisions, achieved through fair and participatory negotiation among all stakeholders. The WCD also calls for the "free, prior, informed consent" (FPIC) of indigenous and tribal people, to be achieved through their formal and informal representative bodies (WCD 2000: 219-220). Developers argue that this recommendation gives veto rights over development projects to a small minority. On the other hand, affected peoples' groups and development NGOs support FPIC. They see FPIC as an ongoing process of establishing and maintaining consensus between sponsors and representatives of all people affected by a reservoir or dam, not only indigenous people (Dubash et al. 2001; Simon 2009).

In summary, the WCD offered a set of high standards for the review of existing and planned dams and for addressing outstanding or legacy issues in existing projects. The WCD recommendations, if implemented, would indeed slow down decision-making, because they require any large dam project to be assessed from a number of different perspectives. The WCD argues that ordinary people have the right to directly and actively shape decisions about energy, water, and dams. This recommendation of course implies profound changes to existing planning practices. In most countries, such changes are most likely to take place over an extended period of time. They require ongoing reflection, debate and dialogue between state, the private sector, and the diverse elements of civil society.

An industry-led approach to sustainability

IHA's approach begins with the conviction that hydropower of all scales offers the world highly efficient and non-polluting energy (International Hydropower Association 2003). On many points, the industry-led approach is similar to that of the WCD. IHA supports the WCD's core values and strategic principles. In its own words, it supports "the principle of an integrated planning process, comprehensive options assessment, optimized development, and responsible management" as well as "consideration of social equity at all stages of project implementation through a planned programme of community consultation" (IHA 2003: 12, 94).

IHA's concept of planning combines *design optimism* with *pragmatism*. Optimism here means the belief that good energy projects can be identified and built, and complex environmental and social problems satisfactorily identified and resolved. Pragmatism refers to the idea of achieving practices which are good, but not necessarily perfect (IHA 2003: 95).

To increase the legitimacy of its approach, IHA formed a multi-stakeholder "Hydropower Sustainability Assessment Forum" (HSAF) in 2007.

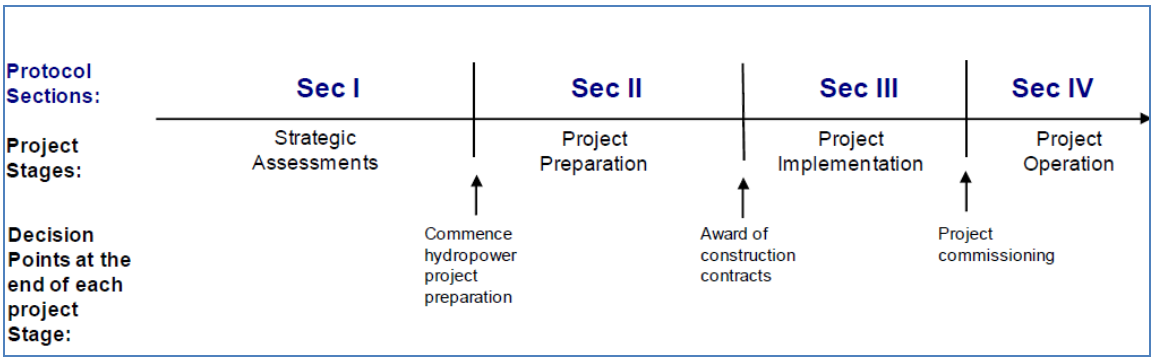
How the Sustainability Assessment Protocol is intended to work

The protocol is intended to be a set of practical guidelines to allow projects to be audited in a timeframe that is responsive to the needs of financiers, developers, and operators. The HSAF also hopes that its 2009 protocol will be eventually endorsed and used by a wide range of stakeholders.

The HSAF's SAP is divided into four sections (International Hydropower Association 2009b). The framework covers the different stages of a project cycle, beginning with (1) *strategic assessment* of projects to provide energy and water services; (2) *preparation* of hydropower projects (i.e., various studies and plans conducted prior to award of construction contracts); (3) *implementation* of hydropower projects, and (4) *operation* of hydropower projects.

Each section includes a number of issues (economic, social, environmental, political) against which a project can be ranked from low to high according to observed practices (see Figure 2 and Table 1). Each section builds on previous sections, but is also designed to work as a stand-alone assessment.

Figure 2 Structure of Sustainability Assessment Protocol



Source: IHA (2009b).

The HSAF's goal is to develop a technique that allows objective, systematic evaluation of the performance and sustainability of different hydropower projects. Ideally, the technique should provide enough structure so that whoever does the assessment, whether a hydropower developer, an NGO concerned with local impacts, or an external, independent organization, would reach similar conclusions. The immediate objective of the HSAF is to get a broad range of stakeholders to endorse the assessment method and criteria that have been drafted.

Status

As of June 2009, the HSAF's new sustainability assessment protocol (SAP) is still being written. The IHA released its draft SAP in January 2009, and conducted a first round of public consultation January–March 2009. The consultation used an online questionnaire and key stakeholder interviews. The draft received a range of criticism from actors inside and outside the hydropower industry. The HSAF is now revising the draft. If funding is available, the Forum intends to host a second round of public consultation and trialing in August–October 2009. It is currently fund-raising to trial the draft assessment tool.

Key Issues for the Mekong region

By "Mekong region" we refer to a political construct that includes Cambodia, Lao PDR, Myanmar, Thailand, Vietnam, and China's Yunnan and Guangxi provinces. Defined this way, the region is three times larger in area than the Mekong river basin, and home to 300 million people (Lebel et al. 2007). Until the 2008 global economic slowdown, the region experienced a boom in the promotion of large hydropower and water resources development projects. The Government of Lao PDR for instance, has 8 dams under construction, and 16 dams in advanced planning. It has signed preliminary agreements with developers for another 45 hydropower projects (MEM 2009).

The region's boom is essentially the outcome of (1) government policies to grow economies by building dams and selling electricity; (2) belief among energy planners that hydropower offers important advantages compared to fossil-powered electricity; (3) a regulatory environment that gives priority to commercial viability over high social and environmental performance (Molle et al. 2009).

In recent years, the region has experienced an increase in the number of dams developed and financed or co-financed by "new" financiers (that is, actors that are not multi-lateral development banks such as World Bank and Asian Development Bank). The largest of the new financiers are state-owned Chinese banks. Other new financiers include state-owned and/or publicly-listed companies based in the region or in OECD countries.

This section is based on our examination of the draft SAP ("Key Components Document"; IHA 2009b), on comments received by the Forum after the first round of consultation (ARUP 2009), and on the HSAF's response to those comments (International Hydropower Association 2009a). We also compare the HSAF's general approach with other sustainability frameworks, and reflect about how the proposed SAP might work in the context of the Mekong's rapid embrace of hydropower.

The review reveals a number of issues that deserve further discussion.

(1) Connection to other assessment frameworks

Connection to WCD – Both WCD and HSAF frameworks endorse the idea of rational, long-term, water resources planning. The key difference between them is the role they assign to ordinary people. The WCD has a distinctly human-rights-centered logic, whereas the draft SAP is more state-centric and technocratic, and also tends to assume that a hydropower project has already been identified.

The HSAF explicitly states that it draws on WCD Core Values and Strategic Priorities, along with other existing principles and policies (International Hydropower Association 2009a). However, the draft SAP does not yet explicitly indicate where it differs from the WCD, or how it builds on the WCD. Respondents who support the WCD approach said that "they had engaged extensively and in good faith in WCD and did not want to expend time on any process that was not clearly building on it" (see ARUP 2009: 8-9).

Connection to IFC Performance Standards – The performance standards of the International Finance Corporation, the private-sector arm of the World Bank, focus on analyzing and managing risks to financial investors. The SAP lays out a more substantive and sector-specific

Table 1 IHA SAP: a summary of topics, issues and assessment questions

IHA Section Main purpose	**Examples of key topics and assessment questions**
(I) Strategic Assessment Assess strategic basis for a proposed hydropower project	A set of **five topics**: **Demonstrated need** – Is the proposed project justifiable as a preferred source of electricity and/or water services? When demand for electricity and water services is assessed, what is quality of such assessment? When development goals have been set, what is the quality of that process? **Options assessment** – What is quality of options assessment? How well described are benefits and risks of various options? How comprehensive? How participatory? How transparent? How well supported by regulators? By other stakeholders? **Regional and national policies and plans** – What is quality of existing plans for energy, water, conservation, and economic development? How well do plans provide guidance for hydropower project planning? How consistent is a proposed project with plans? **Political risk** – how comprehensive is political risk assessment? What is level of political risk? **Capacity of stakeholders and institutions** – What is level? What is quality of capacity development plans? How likely will gaps be resolved? *Results can inform decisions to prepare projects*
(II) Project Preparation Assess quality of various project investigations, plans, and designs	A set of **32 topics**, including: economic and financial viability, environmental impact assessment (EIA), social impact assessment, benefit sharing, community acceptance, resettlement, indigenous peoples and ethnic minorities, transboundary issues, environmental flows and downstream sustainability, regulatory approval, program management, labor, occupational health Each topic has its own set of assessment questions. Section II also allows re-assessment of demonstrated need and public governance (also assessed in Section I). *Results can inform decision to award construction contracts*
(III) Project Implementation Assess quality of construction and social and environmental management programs	A set of **24 topics**, 21 of which are taken from Section II (allowing re-assessment). Each topic has its own assessment questions *Results can inform decision to commission projects*
(IV) Project Operation Assess quality of operational projects	A set of **23 topics**, 21 of which are taken from Sections III and II (allowing re-assessment). Each topic has its own assessment questions. *Results can inform decisions to allow or modify ongoing operations*

Source: based on IHA (2009b). Note: The IHA refers to topics as "aspects" and questions as "attributes."

set of assessment questions, compared to the IFC Standards (IFC 2006) or the Equator Principles (2006).[2] Respondents from the financial sector wanted to see the SAP revised to be consistent with the IFC Standards. They feel that to be useful, the SAP must set minimum standards (ARUP 2009: 9).

In response to the financial community, the HSAF will explore options to link the IFC Standards to its Key Components Document (IHA 2009). The Forum will also publish a comparison of how the WCD conclusions relate to its key components paper.

(2) Range and adequacy of topics

Stakeholders who participated in the Phase 1 consultation disagree about the proper scope of assessment. Developers, for example, are more interested in assessing the **risks to a proposed project**, and may be less interested in assessing the quality of national or regional **energy policy**. But non-developers would definitely assess such topics (ARUP 2009: 14), as would the IHA and WCD.

Respondents stated that the SAP's coverage of **affected people** was not yet adequate. Downstream communities are not covered. Social experts criticized the protocol for insufficient attention to the risk of impoverishment. They wanted more focus on getting **resettlement** issues right and fair, on **acceptance**, and on **benefit sharing**. Other respondents want a tool to assess sustainability at the **river basin scale** (ARUP 2009: 13). Issues related to licensing and decommissioning are not explicitly included.

(3) Importance of strategic planning

The SAP is divided into four sections, applicable to different stages of the hydropower project life cycle (Figure 2). This design is useful, because many disputes over hydropower projects are disputes over the adequacy of strategic justification for a project. Strategic planning (Section 1 of the SAP) may be debated for a number of reasons. Point of debate could range from demonstrated need (e.g., does the supply of proposed hydro projects exceed a region's economically efficient demand for electricity?), to disputes about what constitutes appropriate economic development (e.g., is hydropower-led development an effective pro-poor strategy for a particular region?).

It is useful therefore to have an assessment tool that allows the quality of strategic planning to be evaluated separately and before project-level evaluation.

However, in cases where a project has already commenced *preparation* (e.g., Don Sahong in Laos), *implementation* (e.g., Nam Theun 2 in Laos; Ilisu in Turkey), or *operation* (e.g., Three Gorges in China; Pak Mun in Thailand), is it necessary to conduct a Section 1 assessment? What weight should be given to Section 1 relative to other sections?

In the case of Nam Theun 2, critics would want to do a full assessment. They argue that weaknesses exist in the quality of the Thai customer's power development plan (du Pont 2005; Greacen and Palettu 2007), and also in the reasoning that underpins the Lao government's national development plan (Cavallo et al. 2008). By contrast project sponsors might want to

begin the assessment at Section 2, related to implementation. There is thus potential for disagreement between different coalitions of actors about the scope of assessment.

In an ideal project development context, strategic planning (e.g., electricity options assessment, various national and regional development plans) takes place in a transparent, objective, and participatory manner. Strategic planning occurs regularly, and precedes various project-level studies. The structure of the SAP reflects this planning ideal. Actual practice in the Mekong region, however, is far from this ideal. Planners at electricity utilities, for instance, do not include energy efficiency projects as candidate investment options in their long-term power development plans (du Pont 2005; Greacen and Palettu 2007). In hydropower supplying countries, screening studies exist, but seldom guide prioritization of hydropower sites in a transparent, participatory manner. Hydropower projects instead are developed according to an entrepreneurial and highly exclusive process.[3] In this context, a willingness to conduct Section 1 assessment in an transparent, objective, and participatory manner is one of the clearest commitments to sustainable development a hydropower company or host government could make.

(4) Socio-political context in which assessment is conducted

How should assessments be organized? Whose assessment matters? The SAP should provide enough guidance so that whoever does the assessment would reach similar conclusions. Since hydropower sustainability assessment covers a wide range of criteria, expertise in multiple disciplines is important. A multi-disciplinary team of experts, following the SAP, could produce a credible assessment. In order to do so, they would need a methodology to incorporate the knowledge of marginalized and vulnerable people. Assessments should also make other key sources of knowledge (e.g., hydrologic simulations, economic and financial models) accessible for public review. The IHA aims to create a tool that will be useful (that is, salient) to different stakeholders. An assessment framework by itself, however, says nothing about the social context in which assessment should be conducted. In the case of large, controversial projects, we should expect several assessments, including independent assessments. It may be unrealistic or undesirable to expect all interested actors to collaborate in the production of a single assessment.

(5) Methodology

As discussed above, stakeholders disagree about the range and adequacy of assessment topics ("aspects"). However, assuming a satisfactory set of criteria can be found, the general method by which the IHA proposes to evaluate each criterion appears to be sound. Evaluation techniques include questions about process (e.g., what is the quality of a benefit sharing plan?) as well as about performance (e.g., what degree of benefits did a particular benefit sharing plan actually provide?).

Data collection strategy – The HSAF proposes that trials of the SAP could be completed by a team of three to six people over a period of three days (including site visits). Trials would be hosted by a hydropower company and supported by an interpreter. The company would facilitate the assessment team's access to key informants, including company and government representatives, community representatives, and local experts.[4]

Evidence – The types of evidence included in the draft SAP are not sufficient. The SAP proposes, for example, that the issue "Community acceptance" be assessed by examining various surveys and opinion polls conducted at the community level. The politics of hydropower development however often include strong lobbying at the local level by various authorities enlisted to support a proposed project. Polls and surveys may yield inaccurate results and need to be supplemented with more sensitive techniques, such as outreach to vulnerable or concerned people, followed by confidential interviews. Outreach requires establishing trust and rapport. Short data collection visits hosted by a hydropower company may be insufficient.

(6) Use and Limitations of the SAP

The SAP is a multi-criteria evaluation method, in which a large number of qualitatively different criteria ("aspects") are given equal weight. As such, the SAP can provide valuable input to public policy decisions, but cannot replace them.

For instance, in the Mekong region, critics of large hydropower dams argue that electricity services can be met by a variety of technical alternatives, whereas the livelihoods of wetland- and river-dependent small farmers are not as substitutable (Foran and Manorom 2009; Ubon Ratchatani University [UBU] 2002). This argument involves favoring one set of criteria (sustaining common property aquatic resources to feed people) over another (e.g., hydropower). The draft SAP as we understand it is intentionally neutral on how to weigh different goods.

Use of the SAP can inform and stimulate reasoned public discussion. Ultimately, the decision as to whether a particular dam is worth constructing, operating, or commissioning is one that would be made by different actors appealing to different values and argumentation strategies.

Conclusion

Decisions about hydropower development are not always made based on well-governed planning techniques. The hydropower industry has offered a new technique to evaluate the sustainability of hydropower planning and development. At the core of the sustainability assessment protocol (SAP) is an assumption that multi-faceted projects can be rigorously and objectively assessed by using a multi-criteria scoring method. The strength of this approach is that it is based, in theory, on a rational, participatory, consensus-based approach to planning and assessment.

However, while the HSAF has emphasized the generation of new expert knowledge (the multicriteria assessment), it has been less vocal about how the assessment should be managed as a social process. Governments and developers are key sources of information. What mechanism does the Forum propose to ensure that assessment results are disclosed to the public? Similarly, what mechanism does the Forum propose to ensure that third parties who wish to use the protocol can access key sources of evidence? As a voluntary (self-regulation) approach, the HSAF cannot compel particular levels of disclosure, access, or participation. But it can vigorously support the highest standards of governance around the use of the SAP.

The 2009 January Key Components Document (IHA 2009b) laid the foundation for the new protocol. The document generated useful feedback from a number of quite different

perspectives. Financiers want a technique to identify risky projects, and screen out those that do not meet minimum standards. Environmental and social NGOs want the HSAF to use the more rigorous framework offered by the WCD, not dilute it. The January 2009 Key Components Document did not satisfy either group (ARUP 2009).

In response, the Hydropower Sustainability Assessment Forum will revise the protocol. It will attempt to resolve many issues. Among these issues, it has agreed to work on how to:

- link the protocol to IFC Standards
- incorporate human rights and other "high profile and cross cutting" issues more prominently[5]
- assess basin-wide and cumulative impacts
- make sure high-profile issues are not submerged in a detailed protocol

(International Hydropower Association 2009a)

In the Mekong region, trials of an improved SAP could lead to new opportunities for meaningful, structured discussion. Discussion topics supported by a SAP trial include energy needs, options and costs, as well as the environmental and social standards of hydropower projects in various phases of development and sponsorship. Issues of downstream sustainability, environmental flows, and transboundary and basin-wide assessment could also be explored during a trial. However, to explore such issues in a multi-stakeholder manner, any planned trial needs to also provide opportunity for meaningful participation. Closed trials will not meet the Forum's objective of creating a broadly endorsed sustainability assessment technique.

By 2010, the IHA hopes to develop an assessment method that is not only "practical, clear, and objective," but one that very different actors can agree on. If so, this would be a significant advance from the status-quo in the Mekong region.

References

ARUP. 2009. HSAF Phase I Consultation: Consultation Outcomes Report. 27 February 2009. Leeds: Ove Arup & Partners Ltd.

Cavallo, Ernesto, Shannon Lawrence, and Aviva Imhoff. 2008. Poverty Reduction in Laos: an Alternative Approach. In *Power Surge*, edited by S. Lawrence. Berkeley, CA: International Rivers.

Dore, John, Louis Lebel, and Jesse Manuta. 2004. Gaining Public Acceptance: a Strategic Priority of the World Commission on Dams. Background Paper for Proposed GPA E-Conference. Prepared for United Nations Environment Program (UNEP) Dams and Development Project (DDP). Chiang Mai: Unit for Social and Environmental Research.

du Pont, Peter. 2005. Nam Theun 2 Hydropower Project (NT2). Impact of Energy Conservation, DSM, and Renewable Energy Generation on EGAT's Power Development Plan. Bangkok: World Bank.

Dubash, Navroz K., Mairi Dupar, Smitu Kothari, and Tundu Lissu. 2001. *A Watershed in Global Governance? An Independent Assessment of the World Commission on Dams*: World Resources Institute, Lokayan and Lawyer's Environmental Action Team.

Equator Principles. *The Equator Principles: A benchmark for the financial industry to manage social and environmental issues in project financing* 2006 [cited. Available from http://www.equator-principles.com/principles.shtml.

Foran, T. 2009. Good principles in search of better developers? The Equator Principles and Mekong infrastructure development. USER Working Paper 2009-xx-WP. Chiang Mai, Thailand: Chiang Mai University, Unit for Social and Environmental Research (USER).

Foran, Tira, and Kanokwan Manorom. 2009. Pak Mun Dam: Perpetually Contested? Chapter 3. In *Contested Waterscapes in the Mekong Region: Hydropower, Trans-boundary Governance and Livelihoods*, edited by F. Molle, T. Foran and M. Kakonen. London: Earthscan.

Greacen, C. E., and Apsara Palettu. 2007. Electricity sector planning and hydropower. In *Democratizing Water Governance*, edited by L. Lebel, J. Dore, R. Daniel and Y. S. Koma. Chiang Mai: Mekong Press.

International Finance Corporation. 2006. International Finance Corporation's Performance Standards on Social & Environmental Sustainability. 30 April 2006.

International Hydropower Association. 2003. The Role of Hydropower in Sustainable Development. IHA White Paper February 2003. Sutton, Surrey, UK: International Hydropower Association.

International Hydropower Association. 2009a. Hydropower Sustainability Assessment Forum. Response to Consultation Phase 1 Issues. (March 2009). London: International Hydropower Association.

International Hydropower Association. 2009b. Hydropower Sustainability Assessment Protocol. Key components document. A consultation document for the work of the Hydropower Sustainability Assessment Forum Phase 1 Consultation, January-February 2009. International Hydropower Association.

International Rivers. 2008. Social and Environmental Standards for Large Dams. Comparing the Strategic Priorities and Policy Principles of the World Commission on Dams, the Sustainability Guidelines and Sustainability Assessment Protocol of the International Hydropower Association, and the Performance Standards of the World Bank's International Finance Corporation. December 2008. Berkeley, CA: International Rivers.

Lebel, Louis, John Dore, Rajesh Daniel, and Yang Saing Koma, eds. 2007. *Democratizing water governance in the Mekong region*. Chiang Mai: Mekong Press.

Molle, Francois, Tira Foran, and Mira Käkönen, eds. 2009. *Contested Waterscapes in the Mekong Region: Hydropower, Governance and Livelihoods*. London: Earthscan.

Simon, Michael. 2009. Consulting impacted peoples. Presentation given to Hydropower Sustainability Assessment Forum. Meeting 5. Itaipu, Brazil. 9 December 2008. Melbourne: Oxfam Australia.

Ubon Ratchatani University [UBU]. 2002. *Khrong kan sueksa naew tang fuen fu rabop niwet withi chiwit lae chumchon thi dai rap phon krathop chak kan sang khuean pak mun* [Project to Study Approaches to Restoration of the Ecology, Livelihood, and Communities Receiving Impacts from Construction of Pak Mun Dam]. Ubon Ratchatani: Ubon Ratchatani University.

World Commission on Dams. 2000. *Dams and Development: A New Framework for Decision-Making*. London: Earthscan Publications Ltd.

[1] In 2009, the Forum consisted of two members from the hydropower sector (Hydro Tasmania; IHA); two from the financial sector (one representative of Equator Principles financial institutions, one observer from World Bank); four members from international NGOs (World Wildlife Fund, The Nature Conservancy, Transparency International

and Oxfam); and six representatives from government (Norway, Iceland, Germany, China (2), and Zambia). The Forum's coordinator is employed by IHA.

[2] The Equator Principles are a set of guidelines which can be adopted voluntarily by financiers. They apply to projects over USD 10 million which are "project financed". They are modeled after the Performance Standards of the International Finance Corporation (IFC). See Foran (2009) for further discussion.

[3] Customers negotiate power purchases from projects that have emerged from a bottom-up process. The process typically begins with developers bidding with government for exclusive rights to investigate sites. Developers then proceed to generate increasingly refined knowledge of impacts, costs, and returns, which inform a series of increasingly complex agreements negotiated with governments and buyers. As public disclosure and participation increases, the sponsors' flexibility to revise environmental and social performance unfortunately decreases.

[4] HSAF Meeting 6, Turkey, March 2009, Paper 13b, Proposal for Trialling.

[5] In addition to human rights, river basin, and transboundary issues, other "high profile and cross cutting" issues identified by the Forum include: integrated water resource management (IWRM), climate change, corruption, communication, transparency, gender, complaints mechanisms, livelihoods, affected communities, and multi-purpose hydropower.

For further information

International Hydropower Association: www.hydropower.org

M-POWER (Mekong Program on Water, Environment, and Resilience; www.mpowernet.org) is a research collaboration among 29 research and policy-oriented organizations active in the Mekong region. M-POWER's ultimate goal is improved livelihood security, human and ecosystem health in the Mekong Region through democratizing water governance. Rather than assuming that a single model of democratization fits all contexts, we believe action research can help societies explore and adaptively reform water governance. The ***Improving Mekong Hydro Investment*** project aims to explore and help improve the governance of decision-making around energy and water resources development in the Mekong region. We regard integrated electricity resource planning (IRP), and voluntary initiatives (such as use of the SAP) as important practices, which, when implemented in a participatory manner, could improve decision making around energy and hydropower futures.